Learning Design Voices

Tasneem Jaffer, Shanali C. Govender, & Laura Czerniewicz

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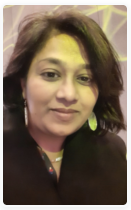

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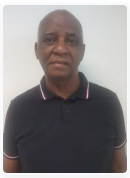

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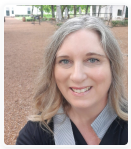

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Introduction

Tasneem Jaffer, Shanali C. Govender, & Laura Czerniewicz

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Chapter in brief

Learning Design Voices offers the work of authors located in 13 countries. With over 30 chapters and 50 authors, Learning Design Voices is not a simple 'how to' book. It aims to show the challenges, tensions, excitement and innovation in learning design.

Introduction to Learning Design Voices

Why another book about learning design? Aren't there enough of them already? This book sought to do something special - create space for learning designers (and adjunct professions) to speak, to provide insights from those right in the heart of the work. It certainly offers ideas, advice, suggestions, even mistakes. At the same time, it is not a simple "how to" book. It is a collection of personal voices, each located in a specific context, each articulating how that context has to be negotiated. It is about both the thinking and the emotions involved. With over 30 chapters and 50 authors, Learning Design Voices offers the work of authors located in 13 countries.

Several chapters in this book highlight learning design as a support role. Students will encounter academics, educators or lecturers in their role as subject-matter experts, and sometimes in the role of facilitators. Learning designers, by contrast, are very seldom directly visible in learning spaces or interactions. We only notice learning design work when it is poorly done - when something breaks, isn't accessible, or acts to exclude some group of students in our classes. When learning design is successful, the design seamlessly supports the learning, almost disappearing in the experience. This can have the effect of making learning design work and even the designers themselves invisible.

Exacerbating this inherent "invisibility" of good learning design, the bread and butter work of learning design is often carried out by women. In the United States, the work of learning design is predominantly carried out by women with men in the field taking on more managerial roles (Bond et al., 2021); the authors in this book are predominantly women; and in the spaces that the three editors work in, learning designers are almost all women. Given historical patterns around gendering in the workplace, we recognise that the collocation of gender with learning design work can lead to the framing of learning design work itself as "second class", as somehow "under" work. Instead we see learning design differently, throughout the chapters, we will see the behind-the-scenes work of incredible people who make up the field.

This book aims to make the invisible visible, the unheard heard. It aims to show the challenges, tensions, excitement and innovation in the work of learning design. From the outset, we hoped for a book that would showcase the diversity within learning design practices - from what the work itself is called, to what people call themselves, to conditions of employment, or location within institutions and organisations. For example, in certain chapters, you will see that "learning designers" are sometimes referred to as instructional designers or pedagogical advisors or even change agents. Given that the work described is very similar, this variation in title reflects the diversity and complexity of positions and practices in the field. The titles under which people work continue to evolve, reflecting not only changes in actual roles, expertise and knowledge in the field, but striving to create titles that aspirations and power dynamics in the field.

Many of those who do learning design work are in positions where there is limited space within their jobs for scholarly writing. Additionally, learning and instructional designers come from a wide variety of educational and professional backgrounds with varying access to educational and scholarly writing practices. Given these constraints and the diversity of backgrounds of learning designers and those who do learning design work, we were committed to creating space for a text that did not necessarily require experience in formal educational discourses. Thus, you will notice that the shape of chapters, their tone and intention vary throughout the book. We have deliberately encouraged our contributors to enjoy writing in their voices, to enable perspectives and context to shine through.

The process of making the book was stimulating for us as editors, while also being incredibly challenging given that we started during the height of the COVID-19 pandemic, while trying to juggle full-time jobs alongside personal responsibilities. We took on a deeply engaged process by working closely with several authors on their chapters, with back-and-forth conversations to ensure their voices came through, and that the reality of their situation was explained in ways that might be understood across different contexts. Not surprisingly, learning designers shy away from expressing their own voices, when their jobs require them to ensure that other voices are amplified.

While the book is centred around "learning design", each author engages with the field in a different way. While all authors have engaged with learning design in some way, some are experienced learning designers, some research learning design, some teach it in the field, and some take on all these activities. Additionally, the language used to describe artefacts and activities is varied, showing the rich diversity across contexts. Where possible, to honour the voices of authors, we have retained the language they have used, and offered an alternative term where this exists in the literature or in different contexts. The range of perspectives is both a strength and challenge of this book. We asked each author to focus on the margins and how this may look in their contexts which ranged from higher education to the corporate sector. We also asked authors to explain what they understood to be the margins; for many this pertained to the role itself. For others, this was experienced as being marginal to the more formal field of learning design. And for yet others, this means being located in the global periphery.

When we started the proposal process, we hoped to attract more authors from Africa. We were not able to achieve that ambition as comprehensively as we would have liked. The network reflected in the book skews South African, and aligns with Commonwealth countries and countries with Commonwealth histories. A consequence of working in the Global South is that authors, particularly in the earlier stages of their careers, under the influence of financial imperatives, often look to the Global North to drive connections, making connecting within the Global South more challenging. Learning designers, as opposed to academics who do and/or research learning design work, experience further constraints in this regard.

Many chapters are set within particularly challenging periods of the COVID-19 pandemic, including the lockdowns which were experienced differently in different parts of the world. While these times were especially intense, the lessons and learning continue to be applicable to anyone who does learning design today. The stories told in these chapters also show the need for, and ability of, learning designers to constantly adapt in an ever-changing field. Rapid responses yesterday, Generative Artificial Intelligence today, who knows what tomorrow? Learning designers, as seen in these chapters, are adaptable, resilient, innovative and imaginative.

Our peer review process for these chapters was open, enabling authors and peer reviewers to know each other by name, and to talk to one another. We believe this improves the quality of each chapter. Despite all obstacles and with much persistence, from all the authors and from one another, the book is published after a long time in the making.

Conventional publishing is not hospitable to this kind of book, one which challenged traditional versioning processes, did not require author funding and needed maximum flexibility. For this book the primary challenges were twofold: 1) we were asking contributors to write about practice and to do so in ways that would be accessible to practitioners in the field, and 2) we wanted to provide a publication process that supported the development of connection and community, openness and (in some cases) the growth of contributors' writing. While higher education argues for inclusivity and alternative forms of knowledge creation, the conventional publishing system is deeply resistant to creating practices that are genuinely inclusive for contributors who do not write in scholarly ways on a regular basis. Ultimately, we had to reconsider the best path for publication well into the development of the book, leading us to publish with Edtech Books which provided the flexibility and openness we considered essential.

The book is divided into three sections, each beginning with a provocation and a response. These two pieces - provocation and response - foreground an area of learning design drawing attention to pertinent questions we need to ask ourselves as learning designers. The provocations are:

- Provocation 1: Learning design as field, praxis and identity by Sue Bennett with a response by Sukaina Walji
- Provocation 2: Humanising learning design by Daniela Gachago with a response by Tasneem Jaffer
- Provocation 3: Learning materials, activities and processes by Shironica Karunanayaka with a response by Shanali Govender

How do we imagine this book being of use? As we've already suggested, good learning design is often invisible - good learning design can feel like the most obvious, natural form of a learning experience. Furthermore, particularly, in online spaces, the full spectrum of learning design activities are often the role of the unseen contributors to a learning experience, working out of the students' eye, at odd times, and sometimes in odd spaces. This book allows the reader an opportunity to see the process and product of the unseen work, to understand the processes by which learning designs come into existence. We think this book will be useful to a wide range of readers - students, lecturers and researchers - across a variety of roles and contexts. We know that most readers will find particular chapters to be particularly inspiring and provocative. But we hope that readers might dip into the book more regularly, as a way of interacting with a network of practitioners and potential peers. We envisage that you, as the reader, will feel part of the broader learning design conversation and to feel connected to the authors as individuals, as people.

Thank you to all the amazing learning designers who are quietly doing good work. Thank you to the learning designers who had hoped to contribute to this book but were constrained by circumstance. Thank you to the authors of this collection for their determination, their patience, their shared expertise, their stories and above all their magnificent voices.

Tasneem, Shanali and Laura.

Reference

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Provocation 1

What might learning design become in the post-COVID university?

Sue Bennett

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Higher Education | Learning Design | learning designer role

Chapter in brief

In this provocation, Sue explores the field of learning design, where it has come from and how it has shaped the field. Questions of learning designer identity and roles come into play, and how this will look in the future in universities.

Introduction

As the world emerges from the COVID-19 crisis, universities face fundamental questions about their future. Across the world, in-person activities fundamental to the campus experience were replaced by emergency remote online learning and teaching. The pandemic also disrupted global flows of students and the funding they bring, particularly in the Global North and countries like Australia. Before the pandemic, universities were already facing a set of major challenges – including the retreat of public funding, increasing corporate influence, meeting the needs of an increasingly diverse student population, and changing societal expectations of the role of universities. All these challenges are set within wider social drivers of the evolving future of work and digitalisation across all aspects of life, together with the challenge of addressing inequality and marginalisation. There was already recognition of the need to be more "agile" and of the need for change. In many ways, the pandemic has forced a set of rapid changes and removed the need to convince stakeholders of the urgency to do so. Within this changed university world, what might learning design become in order to address a new set of challenges for students and lecturers? If universities don't return to "normal", or at least not for a long time, what could learning design be in a post-COVID university? How could the future be different, and better, if learning design could be reimagined and pursued differently to what has previously occurred and been advocated?

In anticipating possible futures, it is useful to appreciate where learning design has come from, having been shaped by the long histories of instructional design and educational technology, and more recently informed by wider traditions in design thinking and practice from fields outside education. Grounded in my own perspective based in Australia, I begin this chapter with a brief retrospective sweep and go on to outline the differing understandings of learning design that currently co-exist and consider the role and purpose of learning design within the contemporary university. Next, I explore a series of conundrums facing learning design by examining some of the assumptions about who does learning design, how and for what ends, as well as where it sits within an organisation and how it is resourced. These conundrums go to questions of identity and practice, as well as being matters of choice within institutions with practical implications. In closing, I attempt to map possible future scenarios for learning design within universities and consider futures for individuals, institutions and the field of learning design.

Locating this chapter as a learning design voice

In locating this chapter within the provocation of "learning design as a field, praxis and identity", I've taken on the notion of providing a "voice" literally. I've shaped this chapter as something of a scholarly memoir, in which I acknowledge how my interpretation of learning design has been shaped by my own history in the field – beginning as a content writer and designer of educational multimedia, then becoming a university lecturer and researcher who has increasingly taken on leadership roles in my institution and the field. I've adopted this approach in appreciation of arguments advanced by colleagues, that in educational technology we are not sufficiently aware of the history of our field (e.g. Selwyn, 2012; Weller, 2020), and which I suggest extends to our own personal "histories" within that. Acknowledging our subjectivities in this way is important because the activities captured within the term "learning design" have always been many things to many people. Views of learning design depend on who does it, what they do and where they are located in an organisation or in a practice, as well as who makes and shapes how learning design is defined and delineated. This means that there have always been, and there continues to be, different ideas about what learning design is and should be.

In line with the desire of the editors of this volume to "listen more closely to voices from the historical margins", I reflect that I have been privileged to pursue my entire career within the Australian university system, which, though geographically distant, is strongly connected to the academic and disciplinary worlds of the Northern Hemisphere. Those connections have provided me with opportunities to engage with the dominant discourses, while also being on the periphery. In my experience, being located at a geographical distance can afford space for critique and stimulus to innovate in a sufficiently different national context. For Australia, as a country with an increasingly diverse population and a history of colonisation, there is still much to do to create a more inclusive society. In relation to learning design, this includes the ongoing work to embed indigenous knowledges in curriculum and pedagogy (Funk, 2021; Kennedy et al., 2019), and also to engage with peoples from more recent waves of migration who have not previously been present in Australia's higher education system.

More broadly, in the learning design literature there is under-representation of scholarship from African, Asian and South American contexts. The conceptual and empirical foundation for learning design privileges dominant cultures and approaches, which can negatively affect the engagement and educational outcomes of learners from non-dominant cultural backgrounds (Chen & Bennett, 2012; Rizvi et al., 2022a). And, consistent with earlier studies highlighting the influence of contextual factors on learning design (e.g. Bennett et al., 2015), recent research from school and higher education illustrates how cultural context shapes learning design decisions, processes and outcomes (Boer & Asino, 2022; Pallitt et al., 2018). There are many variations of the complex interplay between the cultural backgrounds and contexts of the lecturers designing and the learners interpreting those designs – international students travelling to study in foreign countries, online education engaging diverse learners from across the globe, increasing cultural diversity in many nations and the influence of "Western" educational traditions across the world. More inclusive education requires that more diverse perspectives from other systems and traditions are drawn into the conversation. This is overdue and will be a great benefit, and will require great care and commitment to opening the field to new ideas, conversations and possibilities.

I would also like to suggest that there are forms of marginalisation within the dominant discourse of learning design, that if addressed could help to deepen, sharpen and challenge our thinking. These relate to how those who currently do learning design work are regarded and positioned within universities, how those who are designed for are engaged, and how dominant ideas in the field shape what we can see (and what we can't) as possibilities for the future. After exploring some of the history and current state of learning design as I see it, I'll come back to expand on this suggestion in more detail in the concluding section of this chapter.

Where did learning design come from?

To appreciate the emergence and development of learning design, I share two personal experiences from my formative years as a scholar in the field:

> *As a PhD student in 2000, one of the luminaries of educational technology at the time was visiting my research group. I'd been working with a conceptual framework he had proposed for designing multimedia learning environments to integrate technology using principles of constructivist learning. I asked him how we could engage teachers with design principles so that they could use them confidently in practice. His response was that design work was much too important and that we should be keeping teachers out of decisions made about design. His vision was of "pre-configured" learning environments that teachers couldn't "stuff up".*
>
> *A few years later, in 2003, I was at a workshop session on learning objects ahead of what was the leading international conference in educational technology at the time. A robust debate had sprung up about SCORM compliance and interoperability. Some more technically-oriented colleagues in the room were arguing for the merits of standards that could track learner interactions and progress through a system for the purpose of automated feedback and sequencing. They were infuriated with educators in the room who were questioning the extent to which this would transform teaching and learning. One of the key figures at the time shouted out, "What more could you want?".*

Looking back on these brief but memorable exchanges highlights the troubled relationship that has long existed between design and learning (and teaching). Adding digital technologies to the mix has sharpened those tensions, or at least made them more manifest, between "techies" and educators, for example. Integrating technology has always required more forethought and preparation than face-to-face teaching and has been a site for "innovation". The effect has been to create both a greater need and more opportunity for design, the outcomes of which are then also made manifest in the digital resources created and tools configured. Whereas in-person teaching tends to be private and ephemeral, online teaching is visible and persistent.

Both exchanges reveal an underlying narrative of control. In the first, it's about maintaining the integrity of a conceptual model by ensuring faithful replication when applied to any context. There is no anticipation of the need for adaptation by the teacher, let alone a space for creativity. In the second, control is exercised over both teacher and learner by channelling them through pre-determined interactions. The role of the teacher is to "fill in the blanks" in templates provided for their use, with no appreciation of a teacher's vital role in understanding and responding to the needs of students. Nothing is left to chance and no spontaneous variability is permitted. Design thought of in this way brings prescription and order. It fundamentally changes learning and teaching, and its possibilities, and is often promoted as a means to increase efficiency and reduce risk.

Zooming out to consider the key influences on learning design in Australia today, there are two key threads that have become increasingly entwined. One is reflected in the examples above, emerging through the introduction and growing adoption of computer technologies in education. As consumer technology became more affordable and more reliable, it moved increasingly into educational settings. There are already many historical accounts of these developments, which I won't recap here. Instead, I draw attention to the strong influence of educational technology research and development

from the United States on Australia. Much of that work was imbued with the traditions of instructional design that had evolved systematic models and processes for the design of educational materials (e.g. Branch & Kopcha, 2014) which were then applied to designing (as it was then) computer-supported learning. Imported with that thinking were also the debates from the period around approaches to learning (i.e. instructivist vs constructivist) and the ways in which technology should be integrated (e.g. Dalgarno, 2001). By implication, the work of learning designers is to logically follow design models and apply conceptual frameworks to ensure a standardised learning experience.

Another formative influence on learning design in the Australian context is a long history of distance education. The country's large distances and distributed population led to the development of correspondence education (or external studies) across all education sectors. Distance education in Australia was underpinned by a belief expressed in national policy in making education available to all no matter where they were located (Stacey & Visser, 2005). In higher education, some institutions specialised in distance education, developing significant infrastructures to support "print-and-post" operations. As in open universities, this created workflows in which instructional designers worked with subject matter experts to develop learning materials. Over time, media, communication and computer technologies expanded the modes of teaching and learning available and these were adopted for distance education. I draw attention to this part of Australia's history to highlight the existence of capability in educational design long before it became bound up with computers and digital technology.

This short historical tour helps to make sense of learning design in Australia today. The histories of designing for technology integration and educational access have merged and even pre-COVID most, if not all, Australian universities already offered some options for studying fully online or blended learning combining face-to-face and online interaction. Since the pandemic, reliance on technology has exploded and capacity to learn and teach with technology has increased, albeit in an emergency form. It is in this context that I offer my understanding of what learning design work is for and who does it.

Current conundrums for learning design in universities

In thinking through what learning design could be in the future university, I've compiled a list of some current key questions about the place of learning design in universities. I've called these "conundrums" because they are difficult questions with multiple possible alternative approaches and no definitive answer. I'm not suggesting that there is any need for a consensus approach; indeed different institutions will need and pursue different configurations, depending on their specific characteristics, institutional cultures and decisions made by their leaders. Instead, I seek to highlight the following questions that each institution must grapple with according to their own circumstances, strategies and aspirations:

- What is the role of specialist learning designers?
- What is the nature of learning design practice?
- How can learning design capacity be built into the teaching workforce?
- What is the role of research and evidence in learning design?
- How will the contemporary university environment shape learning design?

What is the role of specialist learning designers?

It is straightforward to assert that all universities need specialist learning design expertise, but less clear how best this can be achieved. There are usually two key responsibilities for specialist learning designers: to apply their design expertise to specific tasks or projects and to upskill others in learning design.

Doing learning design work is a focussed activity, usually done as part of a team, deploying a designer's particular skillset. Learning designers doing this work often double as project managers, coordinating the efforts of various team members and managing timelines for completing the work. By its nature, this work is contained by a particular scope and so, is episodic – a course or module needs to be designed or redesigned and then made available for teaching and learning. Upskilling others in learning design is a broader activity, in that it usually takes in a wider group of people and

is ongoing. It can take a variety of forms – for example, responding to ad hoc queries from teaching staff or through various organised forms of professional development and training programs. Upskilling can, of course, also take place within learning design projects and is often a powerful form of professional "learning by doing".

Understanding what a learning designer does within an institution is critical to many other decisions about, for example, the skills and qualifications they should have (in pedagogy and technology), whether they should be located in centralised units or distributed across the university, how work is distributed across groups and to individuals, and how learning designers can be deployed to support "business as usual", strategic initiatives and/or emergent innovation. From an institutional management perspective, learning designers are a limited resource and are often relatively expensive to secure in a competitive recruitment environment. This makes their optimal deployment critical to successful operations.

None of these decisions is purely operational, though – all have important implications for the professional identities of those learning designers. These implications include how learning designers make sense of their work within their institutional context, which shapes and is shaped by how they are seen and treated by others. In Australia, some learning design specialists are employed as academics and others as professional staff, sometimes without much apparent difference in duties. This points to a distinction between learning designer as a researcher/scholar and as a practitioner/professional and extends to how they view themselves within a wider professional community of higher education or, more likely, communities within and beyond higher education. Naturally, this has implications for how learning design specialists relate to the broader field and wider practice. For an individual, it more fundamentally comes down to why they are motivated to do this work – at the heart of which is generally the desire to support student learning. A commitment to this core value will drive individuals to pursue their career and vocation in particular ways that lead them to learning design work. And these ways will inevitably raise tensions with the discourse of contemporary higher education that stem from shifts towards massification, commodification and vocationalisation (Tight, 2019).

In addition, with the increased demand for online education and training for private education providers and in other sectors, there is an increase in universities hiring learning design specialists as external consultants as freelancers on contract to specific projects or outsourcing learning design work in collaborations with third-party commercial providers (Wheelahan & Moodie, 2021). This adds new uncertainties about what learning designers based inside universities might do, be and become.

From this key and complex question about the role of learning design specialists flows a series of other conundrums, for which answers depend on institutional circumstances. These are questions that existed before the COVID-19 pandemic, though they perhaps have a new edge to them in the post-COVID world.

What is the nature of learning design practice?

The notion of "practices" is a helpful one when it comes to conceptualising and investigating the nature of learning design work and who learning designers are. Within the many theorisations of practice is a focus on what people do and the meanings that shape what they do. Practices are both specific within settings, with aspects that extend beyond those settings in space and place, and that persist and evolve over time. Practices are enabled and constrained by resources, traditions, knowledge, values and more. Learning design within universities exists as a form of practice with unifying features that are shared by scholarly and practitioner communities (e.g. within disciplines, professional organisations and education sectors), and specific ways of working and being within the local setting. That variation may speak to the need for differentiation (one size does not fit all), but it may also suggest that as a field of endeavour there is much more learning design needs to know about itself. As I've noted above, what learning designers do is shaped by histories of instructional design and different paradigms of educational design, but within the notion of practice is also evolution and change. So, what might be open to change in learning design practice? For example, could different working relationships with academics/teachers and students bring about new forms of collaboration? Could new ways of knowledge sharing from cultures traditionally marginalised foster new working arrangements and different

forms of design (and design outcomes)? What might be a more desirable state and how could it be achieved? These are, again, open questions.

How can learning design capacity be built in the teaching workforce?

Several authors in the field have advanced strong arguments of conceptualising teaching as design (e.g. Laurillard, 2012). Colleagues and I have also argued that because teaching staff are directly engaged at the "coalface" of student learning and much larger in proportion and reach than specialist designers within an institution, building their capacity in design is a key (if not the key) to sustainable and scalable improvement (Bennett et al., 2018). This is not to suggest that teachers need to become learning design specialists. Teachers already do design work as part of their own practice, and what they need must engage with and develop what they already do. The question is how to build the learning design capacity of "teachers as designers" as a complement to the work of learning design specialists. And then, how these activities can work together and in parallel to support student learning.

What is the role of research and evidence in learning design?

If we accept that learning design is a scholarly field as well as a practical endeavour, there are critical questions about the ways we seek and use evidence about learning design. Specifically, how we use empirical evidence to advance theory, drive further empirical work and speak reciprocally to practice (i.e. to inform and be informed by). This gamut encompasses how findings are shared and translated and for whom. As I argue above, we need to know more about learning design practice; research focused on how it is done and by whom is therefore an ongoing concern in terms of understanding the current state and considering what could be different. We also must build knowledge about the indirect relationship between learning design and student learning outcomes. This is complex work because it seeks to trace, building on Trigwell et al. (1999), the chain of relations between learning design, teaching and learning .

Potential research questions include:

- How is learning design work distributed amongst specialist designers and teachers?
- How is learning design carried out?
- How do situational factors, practices and individual characteristics shape learning design approaches?
- How do learning design processes shape what is designed?
- What are the effects of what is designed on learning and teaching?

Further questions stem from who conducts the research and engages with it, who decides how it is used and how vested and commercial interests can be surfaced and managed.

How will the contemporary university environment shape learning design?

I've given this question a deliberately broad scope in order to capture the many influences on universities that have been well expounded elsewhere (e.g. Goodyear, 2015; Tight, 2019). All institutions are subject to evolving societal expectations and political aspirations that drive policy with real effect. There are regulatory requirements, both in the sector and specific disciplines and the internal policies created within universities. Within the policies, the formal procedures they give rise to and the funding allocations made, are both strategic aspirations and operational requirements. Digitalisation, technology-enhanced learning, digital competence and the like are increasingly being formalised and operationalised. Depending on how they are positioned and viewed in an organisation, learning designers could contribute in multiple ways. For example, they might drive a top-down centralised agenda, engage with emergent "grassroots" initiatives by academics, form an innovative "task force" on specific "high margin" projects, create a knowledge base of the latest evidence to translate into practice, pursue a broad professional development programme to build digital competence, and more. With this comes implications for what learning design is and could be in a particular university, and much of this is in the hands of senior leadership teams and the choices they make. This raises questions about what knowledge bases they are drawing on and who is influencing their decisions about learning design.

This brief tour around the key conundrums I have identified is not exhaustive and each of these interconnected areas offers scope for expansion in their own right. I point to them to indicate where attention might be directed in coming to grips with learning design as it is now and what could be possible in the future. The responses have the potential to shape wider views within the sector of what learning design is and how it should be done. While all of these were present and important before the COVID-19 pandemic, it is likely they will take on a different character in the post-COVID university.

Possible futures for learning design

For a sector long regarded as inherently resistant to change, the adaptability demonstrated by higher education in response to COVID-19 is something to celebrate. However, the pandemic robbed us of the opportunity to plan, monitor and adapt. This has left us with new ways of work that are well suited to coping in the crisis phase of a response, such as emergency remote teaching, but that are neither sustainable nor desirable in the future. The challenge therefore remains for the university sector, and for its institutions and individuals, to decide what is next.

Success will depend on multiple factors, but key amongst them will be the capacity to offer a learning environment that is designed to meet student needs with high quality and flexibility for cohorts with diverse expectations and preferences. This will require investment in the people fundamental to enabling that – a workforce and the supportive working environment that will enable learning design to flourish and do what it can do best. In considering possible futures of learning design, it may be useful to think through possible scenarios for universities in the post-COVID world.

Scenario 1: Learning design in the “campus-based” university

Another scenario post-COVID is for a university to adopt a strong commitment to campus-based learning, be that a re-commitment to the pre-COVID “old normal” or a repositioning to overtly prioritise in-person learning. A decision to pursue this scenario can be understood as a reaction to deprivations experienced due to public health restrictions and the widespread evidence of dissatisfaction with remote learning amongst a large proportion of the student population. A commitment to face-to-face learning within the context of a campus-based experience would be a means of differentiating an institution by downplaying technology or harnessing it in a way the privileges in-person interaction. This could also be seen as a way to compete with increasing offerings by non-traditional providers in the higher education market. In this scenario, the role of learning design could become less valued and less visible, particularly if there is a belief that there is sufficient existing knowledge and expertise within the teaching workforce to “get by” with older, more familiar modes of teaching. Alternatively, an institution might choose to invest as highly, if not more, by harnessing learning design to achieve the goal of a superior on-campus student experience.

Scenario 2: Learning design in the “digital” university

Yet another alternative, and one that stands in contrast to the “on campus” institution, is the ever more “digital” university. This represents the “old normal” for many Australian universities which had already embraced a digital future and begun this shift is real terms. Moving further in this direction would build from the changes wrought by the pandemic, in which teaching staff dramatically upskilled and universities invested heavily in new or expanded infrastructure to support emergency remote teaching. There has already been much speculation about what the “new normal” might be for online teaching and learning as one of the legacies of the pandemic. A high level of engagement with learning design could bridge the gap between what was developed in the crisis phase and what previous experience and research has shown to constitute high quality online learning. In this scenario, learning design could help to create the best forms of blended or hybrid approaches, adapted to local contexts, to retain levels of flexibility while improving accessibility and ensuring quality. The “digital” university is positioned within increasing “digitalisation” across the sector (and wider society) and the engagement of learning design would draw on pedagogical and organisational dimensions that are at risk of being overlooked in educational settings (Pettersson, 2021). This suggests that learning design could equally be applied in more reductive ways that would result in superficial change rather than improvement and transformation.

Scenario 3: Learning design in the "design" university

Goodyear (2015) proposed the notion of an institution "powered" by design across all its activities as a response to the drivers and shifts in contemporary higher education. His vision involves:

> *…much more than employing greater numbers of better-trained educational designers, useful though this should be. It means making universities more design-savvy; helping everyone in the institution participate in knowledgeable, design-led change. (Goodyear, 2015, p. 37)*

In such a scenario, learning design would be acknowledged as a critical and highly visible strategic focus. Achieving this vision would require significant shifts in culture across all aspects of a university's operations to be more dynamic and adaptive, with attendant transformation of policies and practices. The rise to prominence of design thinking in recent years may have created a climate in which this somewhat utopian idea may be more readily understood and better received, but the size of the investment needed in a resource-constrained environment makes this possible future seem more distant than ever. In this scenario, learning design is part of the fabric, being integrated and connected within the design-savvy institution, working closely with colleagues across a range of teaching and learning related activities.

Scenario 4: Learning design in the "diversified" university

A final scenario I'll put forward for the purposes of this chapter is that of the "diversified" university, which takes a portfolio approach to developing a set of carefully curated activities within the institution. A diversified institution would seek to identify, invest in and build particular strengths. This could be, for example, in particular disciplinary or professional domains or by identifying niche initiatives crafted within particular areas of activity. This would open the possibility for learning design efforts to target offerings selectively designed for on-campus teaching, work-integrated clinical programmes, online fully flexible postgraduate courses or open access resources. In this scenario, learning design would be a major advantage in creating a portfolio which would allow an institution to remain comprehensive in scope, but with strategic offerings and activities differentiated for specific purposes. Institutions which have already embarked on activities across these different modes could be well placed to shift to this approach.

These four scenarios are somewhat artificial, but are necessarily so in order to draw out some of the different possible future institutions within which learning design could be located. The extent to which each scenario is more or less likely is open to debate, but their purpose here is as provocations to stimulate our thinking about what might be possible, and indeed preferable. There is no doubt that the pandemic has disrupted wherever we thought our lives were going; with that comes the opportunity for change if we choose to grasp it. It remains to be seen, however, whether the future is an evolution or transformation.

Conclusion

In concluding this chapter, I return to the two personal experiences I've given and the two threads of history I've described in the Australian learning design context to consider what is absent or made marginal, and to what practical effect. I detect at least four gaps or minimisations in the dominant view of learning design that I have described.

Firstly, the role teachers play in learning design through the routine planning, preparing, presenting and reviewing that is fundamental to teaching is poorly recognised. Teachers' contributions to designing for learning is often minimised or actively disrespected. This is a lost opportunity for understanding how teachers play a complementary role to specialist learning designers, and sobuild design capacity within a university.

Students are also excluded from an active role in learning design amid increasing discussion of, if not yet action towards, the possibilities of co-design with students. Co-design with students can only be achieved if learning design work can be opened up to learner engagement in very new ways, and much more routinely. With both teachers and

learners as active partners in learning design, design would no longer be done to them, but done in collaboration with and possibly even led by them.

Further, a narrative of learning design practice as bringing order ironically fails to fully account for the work of learning designers themselves. Learning design is, and can be, much more than the application of systematic models and processes that seek to structure work according to a series of clearly prescribed steps and specifications. A simplistic view of learning design fails to acknowledge the subjectivities, knowledges, backgrounds and assumptions brought by designers to their work. Other paradigms that emphasise the creative and relational aspects of learning design work have always existed, even if not well recognised in the dominant paradigm (Visscher-Voerman et al., 1999).

Finally, I suggest that within the dominant discourse of the field of learning design there are still strong notions of technological advancement and innovation as imperatives, which belie the nature of learning and design as complex, messy and very human endeavours (Castañeda & Selwyn, 2018). As always, we need to encourage sceptical and critical voices that come from inside the field but are also by definition marginalised in order to challenge the accepted views of learning design.

As noted earlier, the dominant view of learning design in Australia has been strongly shaped by the traditions of instructional design and educational technology originating from the United States. With that comes inherent assumptions, agendas, biases and preferences, both explicit and unconscious. The status quo is reinforced by our systems of academic knowledge production and attitudes to the value of knowledge produced outside the English-speaking Global North. What would it require for learning design to open up and allow other voices in? There have already been efforts to engage those from other places and cultures in conversations about design approaches and perspectives (e.g. Lin & Spector, 2017; Mittelmeier et al., 2018; Pallitt, 2018). Dialogues are important and useful so that we can learn to listen to and appreciate others' perspectives. This is often hard work, as we strive to reduce talking at cross purposes and tangentially to one another as we also attempt to interrogate our own subjectivities. The goal is not therefore to harmonise, homogenise or align. It is to share and challenge, to open up to possibility, while respecting distinctive and varied approaches to learning design. This work goes further than contextualising a well-established model or approach from one setting to another. It is reshaping that model or approach to generate something significantly different, rather than a variation on a theme. In so doing, we can continually remake the intellectual field.

The goal of learning design, like all design endeavours, is to create something usable. Practically, we can all learn from traditions and cultures of learning and teaching from elsewhere around the globe that are currently not well represented in learning design knowledge and practice. Learning designers used to designing for well-resourced environments can learn from those accustomed to constraints and inequalities (Boer & Asino, 2022). Further research into the influence of cultural background on learning can be applied as a basis for flexible, culturally adaptive learning design (Rizvi et al., 2022b). Further, we can do justice to those peoples historically made to conform through colonisation and oppression. Expanding the scope of what learning design is can inform the kinds of responses provoked by engaging with the conundrums and scenarios I have outlined above. Design, by its very nature, is generative and offers us tools to achieve this, should we decide to use them.

Learning design is a contested space and the difficult period post-COVID makes it even more so. However, the uncertainty also brings opportunity for engaging with conundrums and grappling with what it means to make learning design more inclusive by bringing in marginal voices and embracing diversity; in so doing, making learning and education more inclusive. As Bayne and Gallagher (2021) suggest, is now time to do more to own our own future and resist the vested interests and discourse of imperatives? In doing so, we could be more active in shaping our own destinies as individuals, institutions and as a field. As a field, a practice and a sector, we have choices about how we might reconceptualise learning design and bring it to the centre of what we do to help equip the post-COVID university to address the very real challenges it faces. Hard-won lessons from the pandemic period can be embedded within a culture of learning design that provides a foundation for the future.

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Provocation 1 response

The role of learning designers

A response to Sue Bennett's "What might learning design become in the post-COVID university?"

Sukaina Walji

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Higher Education | Learning Design | learning designer role

Chapter in brief

In the South African context, learning design and the specific job title of "learning designer" has recently become more prevalent. The value of learning designers is also becoming increasingly recognised. Yet, while learning designers have become more prominent, often leading course teams in blended and online course development, their status in a university is still something that is being established and negotiated.

Introduction

From my time starting a fledgling project developing Massive Open Online Courses (MOOCs) at the University of Cape Town (UCT) in 2013, to recruiting our first learning designers and continuing to develop my own learning design capabilities, I have seen how we have moved from tentative and derivative approaches to course and curriculum design using a mix of borrowed methodologies (often gleaned from corporate e-learning) to contextually relevant and confident approaches which are embedded in a theorised field of practice. Added to this, thoughtful learning designers are still iterating and innovating, which is what makes learning design a fulfilling profession and why it accommodates people from many different work and disciplinary backgrounds. As Director of the Centre for Innovation in Learning and Teaching (CILT) at UCT, it is intensely meaningful to be part of developing this field and profession.

Reflecting on Sue Bennett's (2023) provocation "What might learning design become in the post-COVID university? " opens up some productive areas for further deliberation around the role of learning design in a university. In asking a

series of open questions about who does learning design in a university and how the job role and associated practices might evolve to meet the needs of both staff and students going forward, it is clear that learning design is to be seen as a field that is still being shaped and which perhaps needs to be reimagined and reinvigorated to meet new and emerging requirements.

Changing and contested roles for learning designers in higher education

As Sue Bennett mentions with regards to the Australian context, the field and associated practices of Learning Design have several tributaries. There is some provenance coming from educational development in universities; in the South African context, learning design and the specific job title of "learning designer" has recently become more prevalent as more universities offer blended and online course offerings as part of their increasing flexibility in the provision of teaching and learning. In line with global trends, learning designers are being sought after in many South African learning contexts, such as universities, schools, businesses, corporate training, educational technology providers, governmental organisations, charitable organisations and the like, leading to a proliferation of similar-sounding job descriptions and a sense of a community forming around the field of learning design.

The value of specialist and sometimes disciplinary focused learning designers is also becoming increasingly recognised. Full-scale course production teams will have at least one if not more learning designers who shepherd the course design process, in some cases providing project management and coordination or business development roles. Centres of teaching and learning have built capacity for offering learning design services (Czerniewicz, 2021) and the experience of COVID-19 and the need to support shifts to different forms of online learning has highlighted the need for central support services, including learning design expertise (Trotter et al., 2022). Yet, while learning designers have become more prominent, often leading course production teams in blended and online course development, their status in a university as a mainstream occupation or service is still something that is being established and negotiated. There are variations in conditions of service across the sector, with learning designers being employed on either academic conditions of service or as professionals with a practitioner orientation with little consistency and overlapping job roles.

The notion of learning design as a field comprising a set of professional practices that support teaching is now also more prevalent in the mainstream teaching space, particularly when courses and programmes are redesigned. More university teachers are accustomed to or have worked with learning designers and are familiar with their methods and processes. This represents a significant shift in understanding of the value of learning design in the course and curriculum design process and creates new opportunities for the practice of learning design as it becomes more mainstream in higher education. As Bennett suggests, learning design skills are increasingly part of the repertoire of university teachers in the sense that while university teachers have always designed teaching, this may in the past have been more implicit, whereas taking a learning design approach requires that designs be made explicit and offer opportunities for reflection. The idea of teaching as design (Laurillard, 2012) is one that underpins learning design. Developing the capacity of university teachers as part of improving and making teaching practices explicit is increasingly recognised as part of the learning design function, whether it happens through formal staff development or as part of experiential learning through a course or programme development process (Aitchison et al., 2020).

Even though learning design is better established in university contexts, the nature and purpose of learning design is increasingly subject to productive critique. If teaching is a political act, so is learning design. Who does learning design, what discourses underpin models and theories, whether the purpose of learning design should be to address inequities and who cares for learning designers are important conversations that put a spotlight on learning design practices and their relationship to the higher education context (Costello et al., 2022). Contextually sensitive and culturally aware learning design de-centres the focus on the implementation of models and methodologies (often imported from Western contexts) which focus on creating materials and pre-designed courseware, akin to an outcomes-based approach. Instead, learning design practices increasingly acknowledge the positionality of learning designers, teachers and students as design actors who enact teaching and learning through responding to design and their own

experiences, while being continuously shaped by contextual factors and institutional cultures. This signals that teaching environments are emergent, variable, complex and may require adaptation (Goodyear & Carvalho, 2019). Bennett alludes to these possibilities in asking what learning design might become and whether it can navigate some of the tensions between what is considered emergent teaching and what is seen as design.

Learning designers as relational and embodied actors

This emergent approach signals a shift from some of the comfortable tenets of learning design and a "plug and play mentality". It also represents an opportunity for learning design to be more relevant and responsive to the contexts of students and teachers and to address institutional imperatives. Here, adopting a socio-material lens guides a conceptualisation of learning design which is more tentative and which posits that teaching and learning environments encompass humans, digital tools, artefacts, designs and discourses (Gourlay et al., 2021). In such an environment, agency is distributed amongst various actors in what is usefully termed "entangled pedagogy" where "pedagogy is constituted not just by methods and technology, but also the purposes, contexts and values of teachers, students and other stakeholders" (Fawns, 2022, p. 4).

Learning designers are therefore embodied actors in relation to others, including teachers and students. Rejecting both pedagogical determinism or technological essentialism, a socio-materialist lens foregrounds the importance of understanding and analysing relationships and connections between material and embodied entities, which continually shape and inform each other. While the notion of distributed or entangled agency may suggest messiness for learning design practices, this framing provides an opportunity to reimagine roles and shape educational futures. Reflecting on the role of the teacher in relation to learning design, Beetham and Sharpe (2019) consider how a focus on design as teaching has impacted on the agency of teachers, whereby "aspects of learning design have been handed over to non-teaching professionals within the more complex, disaggregated structures of the modern college or university" (p.10). The opportunity to reimagine and revitalise the role of the university teacher in digital teaching spaces (Bayne et al., 2020) can inform how learning designers choose to exercise their agency, particularly in relation to how they interact with and centre working with teachers. Universities need to engage with these conversations as part of shaping the nature and culture of the post-digital university, with Sue Bennett's scenarios providing indicators of possible directions.

How learning designers should be developed

The conception of learning designers as relational and embodied actors begs the question as to how to support the professional development of learning designers to take account of complex and relational teaching ecosystems. Learning design is a growing field globally with increasing formal professional development opportunities, although more research is needed in the South African context about how learning designers are recruited and trained. Universities require learning designers who can critically reflect on their own practice, understand teaching as emergent as well as designed practice, and can work in agile and flexible roles within a university. Senior university leaders will need to invest in appropriate professional development opportunities. There is also a need to recognise that learning designers as embedded actors themselves may experience oppressions and contestations in university structures based on their positionality and background (Romero-Hall, 2021).

The private educational technology sector in South Africa as well as globally is growing, influencing and perhaps reifying a particular approach to learning design that tends to focus on pre-designed outcomes and design standardisation for efficiency and scale. While there is much to learn from corporate models, South African university teaching and learning environments are complex and relational and undergirded by deep inequalities, requiring learning designers to engage with broader issues of social justice and equity and at times take on advocacy roles for marginalised students.

Learning designers as change agents for teaching

Going beyond a more nuanced and contextually aware approach to learning design that accepts the messiness and emergence of teaching spaces, there is an opportunity for learning designers to be change agents for teaching in an institution. They often have unique insights into a course or programme and in their facilitating of conversations with university teachers, content experts and course teams they will often broker conversations and reflection. Learning designers who work directly and as part of embedded teaching teams also have the opportunity to develop the learning design capacity of university teachers in ways to strengthen teachers' agency. Whether learning designers primarily work with a product-oriented mindset (producing a course or materials) or whether they are about developing a person (Aitchison et al., 2020; Pallitt et al., 2018) may depend on the project or context. It is likely that there are multiple entry points to influence and shape institutional teaching practices.

This is a productive time to be a learning designer in South Africa. The field is more established and there are many opportunities to forge a meaningful career in university settings. Through support and dialogue, learning designers have the potential to shape teaching and learning through understanding what it means to design for complex teaching environments. Enmeshed in an entanglement within a university ecosystem, grappling with the relationality of pedagogy and technology, and imbued with their own agency, learning designers need to take on the complexities of the university and its various challenges and imperatives.

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It took a pandemic to help us contextualise the value of learning designers in higher education
Open learning designers on the margins
The pedagogical advisor as a weaver of the learning design process
“I’ve been flying by the seat of my pants for my whole career”: Learning through mimicry and mentoring

Indigenous learning practices: Creating reflective spaces for growth and transformation

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1

It took a pandemic to help us contextualise the value of learning designers in higher education

Patrice Torcivia Prusko & Whitney Kilgore

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Ethic of Care | Compassion Fatigue | Trauma-Informed Pedagody

Chapter in brief

Much has been written about burnout, the difference between a learning engineer and a learning designer, and the plight of adjunct faculty. We wanted to find out how those whose role was within the learning design domain experienced compassion fatigue and burnout. Stories illuminated the notions of identity that are intertwined with the idea of learning design practice, work-life balance, and personal and professional selves. Through review of relevant literature and interviews and focus groups that examined the ways in which the participants experienced compassion fatigue and burnout during the pandemic, the following themes emerged: 1) toxic work environment, 2) care and fatigue, and 3) life-work balance. This exploratory study gives insights into the interconnectedness between identity, care, and life-work balance that learning designers in higher education experience. Before and during the pandemic, learning designers have led with an ethic of care; now we, the broader educational community, needs to care for them. Recommendations include supporting time-blocking calendars, communicating clearly to supervisors what the current workload is, and educating leadership so that they better understand the work.

Introduction

The role of the learning designer has been misunderstood until recently. The need for digital transformation of curriculum caused by the pandemic has highlighted the importance of learning designers in higher education and their situation. It has also shed light on what was accepted as business as usual prior to the pandemic. Learning designers come from a wide range of backgrounds, lived experiences, and family statuses. They bring a variety of skill sets to the field of teaching and learning, including project management, creativity, design thinking, knowledge of pedagogy and educational technology, content creation, caregiving, and—most recently—in loco therapy. Learning designers face a

number of barriers in their roles—related to power dynamics, a lack of understanding of the effort required to do their work, low job security, and unrealistic expectations—that have previously led to burnout, and which marginalise both the work and the role of identity designer within institutions. By better understanding the tasks involved in learning design and the demands a learning designer balances to create online courses and digital learning materials, university leadership can learn to create the roles and seek out the skill sets that form the best teams.

We, the authors, are both cisgender white women who were born and raised in the United States. We share a small window into our identities, and the fact that our educational and professional lives have been shaped by the Global North, as a way to give context to our lived experiences and how it informs our work. This chapter explores the interconnectedness between identity, learning design as a practice, burnout and compassion fatigue, and personal and professional selves. Specifically, we examine the role of the learning designer, how learning designer burnout manifested pre-pandemic, and the experiences of learning designers during the pandemic. In addition to reviewing relevant literature, we discuss key findings from a phenomenological inquiry conducted with a group of learning designers based in the United States (US). We discuss the research methodology and key findings, and conclude with an argument for greater awareness of the need for an ethic of care (Gilligan, 2011) in the profession.

How the role of a learning designer emerged

Distance learning began in the early 1700s as a shorthand correspondence course that was advertised in the Boston Gazette. It evolved into lectures on vinyl records and came to adopt mass-communication technologies: The Open University in both the UK. and China were well-known for their early use of radio and TV to distribute learning. The contemporary version of distance learning emerged when Penn State offered the first course delivered over the web (Pappas, 2013). This movement toward online delivery of education created the need for instructional designers to support faculty in the development of their curriculum. Instructional design as a profession was born out of a need to scale training for soldiers during WWII in the 1940s (Instructional Design Central, n.d.). Interest in instructional design models grew in the 1970s, with over 40 models being developed. The 1990s saw an increase in the use of technology to deliver online courses and a complementary interest in constructivism.

As online learning, educational technology, and digital pedagogy became more mainstream over the last 25–30 years, there has been an increase in demand for and prominence of the learning designer role. The digital transformation required during the COVID-19 pandemic led to heightened understanding of the role of a learning designer and how important these individuals would be to the digitisation of higher education. As of fall 2021, the US distance education enrollments saw a 93% increase. A McKinsey study of the learner journeys of 29 learners in the US and Brazil illuminated the importance of student-centred design, which a learning designer supports (Child et al., 2021). Research conducted by Quality Matters and Eduventures in the CHLOE 3 report (Legon, Garrett & Fredericksen, 2019) found that institutions that added learning designers to support faculty in the design of online offerings had a higher student performance and an overall improved student experience.

The title and role have gone through many changes, including instructional designer, learning designer, learning experience designer, and—most recently—learning engineer (Kilgore et al., 2019). No matter the title, learning designers must analyse, design, align, and evaluate what is taught, all while creating trusting relationships with subject matter experts, navigating power dynamics and politics, and being a solution partner. As the next section shows, the role of the learning designer is multifaceted and requires deep expertise in learning theory, design models, learning technologies, systems thinking, and much more. Frequently, the leaders of learning designers misunderstand the work required, have unclear expectations of the time and effort that it takes to do the work, and the leaders misunderstand the importance of job security for the learning designer, who is often in a temporary role.

The role of a learning designer

The conversation has expanded around the questions of what work a learning designer does and how one defines what it means to be a learning designer. As Bozarth (2019) explains, the term instructional designer "... [E]ncompassed an ever-expanding, soup-to-nuts array of tasks. The title has become a catch-all for anything related to creating, launching, delivering, or even facilitating instruction in any capacity, and at any level of complexity." A review of the role of learning designers (Altena et al., 2019; Bozarth, 2019; Intentional Futures, 2016) illuminates the wide range of knowledge they are expected to have and tasks they are expected to do:

1. Instructional design theory
2. Technical knowledge
3. Professional learning
4. Learning theories
5. Educational research
6. Instructional design
7. Project management
8. Training and professional development
9. Technical support
10. Graphic design
11. Videography and editing
12. Scriptwriting
13. HTML/CSS coding
14. Accessibility expertise
15. Copyright expertise
16. Content writing and editing
17. Quality assurance expertise
18. Research and data mining/analysis

In a recent Inside Higher Ed article, learning designers are referred to as the "... sherpas of online learning teams, experts in how to teach and design a course" (Decherney & Levander, 2020). The lack of understanding of the online course design and development process has led to an expansion of the role of learning designers, with the learning designer commonly taking on any work that needs to be done across a variety of specialised skills/roles; this increases the likelihood of unrealistic expectations. Additionally, many learning designers are concerned about saying no or pushing back, because of the temporary status of many of their roles (Kolomitro et al., 2019).

Learning designers experience a number of barriers in their roles related to power dynamics, misunderstandings of the effort required to do their work, a lack of job security, and unrealistic expectations. One learning designer interviewed about their experiences shared that there are "days when I feel overwhelmed to tears. Days where I feel nothing we do makes a difference because the more we do to help, the more that level of support is expected regularly." Throughout

the pandemic, support and care for students rightly took centre stage; the people designing and supporting the students, however, were often overlooked.

Burnout and compassion fatigue during the pandemic

Previous research shows that learning designers were burning out pre-pandemic (Cohn, 2018). Learning designers were dubbed "Swiss Army Knives" pre-pandemic: expected to be experts at everything, combined with the expectation that they will help with any and all tasks needing to be completed (Kilgore et al., 2019; Prusko, 2020; Prusko & Kilgore, 2020). The goals for this study were to gain deeper insights into the lived experiences of learning designers in higher education, to illuminate how they made meaning of those experiences, to better understand how they are faring now, and to determine what they would need to persist and thrive. For context, we provide a brief overview of the participants and research methodology before sharing the stories and experiences of the participants in the study.

Study overview

A community of learning designers in the US participated in this study. Since they were journaling anonymously in a Google Doc, we could not attribute specific identities to the quotes or document exact job titles. We asked participants to reflect on their lived experiences as a learning designer before, and during the pandemic, as well as what they hoped for in the future. They had 20 minutes for silent reflection, followed by a full-group discussion. We asked approximately 80 participants to answer the following questions:

1. Can you tell us about a specific experience where you have experienced burnout since COVID-19?
2. We realise that you may have experienced burnout prior to COVID-19. In what ways might you be experiencing more or less burnout in the current work environment, and do you have any concerns as you consider your future plans?
3. What has been the narrative at your institution about the working conditions/hours for your instructional design team since March 2020? Has it changed over time? Were you able to get additional support?
4. How has being on the front lines of digital transformation been good for the instructional design profession? What has been bad?
5. What are the things you wish you could share with your administrators that would help mitigate burnout (or if you are a leader, that you wish you could do to support your staff)?
6. What advice or suggestions for the field in the future?
7. What is one thing that you will do to address YOUR needs or the needs of others?

We adopted phenomenology as the qualitative research methodology for this study. This methodology is well-suited to gain insight into the lived experiences of participants, and to understand how they experienced a specific phenomenon (Van Manen, 1990; Smith, 2013). Phenomenology illuminates how context and the unique lived experience of each participant influenced how they experienced the pandemic, while also allowing themes to emerge. As suggested by Sohn et al. (2017), our journal prompts had been piloted prior to this session. This study made use of journaling instead of interviewing, and the prompts were designed to elicit specific stories by asking participants to "think back to and tell me a specific story." Phenomenology requires that all participants have experienced the given phenomenon: All participants in this study had experienced being in a learning designer role during the pandemic. Three major themes emerged from this study, each illuminating the experiences of learning designers as they supported higher education teaching and learning during the pandemic.

Research findings

Analysis of the journal reflections of the participants revealed the following three themes: a toxic work environment, life-work balance, care, and fatigue. Within the context of this study, a toxic work environment refers to one where the learning designers were under constant stress, felt unsupported, and experienced high turnover. Life-work balance refers to the inability to separate work from life or to take time off. Care and fatigue refers to how the broad range of

ways they provided care left them emotionally and physically exhausted. These themes illuminated some of the issues and barriers that learning designers faced when supporting the higher education enterprise during the pandemic.

Toxic work environment

"We are surviving, not thriving," said participants as they discussed the issues that influenced their ability to do their jobs. Many individuals shared that, although they had time available to take off, they were unable to due to either expectations of leadership or the "hidden academic expectations"— the feeling that even though they were given the time, it would be looked down upon to actually take it. For example, one participant shared, "Our university did give us two additional days of break so the facilities people could do a deep clean and I am grateful, but there is so much to do, it won't feel like a break." Other participants voiced frustration that there was a disproportionate focus on "just getting the work done," detracting from recognition of their expertise, knowledge, and focus on quality.

Learning designers have been dubbed "Swiss Army Knives" before the COVID-19 pandemic, referring to the expectation that they be experts at everything and that they will help with whatever task needs to be completed (Prusko, 2020). Any work related to design, updating, or technical support when running courses frequently falls to the learning designer. Several participants communicated the challenge of attempting to meet faculty and leadership expectations, having limited resources, and being asked to meet unreasonable timelines. These experiences align with research on toxic work environments. While bullying, sexual harassment, and discrimination are widely understood to create toxic environments, unrealistic workload expectations, lack of empathy or appreciation, high turnover, and little opportunity to grow can create similarly toxic effects (Cleveland Clinic, 2022; Rasool et al., 2021). This combination of factors was burning out learning designers before the COVID-19 pandemic, which has since exacerbated the physical, emotional, and psychological drain on these talented individuals.

Learning designers are often the go-to people to ask questions about how to use educational technologies. One study participant described the situation:

> *The online academic programs we design are "owned" by us, so instructional designers are responsible for the entire lifecycle of a course including development, design, support, evaluation, re-design, LMS administration, managing the integration of interoperability tools, professional development for our instructors, and intercession when things aren't working or the instructor needs specialised help (or a kick in the butt). We do it all.*

This is not an uncommon situation, but the skillsets of learning designers are often misunderstood, as is their workload and availability to take on other tasks outside of their role. One learning designer shared that her full-time position included supporting the learning management system administration, training of faculty and staff, and designing online courses and programs, and she was asked to take on more. Because she was bilingual she was recently asked to translate all of the text on the university's COVID-19 contact-tracing app. As mentioned previously, it is not uncommon for a learning designer to feel as if institutional leadership does not understand learning designers' roles within the organisation—translation is clearly not a learning design responsibility. However, when she asked if someone else could do it, she was told "our administration wants you to take this on as priority." She is now considering leaving her job.

Many of the participants felt the work they were being asked to do was disposable, expecting that their universities would go back to traditional residential teaching. In the US, in 2019, 63% of the 20 million enrolled students did not take a single online course (Lederman, 2021). Some faculty would say that they "needed support urgently but that they were glad they would be back on campus next semester so that they wouldn't have to teach online ever again." The essence of what participants experienced can be heard here: "I am back to feeling powerless to make real lasting change other than being an emergency responder. [This has] really caused me amazing frustration with my university and its lack of focus on quality online teaching." And, while this is not the case at every institution during the pandemic, it is a pervasive theme among those who took part in this study.

Care and fatigue

We found a strong connection between the desire to do the job (learning design) in a caring way and feelings of fatigue. Many of those who described a commitment to providing care and compassion for faculty, students, and colleagues also expressed feelings of exhaustion. The essence of participants' experience can be found in the following statement:

> *I am a learning designer and also a faculty member. I have been assisting students through the transition to virtual learning. I try to teach and lead with compassion but this sometimes takes a bite out of my mental and emotional health. I really try to keep my stress/tiredness from showing or talking about it so as to not add stress to our faculty.*

From their perspective, this participant's approach to their work was motivated by a deep desire to prioritise care and compassion for faculty and students. However, it can be difficult to provide care without taking on the stress of others while doing so. One designer shared how the pandemic and supporting faculty have added "therapist" to the list of job responsibilities:

> *I take on the emotions/stress/anxiety of the professors I'm helping and consulting with. I'm their one contact as a lead instructional designer for their dept, I'm their person. I have their back. I need to have communication strategies to help them de-stress and feel better with remote teaching and learning. It's tough to not feel "responsible" for helping to de-stress them—and I had to look up strategies for how therapists deal with taking on their clients' emotional states.*

Learning designers in this study described how emotional labour was fundamental to their experience of what it meant to do this work. However, there were differences in how they approached it and how successful they were in creating boundaries. Although the majority indicated it was difficult, if not impossible, to create boundaries, others described some success in doing so. Many participants described a desire for an environment where they felt seen and understood. Specifically, they described a lack of understanding by leadership of the resources it actually takes to do their work. The pandemic caused significant financial stress to universities, in many cases requiring budget cuts and decreased government support in the US. Several participants described how the lack of budget to scale up to meet demand or to replace staff who left has negatively affected them. One participant explained it this way:

> *I have lost two team members due to retirement and change of positions. With the current dismal budget situation, we are not allowed to replace lines. So there you have it, supporting more students and faculty with so many less staff to do so. I am helping everyone with their jobs; I have not taken any full days off since March (2020)!*

For supportive learning designers who are committed to an ethic of care, stretching themselves to ensure the work is done becomes prioritised over self-care. Several participants maintained that providing support in their role related to an openness in being available, whether during regular hours or not. By historically having a tendency to "jump in and do whatever needs to be done," these participants described increasing levels of exhaustion. Setting clear expectations on when learning designers are available may be one useful way of helping establish some sense of work-life balance. As one participant remarked, "There is a feeling that we are expected to be available at any time. That may be self-imposed by our team because we are so customer-focused and internally motivated." Although many participants felt exhausted, they displayed strength and composure, because that is what the job and the situation required of them. Several participants described the need to hide their true feelings to get the job done and best support faculty. These experiences illuminate the performative demands of this role and the impact on their well-being. To evolve toward an ethic of care for Learning Designers, a structural shift is required. There is an expectation of a caring approach in the learning design process, however, there is not enough care being given to learning designers who need to know that they too are cared for by leadership.

Life-work balance: Out of reach for learning designers?

Analysis of the data illuminated how the lack of life-work balance negatively affected the lived experience of most participants. For example, some participants described how the workload resulted in an ever-present need to be working. One participant wrote, "Yesterday, I spent another all-day workday (7 a.m. to 1 a.m.) with a quick break for dinner and lunch." Several participants wrote about how high turnover and limited resources increased workloads; one participant explained:

> *… [W]e have just been dealing with the ongoing aftermath of a few pivotal members of our very-small team leaving for new jobs. There is no choice but to pick up the slack and try and juggle all the rest, which equates to a LOT of overtime.*

In some cases, the learning designer was the only person with their skillset on campus. One participant describes the turmoil of turnover that they were dealing with:

> *Not a year after I started in my department, my boss left for another job (which meant those of us remaining took on his work) and the only other full-time learning designer just put in his notice (we're now taking on that work too). We're a very small department, and I'm the only full-time instructional designer left.*

These stories, which were not unique among participants, illustrate a common issue in higher education: A staff member leaves, but the position is not filled. This is sometimes a budget-related decision, while other times the hiring process is extremely slow. This affects how a learning designer perceives both their chances of meeting leadership and faculty expectations as well as their ability to take time off.

Participants also described how other demands can create an internal dissonance between learned practices and most participants' perception of control over the support they need to provide. Several participants described how, because they believed they could not say "no," their personal lives suffered. One described this state of mind this way:

> *I have been staying up until the wee hours of the morning nearly every day to finish all the work that has piled up on our short-staffed department. I get a few hours of shut eye and then wake up to start all over again. Rinse, wash, repeat. This, plus helping my kids manage their virtual school work (which requires a lot of tech help and re-teaching) = me living in a constant state of Zombieland and really feeling like a cog in a machine … I'm ready to "unblend" my work from my life.*

A question that needs to be addressed is, how learning designers can more clearly communicate to leadership a picture of what it takes to do their work, thus strengthening their positions and protecting their time when they are often in roles where they have limited social capital and feel powerless. The study participants clearly had difficulty maintaining work-life balance: less than 10% expressed the ability to reinforce boundaries around their personal time. Learning designers currently approach their work prioritising both the work that needs to be done, and developing a thoughtful relationship with the faculty they work alongside. In many cases, this results in learning designers being taken advantage of and treated more like a personal assistant rather than an equal thought partner. There is no easy solution to this problem, however steps required to shift the story include: truly listening to learning designers and taking the time to have a deep understanding of the barriers they face, ensuring their voices are part of the solutioning, taking the time to really understand what it takes to do this work, and focusing on creating relationships of trust and care.

What does the future hold?

The need for learning designers is expected to increase. According to one study, in three years the global online education market will reach $350 billion US dollars (Research and Markets, 2019). In the US, learning designers are highly sought after, with a 20% increase in demand since 2004 (Decherney & Levander, 2020) and expected continued

job growth of 10% in 2020–2030 (Bureau of Labor Statistics, 2021). Anticipating such growth, the educational field would benefit from an intentional analysis of the power and challenges of the learning designer role. In this chapter, we presented ideas that illuminate the need for intentional change, rather than simply adding another wellness program or suggesting self-care. Many learning designers have burned out in this role because of a lack of understanding by leadership of what it really takes to do the work and their own ethic of care. Several ideas and strategies emerged from our conversations, such as communicating to leadership what it takes to do the work of a learning designer: Few in leadership, for example, realize that a 25-minute module takes 35–85 hours to design and build (Defelice, 2021). Additionally, Kolomitro et al. (2019) found that issues stemmed from a lack of job security. Many of these individuals are in temporary roles, leaving them afraid to push back against unreasonable timelines and expectations. Other strategies mentioned included being your own advocate, setting boundaries in order to achieve work-life balance, and creating a culture of care to overcome fatigue.

One participant mentioned trying "to remember that not only are your faculty and students stressed that your professional staff and student support professionals are as stressed and burned out as they are." Another pointed to the problems that arise from learning designers' advice being sought and then ignored:

> *When our team is asked for advice on how best to move forward or make adjustments to improve the current situation, take the advice. Asking for it and then doing the opposite is crushing, especially when what the team predicted happens.*

This idea of learning designers taking on the role of caretaker and providing emotional support has certainly been more evident as a result of the pandemic, and likely a result of learning designers taking on whatever task needs to be done. This may be due to the gendered nature of the role, with 70% of learning designers being female (Bond et al., 2021). This is particularly concerning, and one more example of the emotional labour of women (Erickson & Ritter, 2001).

Listening to the experiences of learning designers in higher education gives insights into the interconnectedness between identity, care, and life-work balance. Specifically, we argue for an ethic of care for learning designers. In order for there to be a shift in this direction, leadership would need to give voice to learning designers, truly listen to what they are saying, respect their knowledge and expertise, and have empathy for their experiences (Gilligan, 2011). Further research needs to explore evolving leadership toward a more feminist approach that prioritises caring for others, accountable collaboration, equity and inclusion, and a focus on increasing the number of women in leadership. Such an approach is embodied in ActionAid's "Ten Principles of Feminist Leadership". Before and during the pandemic, learning designers have led with an ethic of care; now we, the broader educational community, need to care for them. Some steps that we can all begin to work on today include: time-blocking calendars, communicating clearly to supervisors what the current workload is, and educating leadership so that they better understand the work.

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2

Open learning designers on the margins

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Open Education | Reflective Practice | Learning Design | Third Space | Intentionality

Chapter in brief

Prior to the global COVID-19 pandemic, learning designers and adjacent professionals worked closely with educators to develop technologically supported and enhanced learning opportunities – often particularly within online education spaces, though increasingly also in blended learning contexts. In the rush of pandemic mitigation, educational equity fault lines were exposed and exacerbated, as classroom-based teaching was rapidly redeployed into online and digital spaces. The authors offer this chapter as a reflection of their work as learning designers, but also as practitioners of open education, as part of a necessary collective effort to do better, through the open sharing of strategies, discoveries, questions and uncertainties. Here we propose the application of the concept of third space to illuminate the position of learning designers in higher education, especially as they attempt to navigate and negotiate a practice of open(ing) learning design that is intentional, equitable and reflective. Third space is explored as both a site of identity-building for learning designers and as a challenging, liminal, boundary-spanning location for learning design practice. We share some principles of open learning design and learner readiness. We share a contextual application for learning that prioritises students in the learning equation. As learning designers, we suggest that, to engage and inspire learning, our practice must be grounded on ethical considerations for human care, equity, criticality and openness.

Introduction

Is there such a thing as open learning design – and if so, are its practitioners marginal? To give these questions due consideration we must first turn to a discussion of the contexts in which we are asking these questions. First of all, this writing originates in the "late-pandemic" moment (March – August 2021), widely discussed as an inflection point in higher education's complicated relationship with online learning. Added to this is the acknowledgement that our own

institutional, professional and personal contexts, including our work in learning design and our identities as open education researchers and practitioners, have afforded us particular lenses to examine these issues, and suggest to us that context is part of the answer.

While the COVID-19 pandemic is not the main focus of this chapter, we must note that our writing took place at a time when educators around the world were seemingly emerging from an extended phase of 'pandemic pedagogy', by which we mean emergency-response forms of teaching and learning using remote or hybrid methods (Barbour et al., 2020; Havemann & Roberts, 2021; Williamson et al., 2020), or cases in which learning and teaching remained impacted by pandemic mitigation effects. In many cases, "moving on" took the shape of moving back into the campus and classroom, with little room for nuanced discussions of the relative strengths of digital, analogue, synchronous and asynchronous modes, let alone the possibilities and value of openness.

There is a danger that the memory of the considerable personal and workload pressures and challenges of this overwhelming period, combined with the frequently negative portrayal of the results by governments, media and sometimes even institutions themselves, will come to overshadow other significant aspects that much could yet be learned from within learning design contexts. Without wishing to minimise this (ongoing) impact on colleagues and students, we nonetheless cannot endorse the widespread calls to return to some halcyon, analogue, pre-COVID days of "normal". As Ladson-Billings (2021) notes, "normal is where the problems reside" (p. 69); she calls instead for a "hard re-set", a "rethink and redesign" of teaching and learning environments and curricula (p. 73). The socioeconomic and educational fault lines which the crisis has exposed cannot simply be papered over by a return to "room-enhanced" learning. It is not, in short, simply a question of whether to return to "normal", or retain "what worked" in the pandemic pivot. Instead, we should now be learning from our mistakes and doing better.

One promising feature emerging from the pandemic response has been an apparent increase in the opening of educational practices beyond the usual suspects, as educators finding their feet in remote teaching shared new strategies, discoveries, questions and uncertainties (Biernat et al., 2020; Havemann & Roberts, 2021). We have been heartened to witness, support and participate in this opening of educator peer-to-peer discussion of learning and teaching practice (in itself, an aspect of what we are calling "open learning design"). We are also aware that this opening perhaps invites, but does not automatically lead to, learning designs which incorporate adoption, adaptation and/or creation of open educational resources (OER), as well as affordances to design for open teaching and learning. It is particularly that latter idea of open learning design that we will focus on in this chapter, although this is only one of various senses in which learning design can be open(ed). We also propose that the concept of "third space" (Bhabha, 1994; Soja, 1996) can help us to interpret the role of the open learning designer as one that honours and advocates for equity, diversity, and inclusion of marginalised learners within higher education learning contexts. We will explore what an intentional, reflective and open approach to learning design might offer, exploring angles on the idea of openness that this phrase evokes, as well as reflecting upon the recent shifts in (and sharper focus on) learning design following the distinctive, disruptive and traumatising context of the pandemic.

In order to think through the notion of open learning design, we will first turn to learning design and designers, and consider how such a role can be said to occupy a third space in higher education. We then discuss some ways in which conventional understandings of these labels are potentially altered or troubled by aspects of openness. We will discuss the use of open learning environments (e.g. open syllabi), open engagement (e.g. blogs, Twitter chat), and alternative assessments through integrating blogging, social media and reflexive practices (DeWaard & Roberts, 2021; Shelton et al., 2020), as well as how open education shapes our practice. In addition, we will consider the open readiness of learners and scaffolding of intentional, reflective and open learning practices.

Learning design and learning designers

Learning design is often used as a synonym of instructional design; and in both cases the discussion usually concerns the design of online (and sometimes blended-mode) courses. Learning design is often thought of as an inclusive, participatory process, situated in and responsive to contexts, and can thus include but expand upon the range of

activities usually referred to as “instructional design”, which tends to imply the application of technical, templated and replicable methodologies to course design. Learning design can be understood as an alternative vision of what is involved, needed or indeed “designed”; rather than emphasising the design of online instruction (in order to replace the “absent” teacher), learning processes and learners are more explicitly centred, although the idea that learning can be designed is sometimes questioned. For Dalziel et al. (2016), the use of the term “learning design” indicates that “an educator can carefully design teaching and learning activities that encourage learning to take place” (p. 21), rather than design learning itself.

Learning design is described as a professional craft focusing on the description and conveyance of productive approaches, in efforts to create, produce, evaluate and improve teaching and learning (Dalziel et al., 2016; Wagner, 2021). Dalziel et al. (2016) propose a learning design framework encompassing core concepts of representation, guidance and sharing in the pursuit of good pedagogy. The field of learning design reframes the history, traditions and research from related fields of study such as instructional design, user experience design, learner experience design, design thinking, and learning engineering (Wagner, 2021).

Learning designers work to develop necessary conditions, apply strategies, and build resources and tools while navigating platforms to engage and inspire learners (Wagner, 2021). Essential qualities for learning designers include understanding of human learning and of design principles (Wagner, 2021), as well as the embodiment of the principle that course design is more than content delivery (Dalziel et al., 2016). In addition, we contend that the roles, skills and expectations for learning designers should also include ethical considerations for human care, equity, criticality and openness – but then, who is a learning designer?

Instructional design usually implies the existence of an “instructional designer”, a specialist in applying appropriate methods in course design; whereas, whoever does learning design is understood to be a learning designer – which is less of a case of a person owning the role and typically acknowledged as a collaborative output of a range of people (particularly teachers/lecturers), usually working alongside or supported by specialists in educational technology or instructional/learning design. While none of these educators or specialists are necessarily officially known as learning designers, we should also note that (in the UK and Canada, at least) explicitly named “learning designer” job titles, referencing roles for online learning design specialists, were already increasing prior to the pandemic. This trend seems to have been accelerated by the crisis, as institutions sought to rapidly increase their capacity to move campus-based courses online.

In this chapter, with the context of the pandemic pivot online in mind, when we discuss learning designers, we are mostly talking about online learning specialists (whatever their actual job title), acting in a supportive or collaborative role in relation to academic staff who generally had little prior exposure to teaching online.

At this point, it is relevant to delve further into our own contexts and experiences of learning design work. Our open learning designer identities have evolved in similar yet different ways:

> I have never been a learning designer by job title, but throughout a range of roles in teaching, librarianship and digital education, my work has often involved designing and facilitating learning experiences: mostly online, often via unassessed activities as well as assignments, and through interaction with people as well as with information, sometimes making use of open practices. More recently I have had some experience facilitating ABC Learning Design (storyboarding) workshops, in which participants gain an overview of learning design concepts and begin to plan the mix and sequencing of activity types they will employ in their course. - Leo

> I became a learning designer in the technology support unit within a faculty of education in a large Canadian university when the pandemic began. My background and years of experience as a K-12 teacher, my work as an online course instructor, along with a Masters of Educational Technology graduate studies programme, prepared me for the pivot to technology-supported, remote learning. A strong foundation in pedagogy and instructional practice as an educator supports my work and conversations as a learning designer. My experiences developing, designing and delivering my own courses informed my supportive strategies as a learning designer. - Helen

> I did not take on the title of learning designer until I was hired by a large community to support instructors' design for remote access emergency learning. As a K-12 teacher, I had been approached to consult on a variety of higher education online learning instructional design projects. I had also worked extensively in K-12 online learning to create and develop courses and in higher education designing my own courses. As a result of the pandemic, and after completing my dissertation research on open educational practices, I have primarily worked as an instructional designer of asynchronous online courses for a zero-cost textbook programme integrating OER and open educational practices in higher education courses. However, I call myself an “open learning designer” because my passion is to help support all educators with learning design while also considering open educational practices. - Verena

Learning designers in third space

As learning designers (amongst other things) in Canadian and UK contexts, we are aware that we live and work in a world of privilege, yet, at the same time, our role can be said to exist on the margins of the academy, at least as constituted in conventional campus-based settings. Layers of marginality and hierarchy are evident within the academy, where knowledge, professional credentials and accreditation tend to dictate the importance accorded to an individual's voice (Whitchurch, 2008, 2018). Learning designers who support others to develop courses, like analogous professionals such as academic developers and learning technologists, occupy a distinctive niche in the ecosystem of higher education roles, sometimes described as a third space (Whitchurch, 2012; White & White, 2016), which is situated “betwixt and between” the conventional and well-demarcated educator/academic and professional/support roles. Like other third space professionals, learning designers balance their role between being someone who knows stuff, someone who has an opinion about stuff, and someone who can do stuff (Whitchurch, 2008). They must understand without necessarily being understood and attempt to lead others through design processes without the cultural authority or subject knowledge of those with whom they collaborate.

Third space is consequently regarded as a challenging space for its occupants, but, importantly also, as a liminal and boundary-spanning space of possibility. For Soja (1996), third space is where all individuals can represent their true selves because everyone comes to the space out of respect for others, where everyone considers the other as a person. Learning designers can therefore be a bridge between different domains of knowledge and ways of working, and can encourage design that respects the voices, ideas and perspectives of multiple learners in collaborative and interactive knowledge-building experiences.

Learning designers in pandemic times

Prior to the pandemic, online learning design specialists (sometimes designated as providers of technology rather than design support) usually worked closely with educators who needed or chose to connect with them in order to develop or enhance the design of online or blended courses. Learning design support has tended to be considered essential for online teaching and learning, but for courses taught in blended mode there has tended to be less ‘pressure’ on the design of the online element, as face-to-face sessions afford opportunities for interaction and collaboration. As such, for blended-mode educators, working with a learning designer often provided an optional means of teaching enhancement and professional development, to gain personalised, contextual support in order to carefully consider pedagogical approaches and changes to content and assessment. Such collaborations have worked best with adequate time to consider pedagogical needs, to find the right people and resources to support a project, and to acquire skills as needed. This process can result in well researched, designed and supported learning experiences for students – assuming that sufficient learning design support capacity is available.

The tensions and challenges of balancing multiple hierarchies, roles and personalities (even before the pandemic) are highlighted in the literature (Smith et al., 2021). During the pandemic, this precarious balancing act came crashing down. As course delivery transitioned online, everyone became a client for learning design, while also increasing demands for additional support for educational technology infrastructure and technology, professional development, assessment, creation of content, and student engagement. Learning design became more visible and, in many cases, learning design support roles were subdivided into specialty areas (such as online assessment).

As open educators who had frequently been engaged in advocating for, and design and support of, open learning and teaching approaches, we found that the demands of responding to the pandemic meant that our ability to support open practices and advocacy became very limited. The principles and dreams that OER have afforded to education, and our conviction that integrated open educational practices enhance and support learners to find their voice and connect with others, were left to the side of our desks in the shift from formal learning to informal learning environments, despite the crisis highlighting the need for greater openness.

Openness and learning design

"Open education" refers to a range of related educational practices and movements which, in different ways, act to open up aspects of education to make it more accessible, participatory and equitable. These movements are produced and fostered by an interleaved collection of communities of educators who engage in these opening practices, and importantly also, with each other, around the value, potentials and risks of openness within given contexts. These educators, like ourselves, probably rarely work only or even primarily on "formally open" education projects. We often do such projects on the side, but also bring our open educator selves with us when we do our day jobs, including learning design.

Previous work on open education has informed our thinking about openness in the context of learning design, highlighting the integration, reuse and production of OER (Conole, 2013; Wiley & Hilton, 2018). Cronin (2017) extended open education beyond the initial OER focus to "open educational practices" by including collaborative practices and participatory technologies. Similarly, Paskevicius (2017) connected open practices to all aspects of instructional practice, including instructional design. Designing for openness involves the negotiation of practices in higher education learning spaces (Cronin, 2017) and emphasises the importance of peer review and critical approaches to knowledge (Paskevicius & Irvine, 2019). It also advocates for opening at the margins (Bali et al., 2020). Enhancing and expanding open, accessible, human-centred online learning and alternative assessment practices are essential pedagogical approaches in promoting equitable learning environments (Alhabash, 2021; Mehta & Aguilera, 2020).

Hegarty (2015) describes open learning as an arc in life learning, a "seamless process that occurs throughout life when participants engage in open and collaborative networks, communities, and openly shared repositories of information in a structured way to create their own culture of learning" (p. 3). The description put forward by Hegarty (2015) of open learning is distinguished by eight attributes associated with open pedagogy, which include: participatory technologies, working openly with people, innovation and creativity, sharing ideas and resources, connected community, learner generated, reflective practice, and peer review. These prior studies have highlighted open practice and open pedagogy; in this chapter we are curious about exploring the potential differences and the uniqueness of open learning design in the broader open education context.

Open learning design and open educational practice

When learning designers connect and collaborate with educators, our prior experiences help to guide us in negotiating shared learning design experiences. However, these shared experiences are not without tension. Skills in balancing and negotiating different hierarchical roles, institutional policy, student needs, requiring a plethora of skills and competencies to complete multiple roles, and the demands of current educational contexts pulled us in many directions even before the complications of the pandemic. In our cases, attempting to bring our knowledge, experiences and values as open educators and researchers into our design process often increases this tension and adds additional stuff to consider in a design process. Not only do we advocate for pedagogical considerations in learning design, we foreground consideration for intentional, reflective and open learning design.

As we design learning activities and events, we are challenged to ethically amplify all voices. Since we are often not the teacher of the specific course or the department head in charge of programme outcomes, learning designers are often pedagogically inclined to become "observers" of inequities, from the margins across our institutions. In doing so as "open learning designers", we find ourselves confronting the troublesome nature of the roles and perceptions of both

learning design and open education in relation to accepted norms of campus-based teaching practices. The descriptor “learning designer” suggests a central, agentic role (Wagner, 2021), and in the case of the educator designing the course that they will go on to teach, this may be accurate; but in our experience, a key challenge of the work of supporting learning design is that we are often operating and negotiating from a marginal position, and perhaps at times we may be perceived as purveyors of knowledge and techniques that are of suspect provenance and relevance. It is from this position that we, the authors, have faced challenges and tensions as we advocate, not only for intentional and reflective design, but for the roles and strategies which open educational practices can play in the provision of accessible, inclusive, equitable, flexible, and authentic learning opportunities for higher education students.

Describing our practice as “open” requires some explanation. We are not suggesting that open learning design is a completely different thing from normal learning design, or that there is an opposite “closed learning design”, or that it requires total openness in every aspect. Openness is evident in teaching and learning experiences that are completely in the open, free and informal, but the influence of openness can also be found in cases of making the boundaries of more conventional, formal learning contexts more permeable. In this sense, aspects of openness can be designed as well as, rather than instead of, the pedagogic strategies that drive and support learning in a particular learning context and community. Openness is relative, contextual and applied in a range of ways, opening up aspects of content, practice or process (Havemann, 2020). Open learning design therefore overlaps a range of key terms arising from the open education movement, which aims to support accessible and equitable learning opportunities, as well as collaboration and sharing. Open learning design arises in the interaction between the mindset of an open educator, a person who understands and employs open educational practices, and the process of designing learning (experiences, tasks or resources).

As a wide-ranging term capturing various approaches to opening education, open educational practice encompasses: (a) open sharing of teaching and learning designs and experiences; (b) collaborative development of open educational content and resources; (c) open and accessible co-creation and delivery of learning activities; and (d) the application of shared peer and collaborative assessment and evaluation practices (Bozkurt et al., 2019; Cronin & MacLaren, 2018; Nascimbeni & Burgos, 2016; Paskevicius, 2017; Wiley & Hilton, 2018). This definition is shaped by a philosophy about teaching that “emphasises giving learners choices about medium or media, place of study, pace of study, support mechanisms, and entry and exit points, which are provided mostly with opportunities enabled by educational technologies” (Bozkurt et al., 2019, p. 80).

Roberts (2022) expanded upon Cronin's (2017) connected ideas about learner open readiness by focusing on high school learning contexts, open learning design and balancing open educational practices to expand potential learning opportunities for all (students, teachers and researchers). Open learning design is not contained or defined by one framework bound by OER. Instead, it is a networked, collaborative and participatory learning design (Couros, 2010; Cronin, 2017). It is contextual and it is personalised to the context to meet student learning needs.

In addition to the sharing of reusable content, activities and pedagogic strategies, it is worth noting that the process of learning design itself can also be open(ed). For example, the ABC Learning Design method developed by Young and Perović (2016) opens up the process of design through workshopping, which gives participants a common language with which to discuss types of learning activities while working through a series of design activities, including storyboarding of the learning journey through a course. Resources to support ABC workshops are openly licensed and shared online for anyone to use and adapt, and a growing international community of practice has fostered widespread adoption and localisation of the method (e.g. Gormley et al., 2022). Building upon this approach, the IDEAs resource developed by Walker et al. (2021) provides a collection of designs or “recipes" for digitally-supported learning activities which can be modified for different subject areas, levels and contexts to support students’ engagement and development of key learning skills (Colaiacomo & Havemann, 2022).

Intentional, reflective and open learning design

Open learning design can be understood as a subset of practices which are undertaken by open educators. Nascimbeni and Burgos (2016) provide an holistic description of an open educator as one who

> *chooses to use open approaches, when possible and appropriate, with the aim to remove all unnecessary barriers to learning. He/she works through an open online identity and relies on online social networking to enrich and implement his/her work, understanding that collaboration bears a responsibility towards the work of others. (p. 4)*

Open learning design can provide flexible alternatives that promote iterative and responsive learning in multiple media. The learners can collaboratively and individually share their learning experiences through open and closed feedback loops that include multiple nodes of learning (people, spaces, perspectives, experiences), across formal, non-formal and informal learning environments. Open learning principles help instructors balance the focus on the completion of learning products that provide evidence of learning but also develop awareness of the learning process. These principles can promote student awareness of their agency within the learning process by providing students with choice in how to participate and contribute to a learning community through integrating options for multiple mediums in which students can share and communicate their learning transparently, and by ensuring that students receive and give timely feedback in order to learn.

We have an additional layer to our identities as open educators and open educational researchers; we therefore apply this lens to our learning design work. Because we take a broad view of openness as a spectrum of open educational practices, this impacts the way we work. We navigate into, through and across boundaries as we design in collaboration with others. As learning designers, we come into each project aware that our pedagogical choices have a ripple effect. Moreover, we consider both the positives of the technological and pedagogical tools selected for use in a course design, but also their potentially "troublesome nature" (Smidt et al., 2018). As such, we have to recognise our intentions in terms of which digital tools we are using, which activities we choose to integrate and which content we choose to consider. While there may be positive pedagogical consequences of using specific digital tools, practices and content with individual students, there are also possible consequences to student safety, data collection and privacy. There is also always an understanding of designing for open readiness (Cronin, 2017) to ensure that each student has the opportunity to be as open as they feel comfortable being and the course has the flexibility to afford multiple open entry points. The underlying open learning design principles highlight and distinguish our learning design options from other online course designs.

As learning designers, our role is to promote and create third space bridges to connect the open pedagogy attributes highlighted by Hegarty (2015), while ensuring that we are meeting institutional course design policies and protocols. For example, there are no technological templates or guides to follow when integrating the design of learning to flow between learning management systems and twitter chats. It is the open learning designer's role to develop awareness around the potential for open educational practices while balancing the need for student-centred design that ensures student choice, safety and privacy, and considers digital fluency and institutional demands. Advocating and building awareness of issues of equity, diversity, accessibility and inclusion undergirds these student-centred and instructor-led course designs.

The principles of open learning design, as outlined by Roberts (2019) and expanded upon within the context of this paper suggest that open learning designers need to consider that :

- Learning occurs by encouraging the co-design of personally relevant learning pathways.
- Learners should collaboratively and individually share their learning experiences through open and closed feedback loops.
- Learning occurs in multiple spaces, connects multiple nodes of learning, includes multiple perspectives and promotes multiple experiences and processes.
- Learners transparently demonstrate their learning in meaningful ways.
- Learning occurs through stages and continuums and needs to be supported in a variety of ways.
- Learning is a personal learning experience that transcends formal learning environments.
- Open learning emphasises the learning process in order to build upon and share community knowledge.

We suggest that open learning design can encourage creativity, innovation and student-centred learning, thus opening educational practices in some of the following ways:

- Use of open engagement/participatory learning (e.g. blogs, Twitter chat) in course designs.
- Integrate learning within and outside learning management systems.
- Consider alternative assessments through integrating blogging, social media and reflexive practices.
- Explicitly address and reflect on the readiness of learners and instructors to engage in learning design that is open and shared.

Contextual application

As intentional, reflective open learning designers, we were challenged in the context of the pandemic to model values that prioritise students' learning, but in addition (or rather, first of all), honour them as human beings who face and experience the stress and trauma of the situation in a plethora of ways. Prior to the pandemic, in traditional teaching contexts or co-creation experiences, we were able to more readily design for intentional open learning design. However, at the onset and during the pandemic, it became more difficult to challenge existing learning design mindsets. The focus shifted to one of "getting learning online" and making things happen, rather than reimagining pedagogical approaches.

Within the tensions and online learning design that we experienced as a result of the pandemic, we co-designed courses that may not necessarily look or feel open, nor explicitly integrate OER. We attempted to influence course designs that reveal a human-centred look and feel. These designs provide students with space for questions, a flexible and carefully considered workload, a variety of synchronous and asynchronous activities, an awareness of reasonable bandwidth requirements, evidence of assignment considerations, and explicit recognition of privacy issues that emerged, particularly with the growing use of video gatherings to replace in-person classroom sessions. These were balanced within the tensions of specific course and programme requirements, along with consideration to those instructors working toward tenure or subject to university review. Some examples of intentional, reflective and open learning design considerations are described in the following section.

Conceptual design: Course topics alignment

To ensure that students have the opportunity to develop open readiness and the confidence to share their learning, we focus on open learning principles that are considered a major component of the course learning design process. For example, during the blueprint and planning stages, through conversation with the course author and/or instructor, the course outcomes are split into conceptual topics that are connected to the course learning outcomes, and constructively aligned with the course activities, assessments and course content. Topics can then be divided into sub-topics to scaffold learning throughout the course. We focus the coursework on opportunities for students to share their learning with different audiences. Intentional and reflective open learning design therefore considers the timing, within the ebb and flow of the course, toward the who, what, where, when, and how to give and receive feedback.

Reflective learning opportunities: Blogging

Discussion posts in learning management systems are designed to encourage students to interact with each other and share their ideas within a participatory medium. As open learning designers, we encourage the use of discussion threads, but also encourage instructors to consider the use of open blogging to bridge student writing between the formal learning environment within the learning management system and the informal learning environments found outside the learning management system. Blogs provide an opportunity for students to develop digital skills, fluencies and competencies that can be applied beyond course learning outcomes. Blogging also provides opportunities to discuss safety and privacy within digital writing spaces, thus providing a way for students to intentionally consider ownership and authorship of assignments and a space for reflection after a course has been formally completed. Pedagogical practices such as blogging range across a spectrum of openness and it is essential to consider the benefits, challenges and risks of open approaches (Tur et al., 2020).

Integration of social media: Twitter chats

Another intentional open learning design activity is the integration of a course hashtag to be used in social media communications in spaces such as Twitter. While Twitter is a social media tool that requires a password in order to share content, anyone with access to the internet can observe a Twitter stream and search for a specific hashtag. As such, students can choose to join Twitter, either anonymously or using their real name, or observe tweets without signing up for an account. The initial twitter hashtag activity can be as simple as an asynchronous or synchronous analysis of tweets collected using a hashtag or expanded into a course twitter chat (Brown & Roberts, 2022). Course hashtag curation creates an opportunity to add content and perspective to your course, outside of the learning management system. Course hashtags also provide an opportunity for others outside of the course to participate and share their perspectives with the class in a Twitter thread. Holding a Twitter chat focusing on course topics or readings – conducted either during a scheduled time period during a class or course event, or an extended period to enable deeper discourse on a challenging concept – can expand possibilities for open engagement between and among students, as well as open up the opportunity to engage with a broader audience.

Personalised and adaptable content: OER

OER are

> *…learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open licence, that permit no cost access, reuse, repurpose, adaptation and redistribution by other. (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2019)*

Using content that is openly accessible to all provides instructors the opportunity to personalise course materials by adapting or modifying content to meet individual learning needs or contextual factors. This foregrounds the growing need to ensure accessibility so that all students can see, hear and/or feel course materials in a variety of contexts or formats. While curated collections of openly accessible OER are available to learning designers and course instructors, it is often challenging to find elements that immediately fit the course content or context without adaptation. A positive outcome from this has been an increasing interest in repositioning the student from consumer to producer, making the development of resources core to the learning process. The rapid deployment of online course designs during the pandemic pivot may have frequently precluded the careful consideration of use or creation of OER, but in our emergence from the pandemic, we must reflect on the spiralling costs of commercial resources and the pedagogic opportunities inherent in resource creation, and therefore consider the valuable role for OER within intentional open learning design.

Promoting reflective practices for learning designers and students

As an example of a reflective praxis as a learning designer, we share this excerpt from one of the author's personal reflections as an open learning designer during the pandemic, which reveals an intentional, reflective and open learning design experience:

> We are working on writing about our experiences and reflections that acted as my safe learning space over the last year. In the middle of the chaos and unprecedented events, we would meet and discuss what was happening in our worlds and contexts. These iterative reflective check-ins were an essential element in my being able to support others professionally throughout the pandemic, to ensure that I was not losing my professional identity as an open learning advocate and researcher as I was surrounded by competing narratives and lack of confidence in my own skills and abilities and as a source of support for putting learning first in a time of crisis. I am in debt to [the fellow open learning designer] as a friend and colleague and I know our constant brainstorming and ideation will lead to continuous knowledge building and pushing the barriers of open learning continuums. (V. Roberts, personal communication, August 6, 2020)

Not only for their own reflective practices, open learning designers consider how to design for reflective and metacognitive activities within course designs where students and instructors engage in reflective practice. When course activities are designed to be participatory and transparent, considerations should include how to model ways to share, give and receive feedback. Grouping structures and strategies are often applied within online course designs, but we suggest the introduction and application of social pod groups early in the course. Social pods are semi-structured, small groups of learners who self-select to connect, interact and give feedback to each other throughout a course (DeWaard & Roberts, 2021). These social pods provide an opportunity for the students to support each other through informal conversations to clarify instructor and course expectations while developing trusting relationships with peers during the course.

In addition to participatory, collaborative and interactive activities, instructors are encouraged to integrate reflective activities. These activities are opportunities when students are encouraged to share their thoughts, ideas and insights, and can be done through personal blog posts or through synchronous conversations (DeWaard & Roberts, 2021). The focus is on developing and strengthening students' open thinking with others, not only within the course, but engaging the voices of external experts, as shared in the work of Zamora and Levine (2017). One example from personal experience is the design of a course that provided an opportunity for students to connect with authors of selected course readings as a means of connecting topics and course readings to student learning in more authentic ways.

As open learning designers, we strive to provide flexible alternatives that promote iterative and responsive learning in multiple mediums. Learners can then collaboratively and individually share their learning experiences through open and closed feedback loops that include multiple people, spaces, perspectives, experiences and nodes of learning in formal and informal, or even professional learning environments.

Through conversations with course instructors during the design phase and applying the guiding principles of open learning design, we help instructors balance the focus on the completion of learning products that provide evidence of learning, while also developing awareness of the learning process. These principles can promote student awareness of their agency within the learning process by providing student choice in how to participate and contribute to a learning community, by integrating options for multiple mediums through which students can share and communicate their learning transparently, and by ensuring that students receive and give timely feedback in order to learn.

Conclusion

As intentional, reflective and open learning designers, we suggest that critical use of the internet and networked learning can provide productive spaces to address the needs of marginalised, racialised or indigenous students. We, as learning designers, can make an impact through the inclusion of equity and diversity into learning spaces that honour a culture focused on consciousness whereby students experience learning through multiple human interactions (Whitchurch, 2012). Not only should instructors and learning designers spend time together as they consider how to design courses that meet traditional, contextual and emerging instructional design frameworks; they can also collaborate and connect with each other in meaningful ways to build knowledge through explicitly and openly sharing experiences and ideas.

This shift towards interdependence in learning design provides an exciting emerging open participatory co-design. The boundaries between academic and practitioner, and between formal and informal learning, can be bridged as learning designers and instructors create courses that challenge learners to increase social interaction in multiple online spaces, communities and networks.Learning designers, as professionals working toward open learning design, can build relationships with other higher education professionals and instructors to co-design digital artefacts in order to build shared knowledge, not only with each other, but with the students they teach. We design the potential to support decentralised, digitally safe, respectful collaborative learning design spaces. A win is that learning design is better understood as a result of rich conversations, with a strong focus on the human elements necessary during pandemic course design work. For example, a growing awareness of the need for culturally relevant pedagogies (Ladson-Billings, 2021; Levitan & Johnson, 2020), the impact of trauma in teaching and learning environments (Bozkurt, 2021), and the

growing need for student mental health and physical well-being (Zhou & Zhang, 2021) can support our work to infuse these considerations into course designs when working with instructors. It may reveal course designs with a more caring, responsive, reflective and human-oriented learning environment for students.

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3

The pedagogical advisor as a weaver of the learning design process

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Collaboration | Learning Design | Pedagogical Advisor | University Teachers

Chapter in brief

This chapter proposes that learning design is interdisciplinary teamwork which depends on and is influenced by two key aspects: the characteristics of university teachers, and the attributes of their universities. My argument is derived from working as a pedagogical advisor in four Colombian universities over the last 14 years, where I collaborated with university teachers designing courses aimed at undergraduate, graduate and continuing education students. This chapter presents a reflection on learning design in virtual, blended and face-to-face environments in Colombian higher education institutions. The first section provides background context on higher education in Colombia and briefly describes the concepts of "learning design" and "instructional design", highlighting how each of the two approaches can guide the team responsible for learning experiences. The second section is about the characteristics of university teachers. Given that "university teachers" do not make up a homogeneous category (Hernandez et al., 2009), the most important thing to consider about them is what defines them individually. The first consideration is their teaching skills and training needs. The second is teachers' beliefs about teaching and learning, and the third aspect concerns the multiple literacies demanded by incorporating ICTs into teaching. The third section describes the institutional contexts and attributes of the educational institution as determinants of learning design, particularly as relates to policies that emphasise educational innovation and teacher support. The fourth section concludes by describing how the pedagogical advisor works as a link between teacher and institution to develop an appropriate plan in a way that responds to both the needs of the teacher and the requests of the institution in a coherent way.

Context: The Colombian higher education system

Higher education in Colombia is offered by public and private higher education institutions (HEIs) under the parameters established by the Ministerio de Educación Nacional (Ministry of National Education) (MEN). In 2020, the country had 298 HEIs. Private HEIs have autonomy, according to which they can be governed by their own statutes; public HEIs are governed by national statutes. In addition, the constitutional right to academic freedom gives teachers autonomy to choose how they teach within the framework of a programme that must be approved by MEN before it can be offered to students.

According to the Colombian Constitution of 1991 (art. 69), the State has the responsibility to facilitate financial mechanisms that make possible the access of all persons eligible for higher education to this education level. By contrast, the Sistema Nacional de Información de la Educación Superior (National Higher Education Information System) (SNIES) (2021) reports that the rate of coverage in higher education in Colombia for 2020 was 52% with an immediate transition rate – that is, the proportion of students who go directly from high school into higher education – between 2019 and 2020 of 40%. This shows the great challenges that the country faces in higher education. A look at coverage rate by regions, departments and cities also reveals significant differences between large capitals and smaller cities. Of the total number of graduates in the country, in 2019, 56% were in three big regions: Bogotá, the capital city (35%), Antioquia (13%) and Valle del Cauca (8%) (Ministerio de Educación Nacional, 2021).

Higher education in Colombia is comprised of undergraduate and postgraduate programmes. Undergraduate programmes have three levels of training: professional technical, technological, and professional. Postgraduate programmes also include three levels: specialisations, masters and doctorates. The total enrollment in higher education for the year 2020 was 2,355,603 students, of which 51% were in the public higher education sector, and the remaining 49% in the private higher education sector. In total, 53% of students were women; gender data is only classified in terms of male or female (SNIES, 2021).

According to Decree 1330 of 2019 (Congreso de la República, 2019), higher education programs can be offered in face-to-face distance, virtual, dual, or combinations of these modes. By 2020, nearly 80% of enrollment was in face-to-face programmes, almost 10% were distance mode and just over 10% were online. In contrast, 0.002% involved dual modality, being partly in the educational institution and partly in industry (SNIES, 2021).

Distance education has been present in Colombian higher education since the 1970s (González et al., 2000). Online education is considered a generation of distance education that offers an opportunity to increase educational coverage in the country. However, achieving this entails at least two kinds of challenges: the first, accessibility due to the technological and connectivity conditions required; the second, this paper's focus, is the pedagogical perspective. According to Rama,

> *some expressions of virtual education are highly effective in transferring knowledge and information, but they also have limitations building professional skills when based on traditional flat instructional resources, little interaction, little diversity of resources and lack of practical self-learning applications (2013, p. 25). (Author's own translation).*

The inadequate management of accessibility risks increasing, or at least sustaining, the access gaps instead of decreasing them. At the same time, the inadequate management of pedagogical risks can lead to programmes of inadequate quality that do not allow students to achieve their learning outcomes or perform in workplaces as expected. If higher education coverage is to be increased, the country needs to continue working on technological and connectivity challenges and the universities on the development of appropriate pedagogical approaches.

Instructional Design or Learning Design?

This section distinguishes between “instructional design” and “learning design”, whose main differences lie in their emphasis. The purpose of this section is not to unravel their substantive differences or to build deep reflections on these differences. Rather, it aims to reveal that each stance has different implications for the design of learning experiences carried out by pedagogical advisors.

Instructional design is a systematic process that seeks to develop learning systems, aims to create resources to facilitate learning, and involves interdisciplinary work (Patiño & Martínez Cantú, 2019). It has also been understood as “a systematic procedure in which educational and training programs are developed and composed aiming at a substantial improvement of learning” (Seel et al., 2007, p. 1). Learning design is understood “as the key for providing efficient, effective, and enjoyable learning experiences” (Wasson & Kirschner, 2020). The key principle in learning design is that it “represents the learning activities and the support activities that are performed by different persons (learners, teachers) in the context of a unit of learning” (Koper, 2006, cited in Seel et al., 2017, p. 4). For Wasson and Kirschner (2020), the difference between instructional design and learning design lies in the emphasis of the goal. The emphasis in instructional design is on teaching - hence instruction, while learning design focuses on learning; the former focuses on teaching activities, while the latter on learning activities (Seel et al., 2017).

Weaving learning designs

The design of learning experiences is an interdisciplinary and systematic process that aims to promote learning in a given context. This may be in an academic programme or in the interests of an entity, organisation or person. The pedagogical advisor’s role in the design of these experiences is to accompany the teacher in the realisation of his or her pedagogical intentions and in achieving the goal that he or she determines for the students, as well as the paths to follow to reach it. Students should also have everything they need to achieve their learning goals, whether these be resources or a conducive environment.

But, does “accompanying” imply collaboration and teamwork? While collaboration and teamwork would seem to be an intrinsic aspect of “accompanying” teachers, depending on the institutional model, the work team may be consolidated as a distributed team. It doesn’t mean a team which works remotely. Rather it is one that may never meet but works in a chain in which some links depend on others, but do not establish a direct interaction for achieving their proposed products. Thus, there is the possibility that the members of the team may not get to know each other or work together at any time.

It will be seen later how the approach towards instruction or learning has a lot to do with the organisation and characteristics of the teachers.

The metaphor of the fabric and the weaver to talk about the design and development of learning and teaching experiences will allow us to see the learning experiences as the fabric that the learning designer helps to make. Thus, the weaver is responsible for using the right tools for the existing raw material.

First thread: The teacher (or subject matter expert)

The learning design process for online higher education courses and programmes has as its starting point a subject matter expert (SME), who is often a teacher but may also be a consultant or industry professional hired to participate in the development of a course. We will take the teacher as the first thread in the woven framework. However, it is difficult to speak of the “university teacher” as a homogeneous category in which all fit (Hernández et al., 2009). Teachers’ characteristics differ in terms of, for example, their areas of knowledge and their demographic characteristics. So, to feed the metaphor, let's say that this first thread is actually many yarns, of many textures and colours.

Diverse skills and pedagogical approaches

Teachers have different skills for their teaching practice in pedagogical terms. They also differ in terms of the integration of disciplinary knowledge, techniques and methods for making decisions about the way they organise teaching and learning processes (Héndez Puerto, 2012). In Colombia, recent regulations concerning the quality of training programmes in higher education have included the requirement of pedagogical training for teachers in order to address these disparities in approach.

However, it is up to the universities to establish the specific criteria, the follow-up indicators, and the level at which professional development takes place. Thus, it is common to include the pedagogical dimension within the teacher assessment process (Bogoya-Maldonado et al., 2020). Despite institutional commitments and regulatory requirements, the development of these skills requires motivation and vocation from university teachers.
It is well known that many educational institutions promote intellectual production and research above teaching performance. They even privilege and give greater status to the consultancy activities of university outreach than to teaching itself. I have accompanied several teachers interested in their pedagogical growth who felt disincentivised by organisational conditions in this regard.

Both training and vocation, dyes of this thread, are closely related to the framework of understanding of teaching and learning that each teacher has. Although it may seem anachronistic, we still have teachers who are convinced of the need for a hierarchical relationship with a unidirectional tendency towards students, which can become a challenge when working alongside a learning designer. These teachers are not necessarily older. Small transformations in their teaching framework reached in the process of accompaniment can be highly significant if the starting point is considered. On the other side of the spectrum are teachers who are interested in and reflective of their pedagogical perspective and therefore seek substantial transformations; they can challenge even the most expert learning designers with their knowledge.

Diverse expectations relating to the pedagogical advisor and other support entities

What else gives texture to this thread? The teacher's expectations about the pedagogical advisor - this goes hand in hand with everything that constitutes the learning design project. There are also the features of the project which give texture to the thread. Is it a course within a formal higher education programme or one of continuing or lifelong education? Is the project carried out by a team from the university or by an external team? Will the person who designs the course also facilitate it?

The answers to these questions define the nature of the entire project and the teacher’s perspective on the support s/he receives. For example, when the teacher will be the implementer and the course is part of their career within an institution, there may be more willingness on their part to engage in the design of a great pedagogical experience. Whereas, when the teacher acts exclusively as a thematic expert who generates the structure for others to deploy the course, it is more likely that s/he will have a limited role, restrictive in comparison to the possible reflective spirals that can be achieved in other cases. There are also projects conducted by external teams or for external users. For example, when the university builds a corporate education offering for an organisation, such organisations usually have the vision of a concrete service rather than that of an educational process. In this case, teachers can feel that their roles, their conceptions and their educational practices are challenged.

Most commonly, in face-to-face teaching, teachers design and implement their classes without additional support, although, increasingly, universities have support units that can be approached for specific advice or guidance. These may be available centrally or in each of its faculties, departments, or schools. Some units are specifically oriented to the use of information and communication technologies (ICTs) for teaching and learning. For some teachers, support units offer technology-based support, focusing on selecting the right tool or learning how to use it. For others, they understand that they will get pedagogical support for their teaching, which implies transformations according to the

mode of provision. Others may assume it as a contribution aimed at strengthening the student's learning process, not their teaching practice. And, when the courses are seen as products, the unit is seen as support for production.

Diverse teacher literacies and pedagogical practices

One last aspect to talk about in considering the nuances of teachers is multiple literacies and how this relates to their pedagogical practices. There are different definitions and understandings of these multiple literacies and they are considered to have enormous implications for the quality of learning experiences (Sutton, 2006). These literacies are related to the ability to read and write critically and possibly in multiple languages. From a sociocultural perspective, it is understood that being literate is not only knowing how to decode messages but also having a critical capacity to understand and generate communicative scenarios and thus generate and transform reality (Freire & Macedo, 1989; Gee, 2005; Lankshear & Knobel, 2008, cited in Héndez Puerto, 2012). Literacies are limitless and change according to specific cultural environments.

When talking about online teaching and learning, several aspects are relevant, including multiple languages and communicative scenarios and flexibility of educational practices. The incorporation of technologies to conduct educational processes and as a tool to strengthen the learning experience, is aligned with the concept of literacies. These digital literacies involve a breadth of media, channels of communication as well as cultural and linguistic diversity (Héndez Puerto, 2012). For example, one current digital literacy is data management and, in this case, the management of information from monitoring the learning process (Wasson & Kirschner, 2020):

> *Ellen Mandinach introduced the concept pedagogical data literacy, which she defines as "the ability to transform information into actionable instructional knowledge and practices by collecting, analyzing, and interpreting all types of data (assessment, school climate, behavioural, snapshot, etc.) to help determine instructional steps. (Wasson & Kirschner, 2020, p. 825)*

In a broad sense, technology has a multidimensional role that touches in many ways on teachers' skills to manage their professional roles (and their personal lives), and to improve the teaching and learning processes they lead.
Is any teacher, simply by being a teacher, capable of designing learning environments that respond to the needs of students? University teachers are increasingly facing new demands to carry out their teaching practices. As transmission approaches to learning continue to be challenged, the kinds of disciplinary, pedagogical and technological knowledge required to teach changes and, further, remain in flux. Placing the student at the centre requires that the teacher know how to communicate and how to teach in ways that reach the students, or that are accessible to the student. Moreover, as education ecosystems are transformed, becoming increasingly diverse, the skills required to teach in these scenarios also expand.

The different transformations in society lead us to think about the need for teachers to focus more on enabling the learning of others than on teaching (Héndez Puerto, 2012). This reveals, on my part, an inclination towards the learning design perspective. However, it is pertinent to say that although this need was identified and described years ago, it cannot be said that it is currently fully resolved. Today, we continue to work with teachers to find ways to put the student at the centre. It is imperative that education prepares students for the current times in which they live and, especially, for the future. Education must enable them to learn to act appropriately in accordance with the transformations of their environment: this is a challenge for all of us who work in education.

These are just some of the elements that characterise "university teachers" as one of the threads that build the learning experience in which pedagogical advisors are carefully involved.

Second thread: The university

If we were to look for structure in the fabric of the learning experience, the teacher is both the warp and the weft. However, the teacher is not alone and is not the only determinant. Teachers are part of a system with specific but

varying attributes that allow for the construction of learning experiences. Since the teacher is the main thread, I will only present some general ideas about the HEIs.

Diverse national and institutional development plans

Colombian HEIs are regulated by MEN and governed by national laws and regulations. They must also respond to the initiatives of national governments elected every four years which are included in their development plans. To avoid disruptions as a result of these government cycles, longer-term plans, such as ten-year plans, are drawn up to guide educational policy actions. In this way, HEIs are expected to be part of national and local efforts, but the alignment between these levels of government and the HEIs' own plans does not always allow them to remain synchronised.

In this sense, HEIs have their own development plans that establish their horizon in specific periods of time. However, not everything that happens is established in a top-down manner, as some efforts arise from the basis of individual or group initiatives of teachers. For example, in some universities in which I have worked, ICT-supported educational innovation support areas were "faculty efforts" at the beginning. These evolved into specific departments, dedicated to providing this support to entire universities. In short, change is both top-down and bottom-up.

The type of goals and purposes that each educational institution sets for itself may vary according to contrasting interests, values and goals. Educational innovation for the transformation of teaching practices and the improvement of learning could be a goal; but there is also the goal of growing enrolment through the incorporation of other modes of provision, as well as the purpose of increasing university income through continuing education. The desire to improve education and learning may also seek to find other and better ways for: students to achieve their learning goals; lowering dropout rates; increasing access for under-represented groups; or improving the skills of professionals through non-formal education.

Diverse institutional configurations and modes of operation

To show how the institutional perspective is central in the type of experiences that are designed, I will describe how three Colombian universities orientate to the growth of online learning. Through a brief description of their historical engagement with online learning, their configurations and modes of operation, I briefly sketch how these institutions intend to support online learning and seek to grow their online offerings as part of their development plans. It is not my intention to compare these institutions, nor do I speak on their behalf. Instead, I am referring primarily to information that is public knowledge and not to information that I had special access to because of my work with them. Furthermore, I refer, in varying levels of detail, to each of them for the purposes of this chapter.

The first university has engaged in a variety of initiatives to strengthen the digital skills of teachers and educational innovation. One of these initiatives, which took place around 2008, invited calls for proposals to finance the creation of digital educational resources and virtual learning objects (VLOs). Once the VLOs were completed, they were made available to the broader community (not just the university) through an online repository. In these calls for proposals, the teachers received pedagogical, technological and design support to carry out and develop their ideas. There was a permanent team of people for general projects who led the people hired to support the projects identified through the call for proposals.

The second university ventured into virtual education with a virtual specialisation in 2003. Since then, it has maintained a permanent interest in alternatives that incorporate online educational initiatives, including the development of continuing education courses, the incorporation of modules in graduate programmes and the strengthening of digital skills of undergraduate teachers. It also offered undergraduate teachers pedagogical, multimedia and technological support for the design of educational resources for their face-to-face courses or the redesign of their courses to blended mode. Currently, this university has set goals for growth in enrolment and an increase in the number of programmes offered through virtual or blended mode, as established in its Institutional Development Plan 2016–2025 (Quiceno, 2015). In the early days of online initiatives, the university had a core administrative team and operated through interdisciplinary teams working on specific projects.

The third university has included in its current development plan (2021–2025) the consolidation of a virtual campus and the promotion of online postgraduate programmes, aiming to increase online enrolment. Since 2012, this university's Centro de Innovación en Tecnología y Educación (Conecta-TE) has aimed to support educational change through supporting teachers and students in pedagogical innovation processes that take advantage of the potential of ICTs. Pedagogical, technological and multimedia teams advise the teachers. There is also a software development team and an educational evaluation team. Most staff are hired on a permanent basis and the organisation seeks to consolidate these teams from their disciplinary and interdisciplinary perspectives to grow and improve their strategies. Conecta-TE does not only offer a response to a specific project, but also addresses the manifestation of an institutional vision.

It is evident that these three institutions have different configurations and modes of operation. There are many others in the country with different configurations in this area. For example, some HEIs have small base teams that grow according to the demand of their projects, others establish internal teams that are responsible for the projects; some only have external teams that are hired on an ad hoc basis per project (Roldán López, 2013). In this sense, each HEI organises its strategies and ways of working based on its own principles, values and goals; in the same way that it organises its organisational structure. These configurations usually have great implications for the projects or may respond to their characteristics. For example, the organisational system of an institution focused on transforming its teaching culture may not be organised in the same way as one focused specifically on enrolment growth.

The weaver: The pedagogical advisor

Why use the metaphor of the fabric and the weaver to talk about the design and development of learning experiences? The purpose of the metaphor is to situate the role of the designer of learning experiences as the one responsible for identifying what is expected and for using the appropriate tools to connect the threads, whatever their characteristics or attributes. In the end, learning, like the weave in this metaphor, is a multidimensional socio-cultural artefact.

Diverse expectations related to the pedagogical advisor role

According to Patiño and Martínez Cantú (2019), there is no single job description of learning design nor a single set of activities for those who design learning experiences. The naming and configuration of the role can change according to the type of HEI and its processes. Sometimes the role implies acting as a consultant for decision-making at various levels; in other cases, it means operating as a technician who takes on specific tasks or products to support the teachers. In a different context, it may mean being in charge of receiving inputs to transform them into a learning experience, with or without the SEM; and in other contexts, it may require that one is a coach and trainer to transform teachers' practices. I refer to people in these roles collectively as pedagogical advisors, without forgetting that knowledge in other fields, such as technology or multimedia, is necessary.

Is the role of a pedagogical advisor given to a recipient? Who determines who is a pedagogical advisor? The role can change not only from one institution to another, but also from one project to another inside one institution. Hence, an essential skill of the pedagogical advisor is to analyse the context and the participants to identify the conditions and expectations and thus establish their role. This is a necessary first task in any project and involves understanding the institutional framework and its determinants, as well as the team of teachers and SMEs, their interests and expectations. Sometimes this is defined at the outset (for example, contractually), but sometimes it is only during the initial framing and meetings with the team that this can be brought to light.

This explicit approach to framing the work of the pedagogical advisor seeks to reduce potential tensions that may arise in teamwork, depending on the expectations that each one has of the other's role. The expectations of the teachers or SEMs determine, to an extent, the definition of roles, work dynamics and the learning experiences achieved. For example, the advisor may have the expectation that the teachers will take their suggestions as instructions and will implement them; the institution may expect the pedagogical advisor to guarantee the application of his/her learning design principles in the development of teaching and learning artefacts; the teacher may have the expectation that the

pedagogical advisor will build educational resources, activities or concrete instructions according to their needs. Clarity from the team about everyone's expectations from the outset will allow for fluidity and alignment with each other.

Patiño and Martínez Cantú (2019) found in a study on instructional design in online courses in HEIs that one of the tensions that arise between teaching teams and instructional designers relates to instructional designers offering pedagogic advice to teaching staff. In my own experience, I have observed that some university teachers have felt that when they are given pedagogical guidance or suggestions, their knowledge is being questioned and their experience is being ignored, which can cause that rejection. This situation may be the result of assuming that there is only one correct way of teaching or learning without finding a way to accommodate both approaches. In such cases, it is quite possible that the teacher's expertise and the advisor's training and experience can be brought into alignment. In addition to clarifying the context and roles, the pedagogical advisor requires the ability to relate to other frames of reference different from their own, which may be rooted in the disciplinary conventions of different courses and to negotiate with teaching staff in pursuit of better learning experiences for students.

In addition, as mentioned in the section on the institutional thread, certain institutions have an interest in the ongoing training of their teachers and in the transformation of teaching practices within the framework of their own plans and existing national regulations. In these cases, the role of the pedagogical advisor may be oriented toward supporting teachers by training them. Therefore, the pedagogical advisor must also be able to facilitate reflection in others, fostering dialogical scenarios that allow them to observe themselves, question themselves and make decisions aimed at improvement. Thus, the aim is to accompany the teachers in their reflection, in the hope that they can be aware of what they know and what they need to learn.

Scholars refer to the stages of development of mastery, showing that one goes from the extreme of not knowing what one does not know to becoming so expert that one does not know everything one knows (Ambrose et al., 2010). This reference is pertinent in this case, as it is possible that teachers have very high levels of technical and disciplinary mastery, which sometimes distances them from knowing how to unravel the detail necessary to guide the route of others toward that level of mastery. Also, from a pedagogical perspective, there are good teachers who are not able to explain what they do for their students' learning. It is also possible that they have never reflected on these issues. There are also many teachers who need to further develop their pedagogical skills.

Developing pedagogical skills can be a personal interest, where teachers have personal motivation; or an institutional interest, where it is the organisation that wants teachers to develop these dimensions; or both, as an ideal scenario, where the teacher has the motivation and the institution offers the tools. In such a scenario, a challenge for the pedagogic advisor, referred to by Wasson and Kirschner as a learning designer, is to empower teachers as designers (2020). What does that mean? It means that advisors are not only collaborating with teachers to develop a learning experience, but they are working with formative intentions so that the teacher is able to apply what they are learning to design new learning experiences. The project can be a way to develop skills that the teachers can apply in future projects in which they may not have support. It is therefore important that another skill of the pedagogical advisor is the ability to guide and give effective feedback.

What is the best way to provide advice? As expected, there is no single correct approach. Accurate reading of the context, expectations and needs allows advisors to select appropriate methods, techniques and tools. This is another necessary skill. At this point, I am not talking about methodologies for teaching and learning the experience that is being designed, but those required to work with teaching teams. In our guiding metaphor, this corresponds to selecting the right needle to achieve the desired texture of the fabric. It is pertinent to clarify that the skills of the pedagogical advisor that are of interest in this context are not oriented towards their ability to promote student learning, the central purpose of their role, but rather to achieve the necessary process to build the artefacts and experiences that make learning possible. Undoubtedly, there are other more specific skills required by the educational advisor, such as establishing learning outcomes, designing assessment strategies and digital educational resources according to these, and applying learning techniques according to specific needs, among others (Klein & Jun, 2014; cited in Patiño & Martínez Cantú, 2019).

As a corollary, I would like to emphasise, perhaps repeat, that the advisors must be prepared to adapt and work in heterogeneous scenarios, and in them clearly establish their role. Let us return for a moment to the metaphor that guides this text. Its main purpose is to invite us to think that learning experiences are unique, almost artisanal, and depend to a great extent on the raw material from which they are made. Whatever the conditions are, there is a wonderful opportunity in the exercise of the pedagogical advisor, and it is to contribute to the quality of education and training wherever it takes place. If the scenario enables the advisor to participate in the transformation of teaching practice, there is a double impact, first contributing to the teachers and their future practice, and second, to the students who will participate in the learning experiences achieved.

Conclusion

The threads with which the design of learning experiences is woven are multiple and diverse, requiring differential and specific treatments. Not all techniques work in all cases, not all tools are tailor-made, and not all existing theories apply to them. Understanding what you are weaving, allows you to know whether to choose a needle or a loom and to do so decisively.

With the growth of online education, there is a fear that the design of learning experiences is becoming increasingly industrialised and that education is growing as an industry that sells products and experiences. This can mean that specific educational contexts are not considered and that the people who make up the teams that work in them are not considered adequately. It demands, as in many productive industries, shorter timelines, standardised tools and lower costs. We face the challenge of finding a balance between this growth in the scope of education, which is necessary to reduce socioeconomic gaps and barriers, and maintaining the meaning and background of the quality educational experience; which, although not necessarily handcrafted, has something of this in its essence. But make no mistake, this is not a condition of online education, it is not a characteristic of the modality; it corresponds more to political and strategic decisions of HEIs.

I have not wanted to talk here about the technical depth of what comprises the design of learning experiences, but about the surface, in a certain sense. In Colombian universities, we are working to gather the lessons learned, appropriate frameworks and recognise trends in various parts of the world. We have the great challenge of continuing to build our own ways of doing things that allow us to respond appropriately to our own social needs.

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Norma Rocio Héndez Puerto

Over 10 years of experience leading e-learning and blended learning projects in different types of higher education programs and government entities as well as training for public officials and to promote behavioral changes in the community. I have trained teachers and subject matter experts to achieve educational innovation, learning design and the pedagogical use of ICT. I am a volunteer at Solacyt, a non-profit organization which is a member of an international network that works on the promotion, dissemination, and scientific literacy, especially among the school population. Also, I have written some papers in the field of education.

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4

“I’ve been flying by the seat of my pants for my whole career”: Learning through mimicry and mentoring

Lizzy Steenkamp & Stephanie Bandli

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South Africa | learning design mentoring | learning designer education | learning designer skills | learning designer role

Chapter in brief

Given the growing demand for learning design skills in South Africa and worldwide, a clear view of how the typical South African learning designers are currently hired and trained is increasingly important. As a pair of independent learning designers with over a decade of global experience, we have a unique perspective on how learning designers across the world are trained, and how this training reflects in the quality and impact of their work. We have further conducted surveys and interviews to define the profile, training, and responsibilities of South African learning designers in different sectors. We then used this data to identify key gaps in our national learning design skillset and suggest interventions to address these gaps. Our research shows that South African learning designers are typically not formally educated in learning design and often feel like they must master divergent skillsets if they wish to be marketable in their new professions. We further outline how learning designers’ profiles, responsibilities and skills differ across the secondary education, higher education, corporate and agency sectors. Finally, we discuss the impact of this on a South African learning designer’s ability to excel in their role and find stability in their employment.

Introduction

We are two independent learning designers who run our own boutique agency and e-learning marketplace, Who's your ADDIE? For over 10 years, we have created learning experiences with several public and private institutions in the Global North and the Global South, offering curriculum design, content research, storyboarding, media production and edtech systems design and development services. We have managed over 100 learning designers in our careers to date, and

we also design business models and educational content production systems for organisations new to the online education space. Yet, neither of us has a formal qualification in learning design. Stephanie studied digital media production and went on to earn a master's degree in interaction design, while Lizzy has a master's in film studies and a PhD in literature – an expert in human-computer interaction and an expert in storytelling both working in education. Consequently, we spend most of our time wondering whether the lack of formal qualifications in learning design has been a setback for us.

In some ways, this chapter represents our investigation into whether it would be a good idea for us to pursue formal certifications or whether the books we have read, the leaders from whom we have learned and the practical experience we have gained are enough to make us experts in learning design. We have been lucky to collaborate with learning designers who have varying degrees of formal education from all over the world. This has given us unique insight into how different learning designers are trained and educated, and how this reflects on the quality and impact of their work.

South Africa is widely acknowledged in the professional literature as having participated in online education in both local and international spaces through the provision of platforms and services and the provision of skilled professionals. In our experience, our competitiveness at an international level continues to be reflected in the number of South African learning designers hired in senior positions at prominent international EdTech companies, a trend that only accelerated since the COVID-19 pandemic (FourthRev, 2021; Superside, 2021; SureSkills, 2021). However, the experience of learning designers regarding formal education and career stability is complex leading to variation in professional identities and career trajectories.

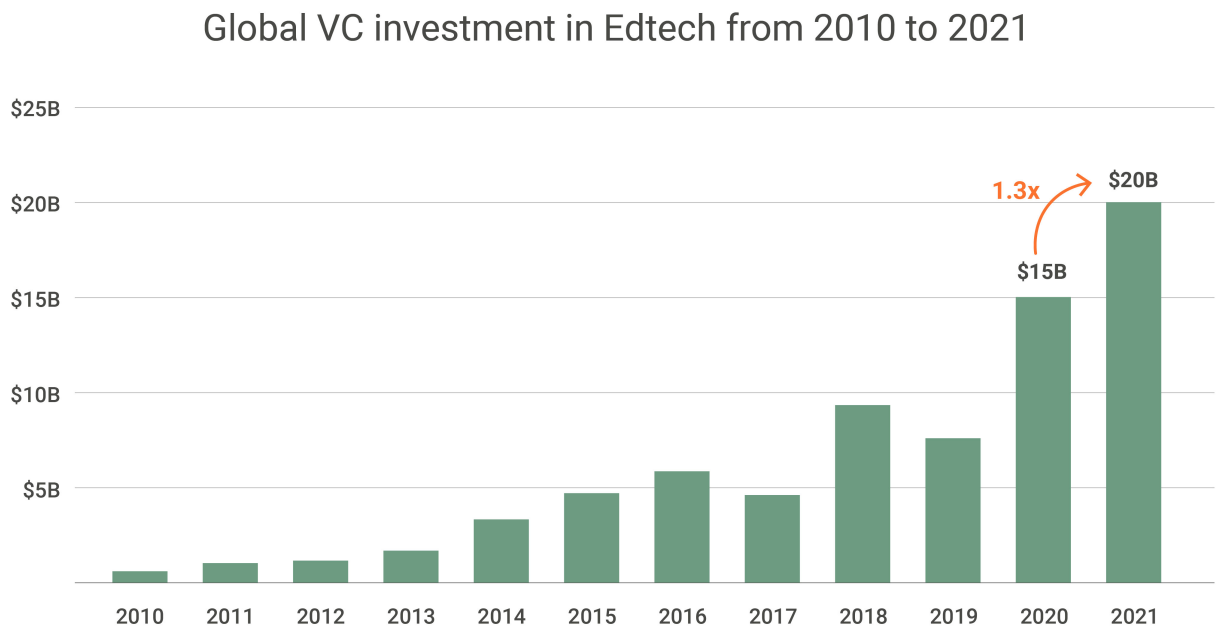
In this chapter, we explore what it means to be a competent learning designer in the South African context. How are South African learning designers educated and trained, and what is the possible impact of this on the nature and quality of their work? We will show that learning design is, in some sectors, considered to be a field in which any graduate can become competent with little to no training nor even access to a mentor to support their growth. We consider the gaps that this approach has created in our national learning design skillsets, and how learning designers, as a community of practice, can collaborate to close these gaps to maintain and grow the integrity of our profession.

The learning design field in South Africa

The rapid proliferation of e-learning practices and practitioners that started in “the year of the MOOC” in 2012 (Shah, 2020) has continued throughout the last decade and accelerated dramatically with the advent of the COVID-19 pandemic (Decherney & Levander, 2021). This was evident in 2020, the first year of the pandemic, when as demonstrated in Figure 1 EdTech venture capital funding in which South African companies were active participants saw a spike. In 2021, a record $20B of venture capital was invested in EdTech start-up companies, a value 15.8 times higher than in 2011 (Napoleão, 2022).

Figure 1

Global venture capital investment in EdTech companies (Napoleão, 2022)



At least three of the companies that have benefited from this funding boom have their operations based in South Africa; their focus on online education included an online high school, career acceleration and internship provider targeting tertiary education students and a coding bootcamp provider. While all three companies, as is the case for many start-ups, have scaled up their operations, perhaps the most dramatic are online high schools. For example, one high school saw 425% growth between April 2020 and April 2022 as indicated in their LinkedIn Insights data (Valenture Institute, 2022).

Given that the global investment in EdTech companies has increased almost 16-fold in the last 10 years, it should come as no surprise that the demand for EdTech talent including learning designers has increased globally too. South African learning design agencies and online programme management institutions participate in setting the global standard of learning design by continuing to attract several high-profile international clients. On the academic side, prestigious universities in the UK and the US (the likes of Harvard, Oxford, Cambridge, Stanford and MIT) contract local South African EdTech companies as online learning service providers. Similarly, in our experience, large multinational corporate clients draw on South African-based expertise through local companies.

Opportunities for formal study in learning design in South Africa are limited. Postgraduate courses in learning design (beyond a certificate or module-length engagement) became increasingly popular around 2012 when the University of Cape Town, the University of Johannesburg and the University of Witwatersrand began their Master of Education degree programmes. In addition, as these are postgraduate qualifications, only a select few can access these opportunities. Unsurprisingly, and as our research will shows, many South African learning designers, including those in senior positions that maintain our reputation on the international stage, largely forged their own path with little to no formal training or credentials. What is more, new learning designers continue to do the same.

In the South African context, the relationships that exist between corporate learning design agencies and companies and between basic and higher education institutions are complex and produce a challenging landscape for learning designers to navigate, especially as they seek to move between roles in the public and private sectors. The remainder of this chapter sketches how we explored this context and what we now understand about the field of learning design.

Method

We conducted our investigation over the course of six months in 2021 and 2022 through an online survey and structured interviews with a select group of participants. We recruited 60 study participants using two social networking platforms:

- LinkedIn from a network of 1700 followers of which about 600 followers work in e-learning
- The South African EdTech Collective Slack Group with a membership of 163 at the time, all of whom work as learning designers or in related positions.

Most of our participants self-selected by responding to our forum-wide request for South African learning designers to complete the survey, but we also reached out to a few of our professional acquaintances to directly recruit them. Fifty-four of the participants completed our survey and we recorded structured interviews with 17 of them. Of the participants we interviewed, 10 are hiring managers who had been hiring learning designers to serve the South African market. We obtained consent from our participants to share quotes from these interviews verbatim with the agreement that we would not identify them or the institution for which they work, except where participants have given us their written consent to do so. In reporting on the data, when we use a first name only, we are using a pseudonym as the participant has requested. However, in some cases, participants requested the use of their real names. Our secondary research was conducted using popular media, peer-reviewed scholarship and popular industry databases such as HolonIQ, LinkedIn Premium Insights, and Dealroom.

Our participants worked in the following contexts:

- Higher education (17 participants), including learning designers that work in any institution that offers or develops content for accredited degree programmes.
- Secondary education (12 participants) including learning designers that work for online high schools or further education and training colleges.
- Corporate (13 participants), including learning designers that work in the learning and development department of a single company.
- Non-profit (1 participant) which included learning designers that work for non-profit organisations.
- Agency or online programme management (16 participants) which included learning designers that deliver services for clients in various sectors. Online programme management (OPM) agencies that design and develop course content and manage course delivery and maintenance. They are responsible for the recruitment and management of facilitation staff, student support and the certification process.

We thematically analysed the data we collected from our participants to find the general trends in their responses to our questioning.

Results

Who designs e-learning in South Africa?

In our experiences as learning design professionals in various contexts (higher education, secondary education and agency), we had noticed that many of our colleagues were arts or humanities graduates. Thus, we were not surprised to see this reflected in our data. Of the learning designers that we surveyed, 93% had at least one degree, of which 62% indicated an arts or humanities specialisation. This differs from the trend in the US where one study showed that 88% of Instructional Designers have a graduate degree and 49% of respondents stated that “their respective degrees came from either an instructional design or educational technology program” (Arnold et al., 2018, p. 6). When we asked local hiring managers why they prefer candidates with degrees, they expressed that degrees give them confidence that the candidate would have basic critical thinking and analytical capabilities and acceptable English proficiency and communication skills. Kira, founder of Elevate Learning and head of digital learning at Momentum Metropolitan prefers candidates with a background in arts or humanities:

> *the emphasis is on "Can I think critically, and can I express myself in a way that is coherent and succinct?".*

All the hiring manager participants agreed that although they require that applicants have an undergraduate degree, they would accept candidates without degrees if the candidate could somehow prove they had the desired skills in another way. This need could be addressed by providing a reputable specialist competency assessment service for learning designers that would remove the burden of assessing incumbent learning designers' skills from the employer.

Another clear pattern that emerged is that 75% of our respondents identified as white or Caucasian. The South African Black African population is in the majority (49.1 million) and constitutes approximately 80.1% of the total population (Statistics South Africa, 2022), which raises questions about the diversity of the profession. As we noted in the previous section, many South African learning designers do not necessarily serve South African learners. Increasingly, they serve an international market comprising large institutions that design for a global audience. For example, in our own careers, we have designed learning experiences for global EdTech firms such as Coursera, which serves over 100 million learners from all over the world (Coursera, 2022), as well as multinational corporations with manufacturing plants and distribution centres on every continent. Therefore, while South Africa may have an unusually diverse learner base as far as home language, culture, race and ethnicity are concerned, the development of global learner audiences has made considerations for learner diversity the norm in best practice approaches to learning design. This is to be welcomed.

The shift to designing learning that is applicable to diverse audiences is a positive change as the field has a history of assuming too much homogeneity in learner groups. Regardless of how large or small your target audience is, our learners are all staggeringly different right down to how their brains process language. Ethnicity and sociocultural context are the most prominent examples of what Susie L. Gronseth, Esther Michela and Lydia Oluchi Ugwu in Designing for Diverse Learners refer to as "commonalities among learners" (2020, para 1). Although these commonalities are important to consider in the South African context, we can't homogenise our learner groups based on common factors like race, age, language or class. A learning designer is not necessarily better able to empathise with and design for a particular learner because they share their ethnicity; there are also many other factors that may impact on their capacity to design with empathy. For example, a learning designer fluent in South African sign language might be a more appropriate candidate to design a programme for a deaf learner regardless of racial background. Tanya, an experienced learning designer and hiring manager who has served a range of South African learners, notes that she often sees challenges of empathy arising from a range of different variables:

> *I don't know what it's like to be a miner; I have to ask them!*

Although we maintain that we do need to compose our teams to reflect the demographic diversity of their contexts, we can't rely exclusively on the diversity of our teams to bolster our ability to design for diverse learner groups.

Given that it's not possible for a learning design team to represent all the learners for whom they are designing material, it is still crucial that all learning designers are able to empathise with their diverse learner audience effectively. As Gronseth et al. argue: "Being able to plan for diverse learners begins with developing empathetic understandings of the characteristics in which learners will vary" (2020, para 1). Caroline, who has designed experiences for a wide range of learner audiences both within South Africa and internationally, reflects:

> *Learners will all experience the content differently; you can't get around the role of empathy, and estimating and imagining what the issues might be.*

Robyn, who works at a higher education institution that focuses on marketable creative skills, experiences similar challenges:

> *There's a stark difference between people who are studying on company time and people who can afford R16,000 for a 10-week course, versus people who are studying on a bursary and have to do it on their phone.*

To design better for more diverse learner groups, learning designers need to improve their ability to empathise which can be “deepened over time through experience and effort” (Gronseth et al., 2020, para 7) as well as research (Fila & Hess, 2015). Learning designers should ensure that their learners are given enough variation in the means of engagement, representation and expression throughout the learning experience which will allow for the experience to be more universally relevant and applicable (CAST, 2018).

Who is hiring South African learning designers and LD companies?

There are large numbers of learning designers entering the market every year and yet demand for learning designers in the South African market remains high. The head of talent at a prominent EdTech institution noted that in her experience, “the market demands for learning design talent is definitely on the rise” and that not enough is being done to educate suitable graduates on learning design career opportunities. Lara, who has been involved in the recruitment of learning designers at both international and local e-learning providers commented that “there is definitely a shortage of South African learning designers serving the local market" and that competent South African learning design candidates appear to find the best financial reward in being directly employed by global companies. The next best thing is to be employed by a South African company that serves the international market. As these agencies have their revenue boosted by the exchange rate, they can afford higher salaries for their learning designers and are undertaking less and less local work since South African clients cannot afford their rates. Lara mentioned:

> *I can imagine if you are a university or a company serving the local market and you need to employ a learning designer, that’s where it’s getting particularly difficult.*

As a result, positions in companies that serve the local market often remain vacant or they risk being filled with inexperienced, under-qualified candidates.

What are learning designers called?

During our research, we encountered a challenge in establishing who should and should not participate in a study about learning designers in South Africa. Although we have some strong opinions on what it means to be a learning designer, we decided that it would be more illuminating to take a descriptive approach. Therefore, we included in our research the responses from anyone who self-selected as a South African learning designer. From this audience, we collected 15 different job titles as represented in Figure 2.

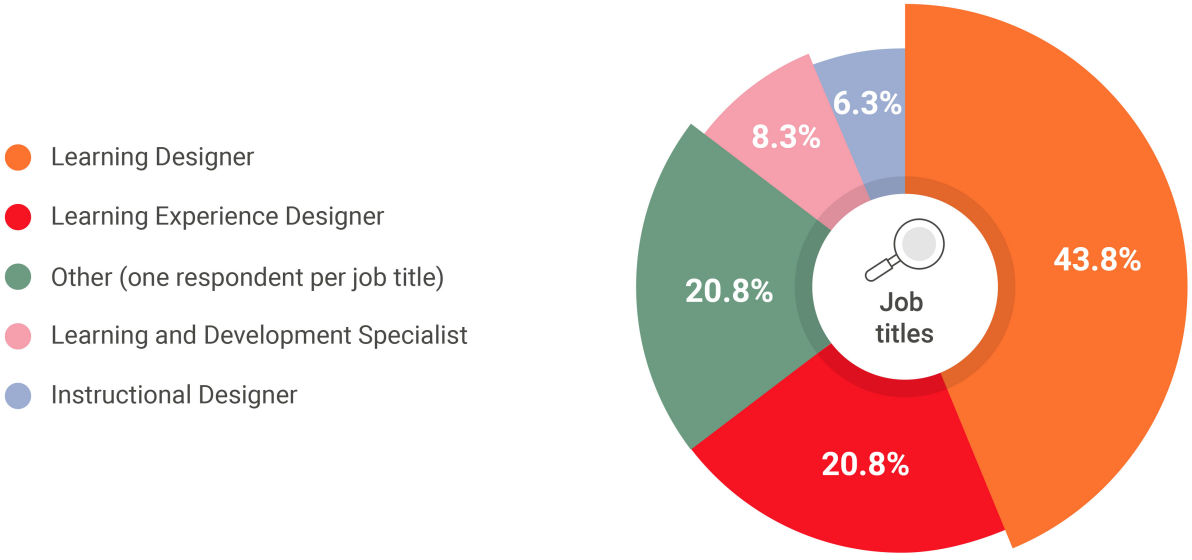
Figure 2

Job titles collected from surveyed learning designers

We ignored differences accounted for by seniority or specialty. For example, “senior learning designer” and “financial learning designer” (a learning designer who specialises in financial topics) were both counted as a learning designer. Our results indicated that the most popular job titles were learning designer and learning experience designer. As demonstrated in Figure 3, more than 60% of our respondents had one of these two titles.

Figure 3

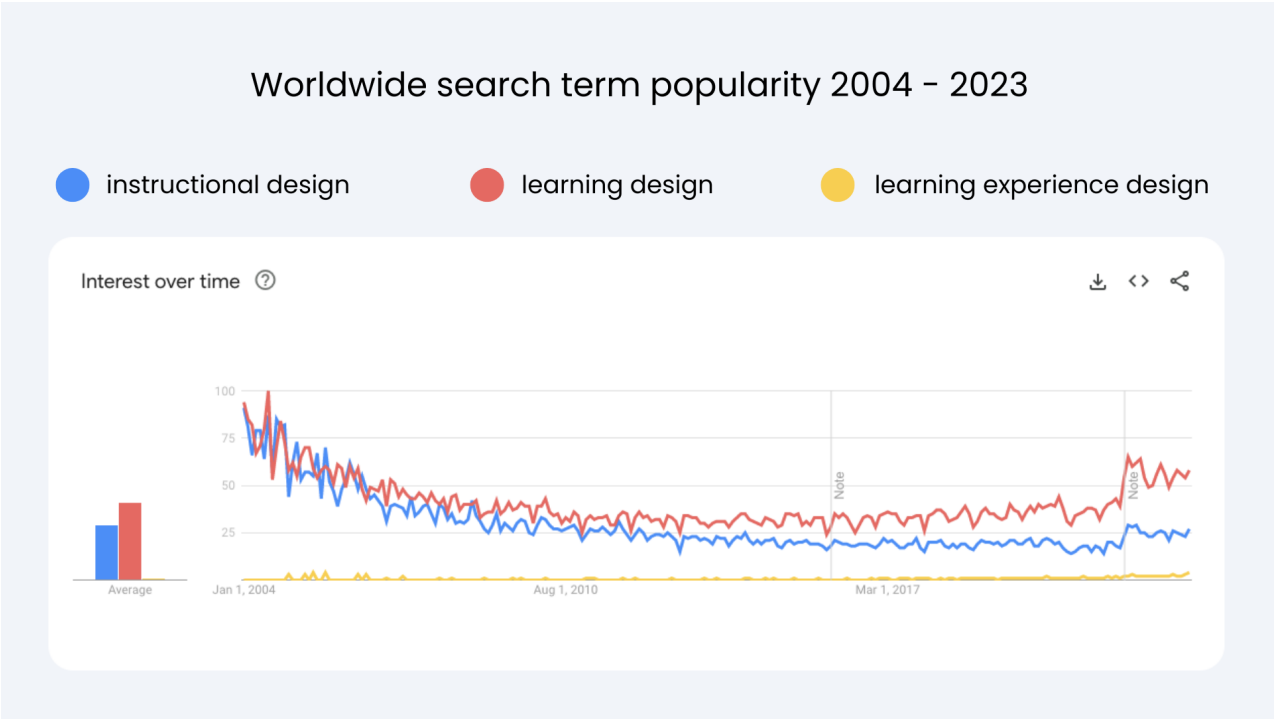
Distribution of job titles among South African learning designers



In interviews, our participants used “instructional design”, “learning design” and “learning experience design” interchangeably except when we asked them to define the differences between these terms. It is interesting to note that “instructional designer” is not as popular a job title amongst our participants even though it is still a widely used term globally, as reported by Google in web search volume data represented in Figure 4 below.

Figure 4

Google trends data on search terms (100 represents the highest search volumes achieved)



Although the hiring managers we interviewed felt that job titles are treated flippantly in the field of learning design, they could all rationalise their own choice of job title coherently. A common sentiment was that the term "instructional designer" implies a manner of thinking that is too rigid or instructor-centric. Cathy, a hiring manager at an e-learning agency, notes that moving away from the instructional design title allows for:

> *A shift from focusing on the needs of the instructor and the way the information is disseminated, to more of a focus on the learners and how [people] learn.*

Tanya, a hiring manager at a different e-learning agency, explains that the change from instructional designer to learning experience designer was also an important symbolic shift for her team from "I'm teaching you" to "You are learning".

The inconsistent approach to job titles could be a symptom of the varying maturity of South African learning design teams in different sectors and contexts. For example, Mari, who was the first learning designer at her university and has occupied this role for ten years, recalls onboarding learning designers with varying titles from across the university whose managers simply sent them to Mari to have their jobs explained to them. Given the diversity of job titles for learning designers, it also comes as no surprise that even if two learning designers have the same job title but work in slightly different contexts, their responsibilities and competencies differ widely as we will discuss next.

Are South African learning designers "competent"?

Over the past few decades, there have been several attempts to define the skillset that a competent learning designer is expected to maintain. As most of these were defined in relation to instructional design, we must make use of these texts with the understanding that the terms are typically used interchangeably in the field. In Standards and Competencies for Instructional Design and Technology Professionals, Martin and Ritzhaupt (2020) compiled a list of professional organisations who publish instructional design standards:

- International Board of Standards for Training, Performance and Instruction
- International Society for Performance Improvement
- Association for Talent Development
- Association for Educational Communications and Technology
- Online Learning Consortium
- International Society for Technology in Education
- University Professional and Continuing Education Association

Many of these standards were compiled with reference to research conducted over the last two decades through literature reviews, surveys, job announcement analyses and interviews in the US contexts (Martin & Ritzhaupt, 2021). In The Competencies and Goals of Instructional Designers, Arnold et al. (2018, p. 4) compiled a meta-analysis of the literature and found that the competencies required of learning designers are (in order of importance as determined through the frequency with which it was cited):

- Communication
- Theoretical knowledge
- Problem-solving
- Course design and development
- Project management
- Research and analysis
- Technical/technology expertise
- Ongoing learning and adaptation
- Leadership
- Relationship management
- Evaluation
- Marketing
- Identifying and resolving ethical and legal implications of design
- Faculty development
- Editing and proofreading

In practice, however, analyses of job descriptions for instructional designers show that different sectors and organisations design these roles differently (Arnold et al., 2018, p. 11) which can make it difficult for learning designers to move jobs and still feel competent. In addition, most of these competency frameworks are developed in the Global North and their relevance in the South African context remains in question.

We asked our South African hiring managers and learning designers what they consider to be the “soft” skills that learning designers should have. Our participants offered the following:

- Problem-solving skills
- Critical and creative thinking
- Strong communication
- Navigating ambiguity
- Empathy

Caroline, who has had a colourful range of experiences in her first five years as a learning designer, summarised how these skills serve the typical learning designer in practice:

> *The e-learning industry – whether it’s for an agency, a corporation, or a school – it’s not like writing a book or creating a piece of art; it’s functional. There are always constraints, and therefore there are always compromises. Being able to negotiate those, and being able to prioritise what is the thing we can compromise on, what is the core of this programme we absolutely can’t compromise on, that is a crucial skill.*

There were two other softer skills that were emphasised by all our corporate and agency-based interviewees but were not mentioned by our higher education participants: time management and client management. Although being efficient and managing expectations are important skills for any professional, in an agency context, these skills – not learner or student outcomes – define success. Thus, the commercial aspects of a project are more transparently discussed in an agency: it's usually what matters most. In an agency, every learning designer shares in the accountability for ensuring that projects are executed as efficiently as possible, while also ensuring that clients are so delighted with the output that they are more likely to return with more work. As Rachel notes:

> *Return on investment is about time; you have to get this thing out in a certain amount of time, and that doesn't give you space to question other people's decisions, much less your own.*

In higher and secondary education contexts, and, to an extent, in some corporate contexts, profit and loss are much dirtier words with long latencies for their calculation, and even then, these calculations are not widely shared or discussed. As two interviewees noted, in corporate contexts, success is tied tightly to output and completion. In higher education, learning gain, pass rates and enrolments are the numbers that are examined most carefully, and to a lesser extent this is also the case in secondary education contexts. What it means for a learning project to succeed in each context is at the core of the differences in what it means to excel as a learning designer in different contexts. Learning designers should be intentional about the sector in which they choose to work as it will likely have a significant impact on their job satisfaction.

As far as the "harder" or more easily measured skills such as writing and technical skills are concerned, this is where our interviewees diverge most noticeably. Mari, who works in higher education, opined that it's most important that learning or instructional designers are familiar enough with educational technologies to:

> *Be able to determine what tools will best serve [their] context, and [are] able to use those very well.*

Robyn, from her vantage point in a different higher education context, emphasised the importance of strong writing and editing skills. Andre moved from higher education to an agency and he had to learn many additional skills to excel in his new position. Whereas in higher education, he worked with SMEs and executed their ideas in an authoring tool, at the agency he had to learn how to work with clients from different backgrounds, conceptualise graphics, code and apply various learning theories. These diverse skillsets also emerged in our survey results where we asked participants how they would rate their expertise in different skillsets that we collected from learning design job descriptions summarised in Figures 5, 6, 7 and 8 below:

Figure 5

Reported expertise of learning designers working in secondary education

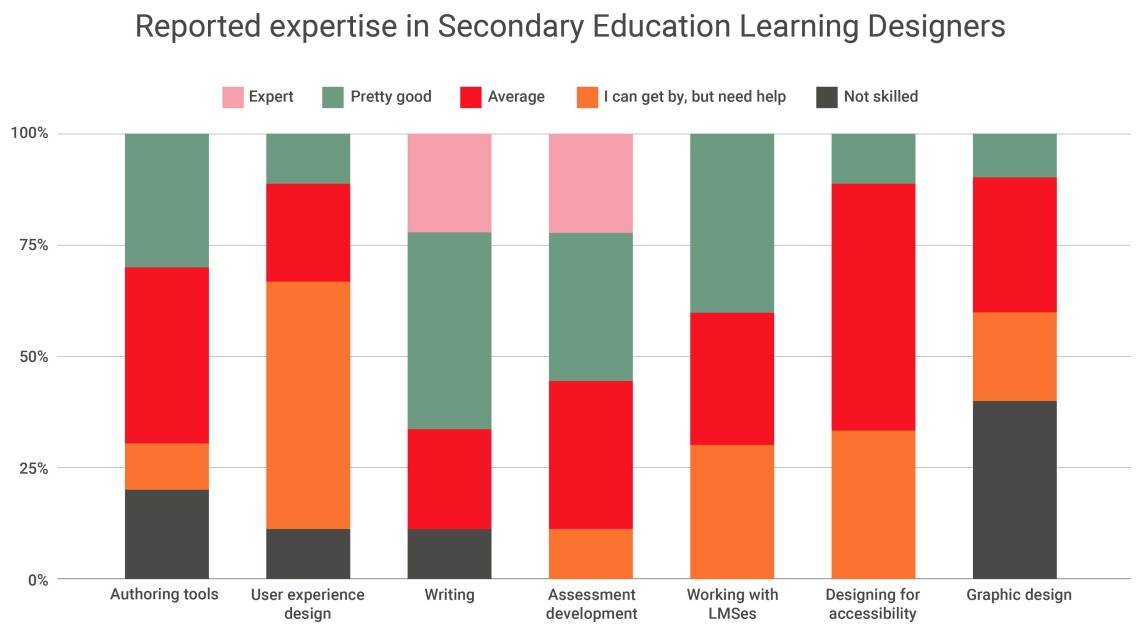


Figure 6

Reported expertise of learning designers in higher education

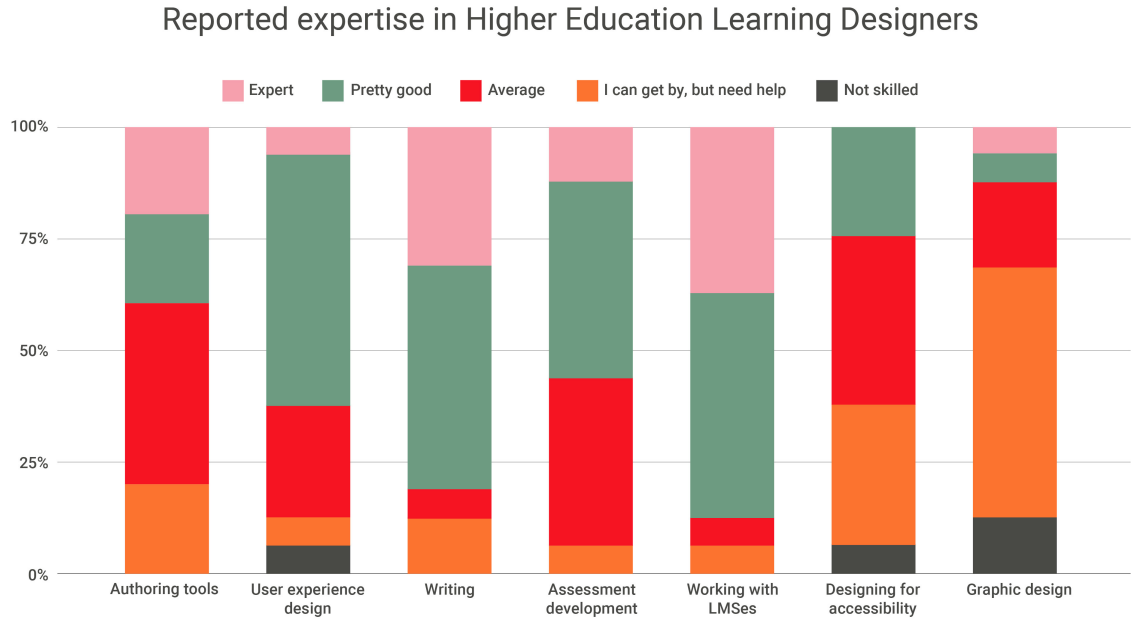


Figure 7

Reported expertise of learning designers in agencies

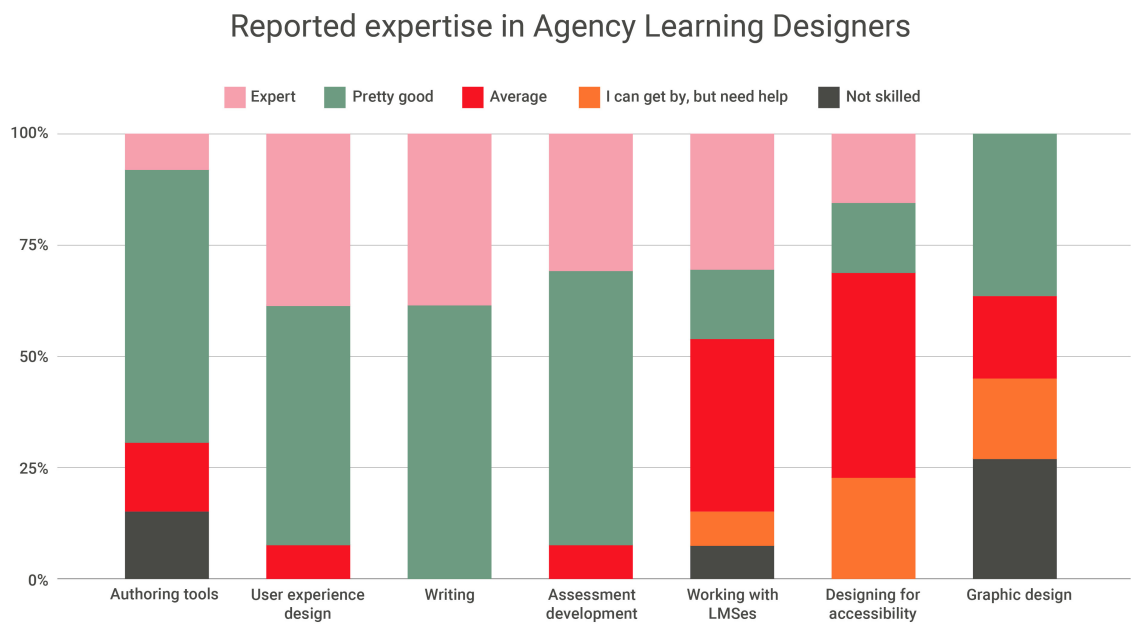
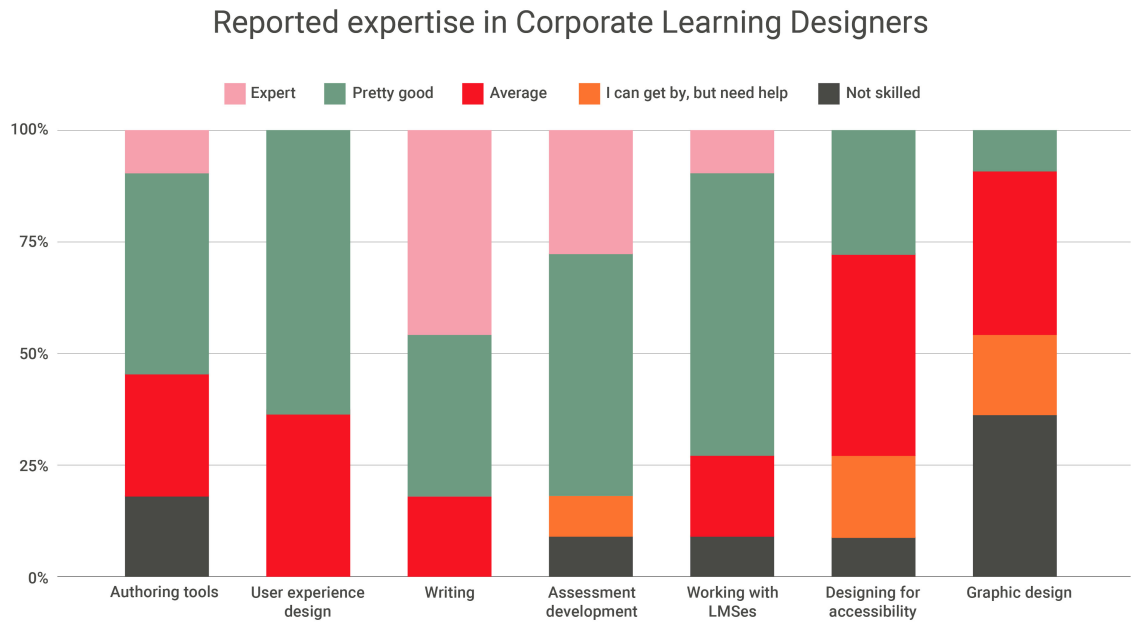


Figure 8

Reported expertise of learning designers in corporate



There is no one clear area in which our learning designers feel they are excelling. In all sectors, learning designers appear to feel most confident about being good developers of content and assessments, but it is concerning that less than half of our participants consider themselves to be experts in these areas and about 26% of them feel that they are average or below average when it comes to developing assessments. Designing assessments that effectively test the identified learning objectives is core to the learning design practice, yet it is a skill that is neglected in the face of all the other tasks that learning designers need to learn how to perform. Interestingly, the higher education chart suggests that these learning designers do not have access to media or learning technology teams with which they can collaborate. Agency and corporate learning designers are rarely required to produce their own media as is the case with the secondary education learning designers that were surveyed. Higher education learning designers therefore find

themselves having to further split their focus. Overall, the agency-based learning designers appear to have the most confidence in their expertise in a range of skills with graphic design being the only field where no respondents considered themselves an expert; this is unsurprising given their access to dedicated media production teams. The profile of a corporate learning designer most closely matches that of an agency-based learning designer. This is not surprising given that corporate learning and development teams frequently work closely with agency teams in South Africa, whereas higher and secondary education learning designers rarely collaborate with corporate or agency learning design teams.

Our research shows that learning designers feel like they have to excel at varied and often even divergent skillsets if they wish to be marketable in their industry which limits their ability to focus their energy on an appropriate direction for growth. Ceri, who currently works in a corporate position, had one of the widest sets of responsibilities we encountered:

> *I maintain the e-learning system, do all of the uploading of the materials, liaise with subject-matter experts, get the material, rewrite it for use on the e-learning system, deal with queries and all those types of things.*

Cathy also feels pressured to be:

> *A jack of all trades: sometimes instructional design, sometimes web design, sometimes UX, sometimes teaching; it becomes overwhelming because you can lose focus quite easily. It's bits of knowledge of everything but no full understanding of anything.*

This trend ultimately affects all learning designers as they rarely remain within one sector: 37 of our participants have worked in more than one sector in their careers. Imraan, who is in his third e-learning position, feels that specialising reduces employment prospects. While 18 of our participants only worked in a single sector, they were all currently in their first-ever learning design role.

Learning designers need to be marketable across sectors to feel secure and feel immense pressure to add more skills to their repertoire so that they can easily move between sectors. This prevents learning designers from upskilling in learning science which would empower them with the core principles from education research, neuroscience and psychology that would underpin a rigorous, evidence-based approach to their craft. A more standardised treatment of the learning design job specification would not only benefit our learning designers but also those who hire them, as they will know what to expect of an experienced candidate's competencies.

So, who currently has the largest influence over how learning design jobs are defined in South Africa? One view is that those institutions that employ and train most of our learning designers are highly influential. Three of our interviewees noted that the larger e-learning companies that have been most visible in the media in the last ten years have heavily influenced how learning or instructional design is understood. Kevin explained that:

> *An organisation like GetSmarter is viewed as the trainer of so many Instructional or learning designers in South Africa and people look at that and they think that's where it all started, but computer-mediated education in South Africa goes back to the early nineties.*

This resonates with us. As we are often the only South Africans on the call in a meeting with international EdTech organisations. One of the first questions we are sometimes asked in those meetings is: "Do you know Rob Paddock?" (Rob Paddock is a founder of GetSmarter).

The trend of visible companies that produce the most learning designers exerts influence over what it means to be a learning designer in South Africa and thus impacts what new hiring managers expect of their learning designers and how they craft their roles. Mari, who was the first learning designer at her university and has occupied this role for ten years, joked that hiring managers from various departments at her institution seem to imagine that learning designers "do what GetSmarter does" and could "make [their] modules get smarter" when, in reality, learning designers at such companies work closely with (comparatively) high budget media production and learning technology teams. When we

mentioned the fact that learning designers, graphic designers and learning technologists are separate roles at private companies, many of our higher education interviewees were surprised as they were expected to absorb those responsibilities into their roles as learning designers. This shows that some of the attempts to replicate commercial e-learning services are misguided, ill-informed and may lead to unfair conclusions being drawn about e-learning agencies and online programme managers more broadly.

One hiring manager in the higher education space described agencies and online programme managers as partially responsible for shaping the learning design role as a primarily contract or freelance position:

> *It's not really a career that you pursue; it's just something that you try for a couple of years, and then you move on to the next thing.*

This understanding may be linked to the fact that in local companies and even some higher education institutions, learning design positions are commonly fixed-term contracts. This could, in part, be the cause of many learning designers feeling that they are not as competent or valued as they hope to be. Due to short-term employment contracts, companies are hesitant to invest in training learning designers, a trend that we will examine shortly.

How are learning designers trained?

When we asked participants how they trained to become a learning designer, 67% of our survey respondents stated that they had never even done so much as a short course but learned only on the job. This is where the organisational definition of success becomes important. In some organisations, a successful project is one that appears well-crafted, with lots of interactivity and well-branded media, while still having been produced with little evidence-based theory applied. It is, therefore, not surprising that the most common approach to upskilling learning designers is a one or two-week induction programme in which learning designers are typically informed at a surface level of the theories that underlie the company's practices (even if this is an agency that serves various contexts and needs). After this, the focus is primarily on creating different types of educational assets effectively within a given set of narrow parameters, rather than on selecting and applying an appropriate set of theories to inform the course design and content development approach. Ayesha noted that before she happened to be exposed to broader learning theories through a course she developed about learning science, she didn't really understand the scope of what she didn't know:

> *I knew ADDIE and Bloom's, but I didn't really know the motivation behind a lot of those things.*

Learning designers are required to start creating content immediately or as soon as possible. Thus, training privileges content development skills over the application of learning theory. This is cemented in the templates, guides, and process documents that three of our agency-based participants, as well as one corporate participant, mentioned as common practice. Learning designers are given these materials along with examples of existing courses to inform their initial course development exercises, and then receive feedback from a senior colleague. As Ayesha notes:

> *I was often put on projects where there was one person I could ask questions to, or be given templates and examples of storyboards and scripts or a course that's been implemented, and then basically I would mimic what's there.*

Imraan echoes this as his primary approach to upskilling as well:

> *A lot of my skill and knowledge as a learning designer was developed through actually creating courses, and seeing where things went wrong, then iterating from there and making adjustments and taking on whatever feedback I got.*

In the absence of formal training, the quality of mentorship is a strong determinant of whether a learning designer will gain expertise with experience, or whether they will continue to gain experience without developing their skills. Marida has had a long career and she remembers that in her early days, she was most grateful to have:

> *Worked with amazing people. There's always someone who will help you.*

Michael explained that he felt a marked difference when he moved from a company where he was one of the first two learning designers, who were expected to train themselves, to a company where he had adequate mentorship from an experienced team:

> *I'd submit a storyboard and I'd get a lot of feedback from people with like 20 or 30 years of experience. That was incredibly beneficial for me.*

He realised that he had reached a ceiling in the previous context due to the pool of expertise being too narrow, with the most senior persons being no more trained than himself. To learn more, he had to move to a different team.

This points to an interesting problem: in many contexts, the hiring managers that develop and mentor learning design teams are self-taught, primarily through trial and error, online resources and, in some cases, books. A "senior" learning designer could also have as little as one year of experience. We noted this in five contexts across higher education, agencies and corporate alike. Caroline, who is now a hiring manager, recalls her own training period as a new learning designer:

> *I soon realised that my peers that I thought were super experienced and seemed to know what they were doing were kind of making things up as they go along [...]. No one had that over-encompassing 'It's been twenty years that I've been doing this, this is a proven model!' kind of experience. I've been flying by the seat of my pants for my whole career.*

The benefit of the senior learning designer as a useful mentor is therefore limited as their protege's level of skill will match their own within a few months. Cathy, another hiring manager, remembers her early days as one of the first learning designers in her department:

> *You're telling me I'm an Instructional Designer now, so this is what an Instructional Designer does: whatever you're telling me to do. So that's what initially defined my understanding of it, and at that point it was essentially just storyboarding and scriptwriting. Only later we started focusing more on best practice and researching all these instructional design theories and processes.*

Cathy feels the burden of this risk and responsibility in her own position as she never had formal training:

> *I constantly question 'is this the model or framework I'm meant to be using?', and if it's not, there's no-one who's going to tell me because I'm meant to be the expert here.*

Cathy has now enrolled in a master's degree in education (ICT) primarily to do an audit of her expertise and ensure she has the adequate grounding for her position.

Unfortunately, the option of completing a master's degree is not available to many learning designers, especially new ones. New learning designers are still entering their roles as the company's first learning designers where they are expected to train themselves. One interviewee, who is in her first learning design position as the only learning designer at her organisation, noted that she learns primarily through "trying things" and attended a workshop on sketchnoting and completed a short course on Moodle. While it is encouraging that she is taking the initiative to train herself, it's clear that without the necessary guidance, it's very difficult for a new learning designer without strong mentorship to understand what it is they need to learn to be effective in their position. This issue of knowing what to learn also emerged in the variety of responses we received from our participants when we asked them what they would like to learn to be able to grow as learning designers. Michael feels that he "should know more about pedagogical theory", but that he "doesn't know where to start". Caroline experiences this pressure as well, even after several years in senior positions:

> *There is so much learning theory out there, there are so many methodologies out there as well. I'm sure there are things that I miss because I miss that professional background.*

The impact on many candidates is a sense of not trusting their own judgement; only 14% of our survey respondents considered themselves experts in learning design. Cathy, Imraan and Caroline consider themselves to have (or have had) a form of imposter syndrome (commonly understood to be a persistent lack of confidence in one's abilities despite objective competence), but they also imply that their lack of confidence is justified, because they would have been better at their job if they did have a more substantial background in learning theory. Imraan explains:

> *Since the beginning of my learning design career, I've felt constant imposter syndrome. [...] I want to understand learning design theory and pedagogy in more detail. That's the one thing that's holding me back and if I can develop that side of the role, it's going to improve me as a learning designer, improve the work that I do and improve my prospects in the field.*

Andre, on the other hand, feels that those who lack formal training may struggle with confidence and explaining their perspective to clients, but does not refer to the impact on quality of work. Our discussions with Tanya and Marida certainly suggested that more formal training – whether it's a workshop offered by an external body or a postgraduate degree – does help with a learning designer's confidence. But other learning designers feel that more extensive formal training is best-placed mid-career rather than upfront as learning too much theory too soon could have hamstrung them in the beginning.

One of the hiring managers we interviewed, a person especially passionate about training learning designers, is Kevin from the higher education space. He trains all his recruits, regardless of experience, to ensure that the team has a robust and consistent understanding of different learning design methodologies:

> *We've had a lot of learning designers who come from a corporate background, but they've been trained in very specific methodologies. Bloom's and ADDIE, that's all they know and we use neither of those.*

In addition to training them himself – primarily through coaching – he also encourages and sponsors their attendance of a university-based short course that their team has identified as suitably comprehensive. This short course, offered by the University of Pretoria, is "bridging a lot of the gaps in [learning designers'] misunderstandings around learning theories", and helps them to apply theory more effectively. Another important element of Kevin's approach is how he perceives his own role in the development of his learning designers. Although he takes responsibility for ensuring the learning designers are sufficiently trained, he considers himself the custodian of their context within higher education, rather than the relevant authority on learning design in general:

> *My emphasis is more on what are the different educational paradigms that we are working in, what are the learning theories that inform us as an institution, and our approach to teaching and learning, because our course design needs to match those learning theories and a multitude of different other methodologies. Three in particular: humanising pedagogies, Diana Laurillard's conversational framework and Gráinne Conole's Seven Cs of learning design.*

Kevin directs the educational strategy for the department. He also directs his learning designers toward the work of established theorists that he has selected to be most effective in their context. He also ensures that he nurtures their curiosity for further learning by routinely sending them articles and other resources to read and giving them space and permission to play with new ideas and approaches. The rest of the industry has much to learn from Kevin and others like him.

How local learning designers are trained has a lasting impact on how the role evolves in South Africa. Learning design could continue to be perceived as something any graduate can learn to do in a few weeks by copying a company's existing model (painting by numbers), or we can grow learning design as a legitimate profession that is valued as such.

Our blind spots

South African learning designers are creative problem-solvers that have managed to train themselves very well under the circumstances, but to learn, they have had to make many mistakes, and it's their learners' education that pays the

price for this approach. This is a trend that, to us, is most worrying in the primary and secondary education spaces. In addition, the learning designers we surveyed suggest that many learning designers have gaps in their theoretical grounding, and often don't have access to experienced mentors to help them identify and address these gaps. In this environment, learning designers are struggling to develop both the expertise and the confidence they need to lead the thinking on learning design projects. Rigorous and relevant training for learning designers has only become available in South Africa in the last few years, and what few accredited options are available remain locked behind a hefty fee. Our interviewees who have sought formal training later in their careers also expressed that they often enter these programmes to find that they are not learning much: many are surface-level introductions to leveraging educational technology, rather than the solid theoretical grounding that practising learning designers desire. It is our recommendation that the higher education sector, with their infrastructure and expertise in creating and running rigorously researched curricula, take the lead in creating learning design undergraduate programmes. In time, these programmes will gain influence over what it means to be a South African learning designer and steer the field in a direction that will benefit not only future learning designers, but also the South African economy, in that we will be better placed to participate meaningfully in the burgeoning global EdTech economy.

As for what we as authors can do to help from outside of the higher education system: rather than attempting to shape the learning designers of the future, we are better placed to address the challenges of the current cohort of learning designers. First, we have created an interactive resource in which our research participants recall mistakes they made in different stages of their careers, along with questions that will help the learning designers reflect on whether they are prone to making these mistakes too. This resource allows learning designers from different sectors to benefit from each other's experiences. Second, we have collated a selection of useful learning design resources recommended by our research participants, including books, communities, short courses and well-researched blogs. Our third solution is to initiate a learning design mentorship programme. Marida, who is nearing retirement, feels that "a lot of people would be willing to do mentoring if they were just asked". We want to give Marida and others like her the opportunity to participate in a programme where they continue to shape and improve the learning design profession in South Africa by sharing the fruits of their experiences with emerging talent. With these resources, we hope to address the blind spots in learning design skillsets that we have observed in our research participants so that our existing learning design cohort can serve as strong mentorship for the Gen Z learning designers that are now entering the workforce. This way, we hope to do our part in transforming the learning design profession in South Africa from something people "try" to something in which they grow expertise and develop a strong, stable career.

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Lizzy Steenkamp

Who's your ADDIE?

I have been in the e-learning industry in various positions since 2011, and have worked across just about all of the sectors in which you might find a tech-enabled experience that helps someone learn something new. As a student, I focused on philosophy and the arts. This means I've been trained to create experiences that make a home for complex, abstract ideas in one's imagination. I use my MA in Film Studies and PhD in Literature to leverage the power of storytelling in my learning experiences. I am a co-founder of Who's your ADDIE, a boutique EdTech agency. I enjoy the analysis and design side of the profession most, and I have a keen interest in tech. I spend most of my time doing product design / management consulting in the EdTech field.

Stephanie Bandli

Who's your ADDIE?

I have been working in the e-learning industry since 2015 and have a particular interest in creating more engaging and user-friendly interactive learning experiences. With a background in English and Media, and a MSc in Interaction Design, my focus is on using interactivity to spark curiosity and create lasting impact. I am a co-founder of Who's your ADDIE?, a boutique EdTech agency, and particularly enjoy the conceptualisation and design side of learning experience design.

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5

Indigenous learning practices: Creating reflective spaces for growth and transformation

Jennifer K. Green, Paul'e Ruwhiu, Lucila Carvalho, & Nicolette F. Sheridan

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Higher Education | Learning Design | Indigenous Learning

Chapter in brief

Western ways of "knowing" and "being" have dominated higher education for many centuries, contributing to the perpetuation of existing practices and voices within political and economic systems. In higher education / university / wānanga contexts, there is a need for learning design approaches that invite educators and learners to engage in diverse knowledge practices other than those associated with Western traditions, especially for learners who would benefit from education grounded in indigenous learning practices. This chapter focuses on a course that is founded on an indigenous te ao Māori worldview to illustrate the significant learning that can occur in an authentic, locally situated and context-specific practice environment. Its learning design showcases a way of decolonising the curriculum, learning environment and health professional education and practice. Interviews and observations with teaching staff and students informed the analysis of this hybrid learning environment. Taking an ecological approach grounded in practice theory, the analysis draws on the Activity-Centred Analysis and Design framework to examine how an assemblage of elements (including tools, tasks and social design elements of the course) influences its emergent activities. Four distinct learning activities from the noho marae (overnight stay) are described and evaluated using a learning design framework through an iterative process of "zooming in" and "zooming out". The chapter provides operational details for learning design and argues that authentic, locally contextualised, culturally respectful learning practices can be highly effective for learners and their subsequent graduate practice. This design is in alignment with UNESCO's Sustainable Development Goals (SDGs) of good health and well-being (SDG3) and quality education (SDG4).

Introduction

The United Nations (UN) Sustainable Development Goal (SDG) number 4 centres on "ensuring inclusive and equitable quality education" to support learning that improves societies (UN, n.d.; UN, 2021). In this chapter, we argue that in order to address "inclusive and equitable quality education", learning experiences need to be relevant to all learners, not just to those from a dominant group. This calls for learning designs that address and develop culturally meaningful learning opportunities.

This chapter focuses on a case study extracted from a larger, multiple-case study investigating the design of productive hybrid learning environments in a university in Aotearoa New Zealand. The term "hybrid" is used to denote the incorporation of a variety of digital and material elements, coexisting in varying configurations within post-digital designs for learning (Fawns, 2019; Goodyear, 2020).

The case described here involves a course founded in te ao Māori (see glossary), a Māori worldview that incorporates innovative use of learning design, including curated forum discussions and "he rangitaki" (reflective online journaling) within a learning management system (LMS), as well as a nohoanga marae (Walker, 2012) – a face-to-face, overnight marae-based, live-in environment that provides the setting for learning activities built into the course design. This case illustrates how the richness and breadth of knowledge, social norms and cultural practices can enhance learning environments, and argues that this can positively influence graduate practice. The use of authentic pedagogies that are grounded in indigenous traditions allow cultural traditions to be maintained in higher education settings, and can have significant beneficial impacts on the academic journeys of all learners.

In this course, which is part of an undergraduate programme within the health and wellbeing disciplines, the lecturer embedded principles in the learning design to decolonise the curriculum and the learning environment, as well as education and practice in the health profession. Interviews for this study were undertaken by the first author with the lecturer-designer, teaching staff and students along, the data from which were combined with observations of learning activity in digital and physical spaces. Findings revealed key elements of learning design that allowed the course to be fully contextualised and relevant to learners in Aotearoa New Zealand.

The chapter discusses some innovative pedagogical strategies, such as the learner considering "Ko wai au? Who am I?" in relation to understanding their place within a wider context, engaging with their line of descent traced back from an ancestor, and viewing decolonisation through the lenses of Tangata Whenua (people of the land) and Tangata Tiriti (people of the Treaty of Waitangi) in a safe and supported learning environment.

Overall, this chapter examines core design elements that seem to support the enactment of authentic, locally contextualised, culturally respectful learning practices in a university course. These operational elements can contribute to highly effective learning practices and beyond; that is, not just for higher education/university/wānanga learners, but also in their subsequent professional practice, thus embodying the UNESCO SDGs of good health and well-being (SDG3) and quality education (SDG4).

The next section introduces the analytical lenses used in this study. Then, a short overview of the Aotearoa New Zealand context and te ao Māori (the Māori world) are provided before the discussion of specific learning sessions. We conclude the chapter with recommendations for learning design that aim to support authentic, locally contextualised, culturally-respectful learning practices, and our areas for future research.

Analytical lense

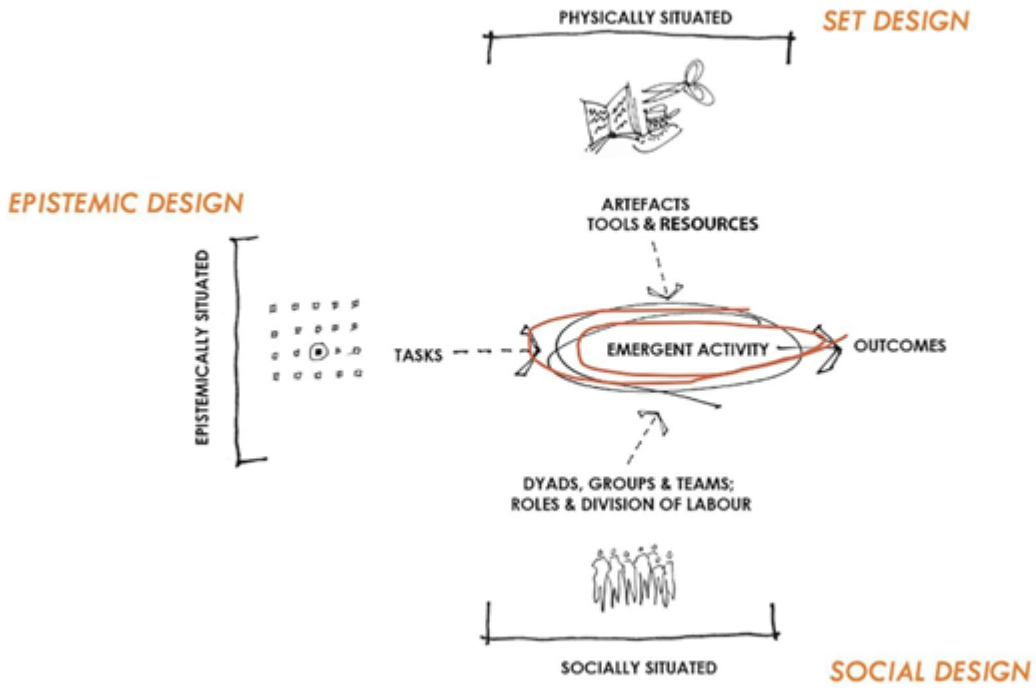
The analysis of this hybrid learning environment takes an ecological approach, grounded in practice theory. Drawing on the Activity-Centred Analysis and Design (ACAD) framework (Goodyear & Carvalho, 2014), the analysis identifies core

design elements in the course which seemed critical to the unfolding authentic, locally contextualised, culturally respectful learning activity.

ACAD differentiates between “designable components” (or the components that are open for changes through design), and those that are not (such as the emergent activity of students) (Goodyear & Carvalho, 2014). Designable elements are represented by the epistemic, set and social design dimensions of the framework (see Figure 1). Epistemic elements revolve around the organisation of knowledge, the sequencing and pacing of information, and the resources that are provided for meaning making. Set elements refer to items, such as physical and digital tools or artefacts that are present in a learning situation, including how elements may be positioned within a learning space. Social design considers how learners are organised, and may range from individuals, pairs, triads, small groups, classes or entire cohorts. The coalescence of these three designable aspects supports co-creation of knowledge at learn time, when learners interact with the specific assemblage of elements put together by their lecturer. This last aspect is an important feature of this framework, in that those who design for learning cannot fully predict or control what might occur when a specific group of learners comes together in a specific learning context. Lecturers can however – through their design decisions – nudge learners in certain directions. They do so through their choice of elements in epistemic, set, and social design.

Figure 1

The ACAD framework (adapted from Framing the analysis of complex learning environments by Goodyear & Carvalho, 2014)



In order to theorise the relationship between design elements and emergent practices, four distinct learning activities from the noho marae are described with specific details outlining the learning design, intended outcomes and analysis of a session using a learning design observation template adapted from Fawns et al. (2021) and the iterative process of “zooming in” and “zooming out” (Goodyear, 2020; Nicolini, 2012). The process and focusing questions are provided in Appendix A.

Walker (2012) has emphasised the importance of the way in which guest observers understand themselves when entering indigenous spaces. An observer from a culture different to that of a case study could misinterpret the significance of what they observe. Walker argued that the researcher should allow their perspective to be informed by those of the culture in which the case is situated. It is essential for Tangata Tiriti researchers to acknowledge guardianship, rather than ownership of analysis of this course's design for learning. The research team includes Tangata Whenua and Tangata Tiriti investigators and this chapter is written in consultation with the Tangata Whenua course designer-lecturer. Consultation with collaborators steeped in te ao Māori knowledge seeks to balance the potential risk of overlooking significant cultural interpretations.

The Aotearoa New Zealand Context – Tangata Whenua and Tangata Tiriti

Aotearoa New Zealand is distinct from other countries in regard to Te Tiriti o Waitangi and The Treaty of Waitangi. The intention of this agreement was the formation of a respectful bicultural partnership; however, these historical documents are regarded as a current social contract that strengthens relationships between Tangata Whenua and Tangata Tiriti (Ruwhiu, 2019). Te Tiriti o Waitangi was signed in 1840 by 42 Māori chiefs and a British Crown representative. Over the following four years, Te Tiriti o Waitangi travelled from one end of the country to the other and was signed by 513 male and 13 female Māori chiefs by 1844. It outlines the relationship between the two tangata and guarantees the rights of Māori and the responsibility of the British monarch (Wilson et al., 2021). Tangata Whenua refers to the people of the land as the first arrival people in Aotearoa New Zealand. Tangata Tiriti denotes the people of the treaty, referring to the second arrival people in Aotearoa New Zealand, who signed a treaty with Tangata Whenua in 1840.

Despite the good intentions outlined in the agreement, Māori have had to continuously and increasingly challenge institutional racism and the effects of colonisation throughout Aotearoa New Zealand, particularly since the late 1980s in respect to the policies of the government and its institutions (Ramsden, 1993; Walker, 1986). This is evident in both the education and health systems. At present, the Waitangi Tribunal are investigating more than 200 claims accusing the Crown of operating a sick, racist health system that fails Māori. The Health Services and Outcomes Kaupapa Inquiry (Claim WAI 2575) at Tūrangawaewae marae in Ngāruawāhia heard from claimants, some of whom were health professionals, that Māori die earlier and suffer worse health outcomes than other ethnic groups (Waitangi Tribunal, 2019). The effects of 181 years of control by the Crown has resulted in marked social and health disparities (Came et al., 2020).

Māori continue to experience the intergenerational effects of colonisation and discrimination. It is through partnership that understandings are cemented and actions that build equity for Māori in social and health systems are taken. It is the everyday work of health practitioners and others that contribute to this agenda. This case is centred on mana enhancing practices, which respect a person's authority and status, and recognises the centrality of emotions, reflection and spirituality within te ao Māori. It is through acknowledgement of the consequences of colonisation and by a deliberate effort to develop a partnership based on understanding that health practitioners (and others) can develop respectful interactions with people seeking healthcare support (Ruwhiu, 2019).

A course that enacts te ao Māori worldview

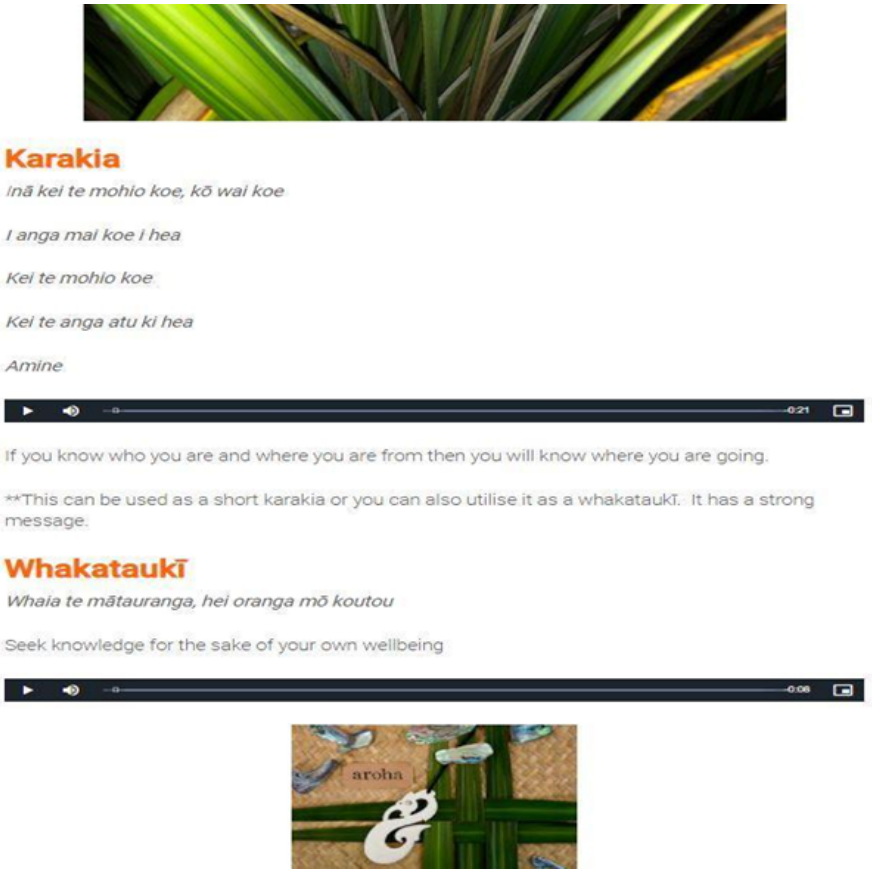
This course is part of an undergraduate programme within the health and wellbeing disciplines at a university in Aotearoa New Zealand. Students are distributed across many geographical locations within the country. The course is offered as a third-year, 12-week (mostly) online course and caters for around 60 students. It involves one lecturer and two supporting teachers. Students start the course with four weeks of asynchronous, online learning and then meet in person for a nohoanga marae weekend learning experience. The remaining weeks of the semester are delivered asynchronously, online. Ethics approval for this research requires that specific details about the participants, courses and university remain anonymous. We differentiate the participants in this research by referring to the lecturer and

course designer as “Kaiako 1”, the supporting teachers as “Kaiako 2” and “Kaiako 3” respectively, and the student participants as “Student 1”, “Student 2” and “Student 3”.

Te ao Māori (the Māori world) is evident throughout the learning design of this course. The course environment includes both physical and online components. The course website on the LMS (the “Set design” component in the ACAD framework) is organised according to weekly topics, each of which begin with an introduction to the topic, its kaupapa (underlying foundations) and relevance with images to support the narrative. There is also a karakia (prayer) and a whakatāuki (proverb), written in Māori and English and narrated in Māori by Kaiako 1 on audio, as well as a short video presentation by the Kaiako 1 and a variety of resources in different mediums (written, video, images) for course participants to access. Figure 2 is a screenshot from the LMS course site.

Figure 2

Screenshot of the course site on the LMS



These elements allow students to engage with indigenous ways of knowing and being from the very beginning of the course within the online environment, even before students arrive at the physical, marae learning space. They seem to somehow set the tone, for what is to come and introduce students to Māori aspirations for society and, more specifically, for health and well-being services.

Thematically, the course is divided into three sections (Epistemic design): Ko wai au? (Who am I?); Ko wai koe? (Who are you?); and lastly, a space to consider what has been learnt. Ko wai au? encourages each student to gain an understanding of who they are in Aotearoa New Zealand as they learn more about historical discourses and the Māori renaissance. This is the first kete (basket) of knowledge, introduced via the LMS and lays a foundation for the second experiential kete of learning, during the noho marae (overnight marae stays) event. Throughout the noho marae each of the kaiako share their knowledge and experiences, considered a taonga (treasure), with students who gain a deeper

understanding of Māori concepts and practices. The third kete of knowledge brings the many threads of the course together and students are able to reflect on what they have learned.

The concept of whanaungatanga (connectedness, establishing connections and relationships) is essential for te ao Māori and is enacted through different design elements. For example, at the beginning of the course, Kaiako 1 creates a forum space (Set design) for peer-to-peer connection and discussions. This comes in the form of a task (Epistemic design) where students, who usually know only a small number of others, are prompted by questions, facilitating their connection with others:

> *So, what did you think of the learning package? And what are some of the highlights, or what are some of the challenges in that space there? So, it's all kind of designed to be interactive. (Kaiako 1)*

There is also careful consideration given to how to keep the group connected. For example, if there is insufficient activity on the forums, Kaiako 1 delays introducing the next topic because her kaupapa (foundational principle) requires that "we all move together, move forward together. No one is left behind" (Kaiako 1). This is a te ao Māori value, grounded on the importance of the collective, where being still and waiting allows for others to catch up – and for all to move together as a group (Social design). Kaiako 1 reported that this focus on the collective allows students to engage and expand their ideas, building on each other's contributions. This is seen in the kaiako's recollection of student forum posts:

> *I'm really addicted, like I can't wait to get up in the morning to see, to read all of the posts, … read all of the forums. The other thing is they are… creating their own resource. So, it's expanding their critical thinking where one peer puts up this and the other peer puts up: "Wow, I never really thought of it like that!" So, they're building that "Oh okay. I can think of it like this"… they're sharing experiences as well. (Kaiako 1)*

Whanaungatanga allows for connections between students and teachers. In Western contexts introducing oneself is important, but the concept of whanaungatanga within te ao Māori goes deeper than an initial introduction. It is about acknowledging connections to the present and the past, physical and spiritual. This stands distinct from higher education contexts with an emphasis on transactional rather than transformative relationships between learners and teachers.

Throughout this case, there are many examples of co-construction of knowledge. Within te ao Māori, the concept of ako (to teach and to learn) represents the reciprocal nature of learning for both the student and the kaiako. An exchange from learner to teacher and teacher to learner is demonstrated as an "ako" interchange. For example, connections with Kaiako 1 are established in a weekly reflective journal called "He rangitaki", written by the student and responded to by the kaiako. The term "He rangitaki" is used to describe the reflective state. These include personal reflections on the weekly topic, including reflecting on experiences, feelings and emotions. The rangitaki are not marked for a grade but are instead words of encouragement, wonderment and support are given to the learner. In what follows, we examine four learning sessions that foreground some of the core principles in the course.

Session 1: Whanaungatanga

The concept of whanaungatanga (connectedness) is an essential starting point in the noho marae and extends the online connections made in the previous four weeks via the LMS (Set design). About 30 students brought bedding into the wharenui (large meeting and sleeping space) and set up their sleeping space before undertaking the first learning activity. This was led by one of the three kaiako (teachers) and took place on the marae ātea, the grassed area in front of the wharenui (Set design), which is an important and traditional welcoming space in whanaungatanga.

The intention of this activity is to decrease anxiety when meeting others for the first time (Epistemic design) and for it to be an enjoyable experience. Creating connections between learners who may have interacted in online forums but who have not met in person is important. Whanaungatanga helps to establish a shared sense of belonging within the group.

Attending the noho marae – being in a traditional Māori space in a supportive environment – allows students to challenge themselves and be challenged by others.

> *And I think, don't be nervous, for the foreigner. You will know much, much more than you expect, or that the other students expect. There's quite a lot of information about the Māori people, about Māori culture, so it all just opens up your mind. Go to the marae and don't be frightened and then at the beginning, I feel like "Oh my God what's the marae look like? What can I do in the marae?" I know nothing. So, at the beginning I'm so frightened. But now, I want to say to other people, to other students, "Don't be afraid, just open your mind, you will learn." (Student 1)*

The initial task is undertaken by students in groups of 12–15 (Social design) and is based on where students are living during the semester. Each group forms a circle, a collective rhythm is established by two thigh slaps and two hand claps, then one person starts by inserting their name and an action, while maintaining the rhythm. Each person in the group includes their name and action and repeats the names and actions of all those who have gone before them. There is much hilarity, and at times frustration, as the pattern is broken and the group must start from the beginning again. These "errors", however, provide opportunities to learn by practicing each other's names. The activity is relaxing, fun, energising and creates an excellent platform for the start of the workshops.

Well, for me, as an internal student, it was the first time I'd meet any of the distance students … it was a really fun easy way to just take the edge off a bit because being around a bunch of new people, even if it is all lovely ... students is always going to be terrifying. Especially in a place that is not somewhere I would normally be. (Student 2)

The association of an action with a person's name serves as a memory aide throughout other noho activities. Each group is challenged to create a short performance that represents their geographical region. Performances are presented on the first evening before each person recites their mihimihi (to acknowledge the manawhenua, the people of the marae) and their pepeha (an introduction about their connections to family, locations, the environment and spiritual elements that establish connections between the visitor and the people of the marae).[2] Standing to say their mihimihi and pepeha, each person is supported by their group of peers and this collegiality shows the development of tangible connections, which is a key outcome of this activity. The assemblage of elements within the design for learning coalesces to influence the emergent activities. The activity in the digital environment (Set design) plants the seed for connections to be established (Social design), but it is within the marae (Set design) that these connections are deepened and strengthened so that a sense of conviviality and belonging can emerge, reflecting continuity between what students experience as part of their interactions in the digital and the physical settings.

Watch on YouTube

Whanaungatanga is centred on connections and early on in the noho there are formal introductions. Students are provided with links to resources to help them prepare their mihimihi and pepeha ahead of time. Preparation enables students to connect with their ancestral history and during the noho marae many students commented on the significance of this for them personally. Throughout the whanaungatanga activity on the first evening, the manawhenua (marae hosts) are continually making connections between the details that each student is communicating about their ancestry, heritage and the geographical places they have connections with.

Some of the emergent, undesignable aspects in this learning activity, as understood by Goodyear et al. (2021), can be seen in the development of a sense of belonging and collaboration. Students exercise their autonomy, for example, by using their preferred social media app to connect with each other while they are travelling to the noho marae; the use of their preferred device, app or software to develop their mihimihi and pepeha; and in the collegiality that is evidenced in the giving and receiving of acknowledgements that occur during mihimihi introductions.

This was the first noho that this teaching team had facilitated as a group. There had been discussions, meetings and plans made in preparation for this event. During the sessions, the three kaiako were “checking in with one another and noticing the levels of energy, noticing group dynamics … Working together collectively as a tight teaching group” (Kaiako 1). As the kaiako became aware of changing energy, they “huddled” to review the dynamics and to re-design in the moment. The term “huddling” was used as a cue to find a quiet space and debrief about the previous activities, notice any student of concern and plan or adjust the activity coming up. Essentially, the huddle is designed to regroup and give the kaiako a chance to catch up, re-evaluate, ensure that students who may need following up with are identified, and prepare for the next activity or workshop.

Session 2: Aotearoa identities, racism, privilege and historical trauma

Acknowledging personal privilege, cultural identity and heritage are key to understanding the position that a health professional holds in a therapeutic relationship with a person seeking healthcare (Ramsden, 1993). The design of the task described in this section addresses this theme. Similar to the previous task, this task connects and extends

themes that have been introduced within the online environment by way of video presentations, historical documents, news reports and forum discussions (Epistemic design). During the initial four weeks of the course, Kaiako 1 foregrounds literature and other sources of knowledge relating to historical trauma as a result of colonisation to heighten the learners' awareness of significant events that have shaped Aotearoa New Zealand identities.

The task builds on whanaungatanga (connectedness) as students reflect on some of the initial course concepts (Epistemic design) in pairs or triads (Social design). Kaiako 3 takes the group outside and using ngā rakau (wooden poles, 1.3m in length) (Set design) speaks in te reo Māori, demonstrating a series of actions with the rakau that greet components of the marae and of the environment that nourishes us. The students then move to a smaller space and stand shoulder to shoulder holding their rakau in front of them (Set design). Following the instructions of Kaiako 3, they move either their rakau or their position in the circle, leaving the rakau where it is. Not following instructions or dropping the rakau leads to exclusion from the circle. Both of these activities are linked to the "space" each individual occupies, symbolising privilege, inclusion or exclusion from the group (Epistemic design).

> *Because this was the first time we can (sic.) utilise this format, and the first workshop of the day, the plan was to … further whanaungatanga development amongst the students. This is why we first sat down to discuss some of the concepts within the learning packages, before going outside. (Kaiako 3)*

The kaiako explained that the purpose of this task was to heighten the students' spatial awareness, their position within space, and to potentially raise awareness of an unconscious bias towards privilege. Students' experiences were expanded in subsequent group discussions, where they worked through feelings and emotions in relation to these concepts and the relevance of this experience to prior course content (Emergent activity).

> *Growth doesn't happen in comfortable places. … my role … was to push, push, push, push students, a little bit outside of the comfortability zone and evoke emotions as well and help them to critically think … it's not to say that I have all the answers, because I know myself that I don't have all the answers. (Kaiako 3)*

A student participant acknowledged the positive outcomes of the challenge: "[I]t was uncomfortable but in a good way as well you know. It's good to be uncomfortable, we need to have these uncomfortable conversations to move forward." (Student 2)

> *Throughout this session, the kaiako was observing, acknowledging group dynamics and responding to specific aspects: "I was recognising the differences within the groups and saying okay, what is another strategy I could utilise to bring out or make the learning more applicable to the respective groups" (Kaiako 3).*

The inclusion of visual, auditory and kinaesthetic elements in this session foregrounds a design for learning that is inclusive of a variety of learning modalities that when combined contribute to each person's learning, deepening their understanding of the importance of health contexts, finding connections, being aware of the influence of privilege, and showing respect when working alongside Māori.

Session 3: Decolonisation – mana enhancing practice

A significant concept discussed in this course is decolonisation. Initial course resources and tasks present key information on Aotearoa New Zealand's historical and recent colonisation experiences (Epistemic design), and the influence of the Māori renaissance in responding to these experiences. In acknowledging these realities as a basis for this session, Kaiako 1 emphasises decolonisation as "a process by which people peel away the psychological and spiritual effects of colonisation through a facilitated journey of learning the truths of their history" (Bell, 2006, p. 14).

Kaiako 1 asks students to consider the impact of colonisers on Māori, knowing that for each student their ancestors may represent colonisers and/or the colonised. To acknowledge the feelings and emotional responses that may be elicited, the kaiako creates a physically and spiritually safe environment within the wharenui that recognises the sacredness of the space and the presence of tūpuna (ancestors), both in the images that adorn the walls and within the memories of past and present. Kaiako 1 provides a workbook, prepares the learners with a whakataukī (proverb) "Hikitea te ha", which represents the breath (to breathe in and to breathe out). This helps to connect students with the environment through deep breathing: to connect with the earth, to create a safe place to be vulnerable and for spiritual elements to be acknowledged (Set design). Kaiako 1 notes that:

> *[T]his physical space was very important, to get the full effect they needed to be in a place that is sacred, reverent and holds the mana of the marae. The whare is that place which opens up the portals of emotions. (Kaiako 1)*

Such design for learning infuses personal and spiritual aspects which reach beyond cognition and content towards a holistic approach to learning and understanding.

Another task of connection was to ask the learners to choose a space they preferred inside the wharenui and to compose a letter to their tūpuna, view them in their mind's eye, and express their feelings (Epistemic design). Before discussing what they had written with a peer (Social design), the kaiako introduced "Mana Enhancing Practice" which centres on engaging with a person through listening, understanding and respecting cultural differences (Ruwhiu, 2001; Ruwhiu, 2019). This practice involves initiating a conversation to identify and co-construct a space "between", identifying behaviours and body language that indicate distress and preferred responses to acknowledge and provide support. This negotiated understanding creates therapeutic "rules of engagement" in which the learners can meet, share, listen and support each other during their conversation about their ancestors as they initiate restorative healing processes (Epistemic and Social design). The course workbook guides the learners through each of the aspects within this session.

During the observation session, the researcher (and first author of this chapter) noticed students commenting that as they were listening to peers' accounts of what they would say to their ancestors, they were at times upset, but the peer listener was able to recognise the distressed behaviour and to act in a way that the sharer had indicated was appropriately supportive. And then students reflected, and wrote, and spoke of their ancestors.

> *This was connecting to their inner self but knowing that their ancestors and tūpuna were present and they could call on them and have a conversation with them. It then led into having conversations with each other… and thirdly, connection with the environment was an important grounding activity. (Kaiako 1)*

This session illustrates a design for learning that supported spiritual, emotional and conversational learning outcomes that were personally and professionally significant for the learners. With Aotearoa New Zealand being a bicultural country, the opportunity to understand Māori and non-Māori cultural values and practices within higher education courses allows graduates to develop knowledge that will help them to respectfully support and care for ethnically and culturally diverse populations. Mana enhancing practice acknowledges the personal, spiritual and natural influences on a person. It enables a co-created, safe, therapeutic space within which the person seeking help identifies what is culturally appropriate for them and guides the health professional in how to best support their health and wellbeing (Walker, 2012). Indigenous-oriented design for learning brings a richness of knowledge and understanding that has validity for learners and teachers within a primarily monocultural learning landscape.

Session 4: Te ao Māori worldview – Pā Harakeke framework

The course design also includes Harakeke, a metaphor used by Māori for whānau (wider family), which signifies collective wellbeing and protection. The Harakeke plant (Figure 3) has the three central fronds representing the rito (child) at the centre, with awhi rito (parents) protecting on either side, and tūpuna (grandparents) as the outer leaves

providing protection, shelter and support for whānau (Watson, 2020; Wilson et al., 2021). In Aotearoa New Zealand, the Pā Harakeke framework has been used within supervision and counselling, where the person seeking help is acknowledged as the rito. Within te ao Māori, there are tikanga (correct cultural practices) around harvesting and use that ensure the health and wellbeing of people and of the harakeke plant.

Figure 3

The harakeke plant (New Zealand flax, Phormium tenax), which signifies collective wellbeing and protection

Kaiako 2 introduces learners to the Pā Harakeke by way of a karakia (prayer) and a waiata (song), combined with hand and arm actions to represent components of the plant (Epistemic design). The kaiako suggests that learners consider applying the model to their personal health and wellbeing as a way of becoming familiar with the model that they might later use in practice.

The design of this task includes time for describing and viewing workbook diagrams of the harakeke plant, including the ground and stones around the roots which can signify challenge and strength, and their influence on plant health (Epistemic design). The whole group is then invited to go outside to look at harakeke plants growing around the marae. They are asked to form small groups around the garden to examine specific aspects of the plants and to make comparisons between harakeke plants in different locations (Social design). The whole group then gathers to review what they have observed. The kaiako encourages them to look at the many different components of the harakeke plant and the differences in the health of plants in different locations – analogies for people seeking healthcare, their whānau relationships and the environments within which they are living (Emergent, co-created outcomes). The group acts out each of the components of the harakeke plant, identifying which part of the plant they are signifying and then describing their thoughts and feelings about their role within the ecosystem.

Key aspects of the design for learning in this activity include: the harakeke plant as a learning “tool”, the experiential and “hands-on” nature of being out of a classroom, interacting with the environment and interacting with their small group. The use of Pā Harakeke as a metaphor and model for whānau work, combined with various activities including waiata,

hand and arm actions, discussions, field work in examining plants and their habitats, and the embodiment of harakeke, culminate in deep learning and the application of a model for graduate practice.

> *The kaiako facilitated this session three times and noted that each group brought differing levels of energy. This allowed her to "work to the group strength, e.g., the quiet group were deeply reflective whereas the more outgoing group [included] bigger personalities [who] are happy to 'act out' and do things differently" (Kaiako 2).*

Course participants represent a diverse range of learners, who will soon graduate, and support the health and wellness of people from multicultural backgrounds in Aotearoa New Zealand. Indeed, the experiential learning that has occurred through this course seems to significantly contribute to the development of students' personal and professional practice, as some of the student quotes illustrate:

> *I just feel like we explored so much. Not just in terms of learning stuff but spiritually as well … the introduction of Pā Whakawairua which I've actually used as part of my self-care plan for placement. So, will be using that moving forward. So, exploration of self, but also of your place in New Zealand society and me specifically being Tangata Tiriti, what that means for me and my practice. (Student 2)*
>
> *The learnings were amazing, had some tangitangi (enlightening) moments when things came to light through this course. Looking back to move positively forward for the now and future generations of our people is the goal! (Student 3)*

Overall, the hybrid design of this course allows for multiple elements, such as audio, video and text-based elements that can be used effectively in the online environment; it also retains the key aspect of kanohi ki te kanohi (face-to-face) in the flesh within the noho learning experiences. In addition, Kaiako 1 highlights the influence that this course can have on graduate practice outcomes:

> *So, if you're comfortable in who you are, where you come from, your cultural positioning inside Aotearoa, your obligations and responsibilities to Te Tiriti o Waitangi, then that's a huge foundation to be able to go out and help others. (Kaiako 1)*

Recommendations for hybrid learning environments

The case presented here illustrates how educators might include indigenous principles as part of their learning designs. This is particularly important for teachers in indigenous or bicultural contexts, where considering traditions, values and cultural practices might similarly be incorporated to ground teaching activities into authentic, local and context-relevant, learning environments.

For this course, noho marae attendance is a requirement of the degree and of professional registration. As such, COVID-19 restrictions might necessitate postponement of this activity until physical distancing requirements cease. However, in other learning contexts, if a move to online delivery is necessitated due to the pandemic restrictions, the following suggestions below provide alternatives to capture elements of experiential learning from this course.

- Plan for introduction activities that allow students to share a little bit about themselves – for example as an introduction forum or an online bulletin board linked to the LMS ("Some things about me ...")
- Consider the space that your activity could take place in – which environment would be conducive to wellbeing? For learning? Plan for alternatives depending on, for example, the weather.
- Look for opportunities that support learners to experience the concepts – for example, by provoking emotive responses, creating visual memories, providing learning opportunities that move beyond reading a text or watching a video or listening to an expert.
- Create elements for virtual learning – with the use of video tours and live, wearable webcams, one person could visit a site (e.g. a harakeke plant) and the learner observers could direct where the person with the webcam goes via a live stream video platform.
- Consider altering the social design of an activity to accommodate online breakout rooms for discussion on key points.
- Develop online brainstorming activities (e.g. JamBoards, Miro Board) to bring together feedback from learner breakout rooms and support a whole-class discussion.
- Consider what concepts have already been presented and discussed – what variations in set, social or epistemic design could you make in a "review of the concepts" activity?
- Work collectively as a teaching team to support in-the-moment responses to changing dynamics within the learning environment.
- Consider a "Plan B" with an alternative Set – and how elements in social and epistemic design can still be responsive to the learning situation to support a rapid pivot.

Conclusion

Western ways of "knowing" and "being" have influenced higher education for centuries, and contribute to perpetuating particular knowledge practices. There is, therefore, an urgent need for alternative learning designs that honour indigenous ways of knowing and being, and which invite educators and learners to engage in diverse practices. In this chapter, we have argued that authentic learning experiences need to be relevant to all learners, not just to those from a dominant group, and we have illustrated how learning design can address and develop culturally meaningful learning opportunities.

The analysis in this chapter showcases a hybrid learning design, grounded in an authentic Māori context. The chapter discusses key elements of learning design that allow students to experience learning activities as fully contextualised and relevant to learners in Aotearoa New Zealand. Core pedagogical strategies, such as the learner considering "Ko wai au? Who am I?", allow students to develop a deeper understanding of their place within a wider context, engaging with their line of descent traced back from an ancestor, and to view decolonisation through the lenses of Tangata Whenua (people of the land) and Tangata Tiriti (people of the Treaty of Waitangi) in a safe and supported learning environment. Such examples suggest ways in which indigenous knowledge can surface through learning design, ensuring inclusive and equitable, quality education that is more likely to support diverse practices and contribute to more inclusive societies. Future work will continue to analyse design features that contribute to productive learning in hybrid learning environments within higher education.

Reflective practice

- What aspects of this are relevant to my context?
- How might I apply this to my learning and teaching practice?
- Who might support me in this?
- What challenges do I envisage?
- What/Who might assist me?

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Appendix A: Design for learning observation template

Template adapted from *Agile course design for professional education* by Fawns et al. (2021), *Design and co-configuration for hybrid learning: Theorising the practices of learning space design* by Goodyear (2020), and *Practice theory, work, and organization: An introduction* by Nicolini (2012).

Learning Design Observation Template	Observations	Date: dd/mm/yy
Session #:		
Description: Learners, course, values, length, assessment		
Epistemic design/instructions:		
Set design:		
Social design:		
Timing • When will it run? • How many hours each student's time this should take up • How will they pace their engagement?		
Learning before/during/after:		
Learning before:		
Learning during:		
Learning after:		
Intended outcomes:		
Rationale:		
Rationale physical:		
Rationale social:		
Rationale outcomes:		
Evaluation:		

Focusing Questions when 'ZOOMING IN'		Observations
Doings and sayings:	What are people doing and saying? What are they trying to do when they speak and act?	
Interactional order:	How are participants' positions (with respect to each other) negotiated and resisted?	
Timing and tempo:	How do their doings and sayings flow in time? How do they coincide and form sequences? What rhythms do they form?	
Bodily choreography:	What sorts of things are made present through bodies and how are bodies configured by the practice?	
Tools and artefacts:	What tools and artefacts are used? What effects do they have? How does their presence shape what is done and not done?	
Practical concerns:	What do the practitioners care about? What do they see as the main object of the activity?	

Focusing Questions when 'ZOOMING IN'		Observations
Normativity and creativity:	How do practitioners justify what they do? What regime of accountability or principles applies? How are breakdowns resolved and new variants of practice generated and agreed upon?	
Stabilisation:	How are novices socialised? Do participants identify with a community of practice? What doings, sayings, and artefacts are used to make practices durable and able to travel between sites?	

Focusing Questions when 'ZOOMING OUT'	Observations
What connects the 'here and now' of the practice to the 'there and then' of other practices? How are bundles of practices ("chains and assemblances of situated practices" Nicolini, 2012, p. 232) kept together? Interest is on the types of opportunities for action in emergent activity that social, set, and epistemic might lead to.	
How does the practice reproduce existing arrangements in the organisation and more broadly? How does it contribute to change?	
How did the practice come to be as it is now?	
When to stop ZOOMING OUT: when you can provide - 1. A convincing explanation of why the practice is as it is, and not otherwise. 2. An account of how the local practice has non-local effects. What counts as convincing depends upon the audience and its concerns: theorising is also a situated practice. (p. 1053)	

Appendix B: Glossary of Māori terms

Ako – To teach and to learn
Kaiako – Teacher
Kete – Basket
Harakeke – New Zealand flax plant, Metaphor used by Māori for whānau (wider family) signifying collective wellbeing and protection
Mana – Authority, status, power, control, respect; links to both human, spiritual and natural environments
Mana enhancing practice – Health professional practice that recognises and enhances the mana of a person
Māori – Indigenous person of Aotearoa New Zealand
Marae ātea – Open area in front of the wharenui
Mihimihi – Greeting and acknowledgment to hosts and facilitators
Noho – The experience of being on the marae
Nohoanga marae – Overnight marae stays
Pakehā – New Zealander of European descent
Pepeha – Personal introduction which includes family connections, environment and locations
Powhiri and mihi whakatau – Māori ritual of engagement
Tangata tiriti – "People of the treaty" refers to the second arrival people in Aotearoa New Zealand who signed a treaty with tangata whenua in 1840
Tangata whenua – "People of the land" refers to the first arrival people in Aotearoa New Zealand
Tangitangi – Weeping, mournful
Tauira – Student
Tauiwi – Non-Māori New Zealanders
Te ao Māori – Māori worldview
Te Reo Māori – Māori language
Te Tiriti o Waitangi – The Treaty of Waitangi
Tikanga Māori – Culture, practices and protocols
Tūpuna – Ancestors
Waitangi Tribunal – judicial system established to consider claims of Tangata whenua for redress of past wrongs by tangata tiriti
Wānanga – A higher education place of Māori learning
Whakawhanaungatanga – Building relationships
Whānaungatanga – Connectedness
Whare - House
Wharekai – Dining room
Wharenui – Meeting house; large main meeting space usually for sleeping in

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Provocation 2

Compassionate learning design for unsettling times

Daniela Gachago

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Equity | Pedagogy of Care (POC) | Compassionate Learning Design | Humanising Learning Design

Chapter in brief

Staff mental health has already been of concern globally before COVID-19. It has heightened interest in pedagogical approaches that would foreground the affective component of learning and teaching. Examples of these approaches are humanising online pedagogies, pedagogueies of care or trauma-informed pedagogy. In this piece, Daniela reflects on these approaches and the need to intentionally build these pedagogies into the learning design process.

The need for more humanising learning approaches

While staff mental health has already been of concern globally before COVID-19, based on unrealistic workload models, a constant push towards quantifiable outputs and the precarity of part-time staff (Morrish, 2018), the pandemic forced a global emergency pivot to online learning. This in turn has led to an increased demand on both staff and students with a major impact on workloads, research careers and mental health. Across the globe educators have complained of burnout, exhaustion and lack of self-care. It has also heightened the interest in pedagogical approaches that would foreground the affective component of learning and teaching including a concern for the well-being of students and staff (Association for Learning Technology [ALT], 2021; Czerniewicz et al., 2020; Imad, 2021a, 2021b). Examples of these approaches are humanising online pedagogies (Pacansky-Brock, 2020), pedagogies of care (Bali, 2020a) or trauma-informed pedagogies (Imad, 2021a; 2021b), to name a few. These approaches are not new but have received increased attention over the last few years. In this piece, I reflect on how these approaches can help staff reimagine learning design practices that would allow both students and us to flourish in these uncertain and complex times. I argue that compassion needs to be intentionally built into the learning design process, but needs to also guide us in everything we do as Sean-Michel Morris (2021) reminds us:

> *Design is a living practice, not a done thing. It is a medium for building relationship between ourselves and those who will benefit from or be harmed by our design choices; and as such, design*

> *is iterative, a praxis—a process of doing, examining, reflecting, doing... and of never getting so set in our ways that we forget there are always new things to try.*

Additionally, I explore how such an approach could look like in practice, how it would impact on how we think about our teaching practice for the pandemic and beyond but will also identify the kind of questions we still need to ask ourselves.

The role of emotions in (online) teaching and learning

My own interest in the role of emotions and affect in teaching and learning emerged from my PhD studies which looked at digital storytelling as an approach to engaging in difficult conversations in post-conflict classrooms. What I experienced when using digital stories to unpack issues of identity such as race, class and gender is that these stories brought up strong emotional responses by students, both those sharing their stories and those listening to the stories. Working with these emotions became important as they created both openness and defensiveness in the classroom and as such created both spaces for increased understanding but also disruption among students. What became a useful pedagogical tool in this was the recognition that emotions are not just individual but socially constructed, situated and transferred intergenerationally. Observing how emotions circulate within "affective economies" as Sara Ahmed (2004) calls them, allows us to see them as the powerful forces in a classroom that can bring learners together but also push them apart.

As part of my engagement with affect theories I came across terms such as empathy, compassion and witnessing. I found defining these terms useful, as commonplace use of this terminology could get in the way of real engagement and conversation. For example, I had to start discussing empathy with my students, which is commonly linked to "putting oneself into somebody else's shoes". Often, what the digital storytelling process did was for students to learn about each other's challenges, to get a brief glance into somebody's lives, and many times to realise that there might be more commonality between students who are differently positioned in life based on the intersectionality of race, class, gender etc than they previously thought.

However, although I wished for my students to become closer by sharing their stories, I felt an obligation to investigate the potential risks involved when sharing personal stories as they can create a false or sentimental "we are all the same" mentality. If this mentality is left unchallenged, it results in a token understanding of difference (Zembylas, 2013), focusing on the personal and backgrounding systemic or institutional power differentials and, as such, may encourage students to ignore how power differentials work to (re)produce institutionalised and systematic inequalities.

As I continued in my work, I needed to examine how we might nurture a more nuanced understanding of difference between our students. Here, terms such as compassion and witnessing provided a language that went beyond a superficial understanding of "the other". Active empathy or witnessing (a term coined by Megan Boler in 1999) allows the reader of or listener to traumatic stories to challenge his or her assumptions and worldviews (Boler, 1999), emphasising a collective rather than individual educational responsibility. Empathy preserves a distance between those who understand and those who experience trauma: witnessing troubles that distance, and while it does not necessarily close the distance, it transforms the distance enough for the witness "to be part of the constituency of sufferer … empathy can produce alienation" (Boler, 1999, p.144). Boler (1999) argues that only this form of bearing witness can lead to anything close to justice, and to any shift in existing power relations. In similar fashion, Segal (2007) defines compassion, or social empathy, as they term it, as empathy that goes beyond the feeling-for or feeling-with an individual and moves towards understanding the social and political structures of our society. Curtin (2014) writes that "Compassion is a cultivated feeling about emotion. It is a place where how we feel, how we think, and how we act come together. In other words, compassion is a cultivated practice, not an isolated, rational judgement about the world" (loc. 1101). Compassion is much more than "putting oneself in the other's shoes", but assumes that beyond recognising another's suffering and understanding that everyone suffers, we allow ourselves to have feelings for another's suffering, while taking responsibility for one's own role in somebody else's story. This might bring along uncomfortable feelings but could also create an urgency for practice, for action (Bloom, 2017).

An increased interest in pedagogies that centre students' well-being

Since the pandemic began, there has been a marked increase in interest in pedagogies that centre students' well-being. These approaches share interests in key issues such as: learning happens in community, the power of emotions in learning and teaching, and the importance of recognising power and privilege.

Learning happens in community

Authors that promote these kinds of approaches see learning being most effective when it happens in community and when learners feel that they belong to a community of learning. As such, the learning environment and the way we facilitate learning and community becomes as important as the course content itself. While for many educators, this may be common practice in face-to-face environment, establishing relationship and belonging online is much more difficult. For example, Pacansky-Brock's (2020) Humanising Online Pedagogy is based on four principles to establish this sense of community: trust, presence, awareness and empathy. In terms of trust, she suggests that we practice "selective vulnerability", modelling as educators how to be authentic and allowing some of one's personal and private world into the academic one. Online presence is achieved through intentional efforts at creating experience and spaces where educators and learners can get to know each other, "feel" each other, whether through short video introduction or spaces for sharing and engagement such as ice breakers at the beginning of online lectures and online workshops. Awareness speaks to the importance of getting to know learners' individual contexts and needs, understanding their differences and choosing support mechanisms in response to these. Here, frequent online surveys and other tools to learn as much as possible from your learners play an important role. Finally, empathy requires educators to "slow down" and try to see their learners' experiences through their eyes.

What is important here is that we have to be intentional about creating these caring spaces where learners can belong, as Maha Bali (2020a) writes in her blog post Pedagogies of Care: COVID-19 Edition. She encourages us to get to know our students and our students to get to know us. In a similar fashion to Pacansky-Brock, she urges educators to make themselves vulnerable, modelling sharing, so that our students become comfortable to share with us. Bali calls this a hospitable environment where everyone is given the space to choose whether and how to share. She also emphasises the importance of empathy with students while understanding and recognising that one can never fully understand what the other is going through. Although she distinguishes between showing care in a class situation, in habitual ways and on a personal level, most importantly, she argues that care needs to be intentionally built into a course philosophy and your course design before one starts to teach.

The power of emotions in learning and teaching

The belief that learning is relational, that it happens in community, foregrounds the role of emotions in learning. Trauma-informed pedagogies as developed by educators such as Mays Imad (2021a, 2021b) suggest that learning cannot happen when learners (and educators) are dealing with trauma. Based on studies in the field of neuroscience, she argues that emotions are key to learning. Therefore, there needs to be space within the learning experience to engage and reflect on emotions. It is only "when our nervous system is calm, [that] we are able to engage socially, be productive, and process new information in order to continue to learn and grow—and to feel we are living meaningful and fulfilled lives" (Imad, 2021a, p. 2). Similarly, educators have to learn to calm our own nervous system to create environments where students can learn to calm theirs. It is easy to understand why this resonated with so many educators during the pandemic, as both students and staff experienced trauma like sickness and loss of family and friends, loss of employment or "just" the experience of month-long isolation and loss of contact. Uncertainty, isolation, loss of meaning are all triggers of trauma. Imad also introduces the concept of secondary trauma when students and teachers witness each other's trauma and transfer trauma to others. Trauma-informed pedagogies then aim at reducing uncertainty to foster a sense of safety, level communication to help forge trust, reaffirm or re-establish goals to create meaning, make intentional connections to cultivate community and centre well-being and care.

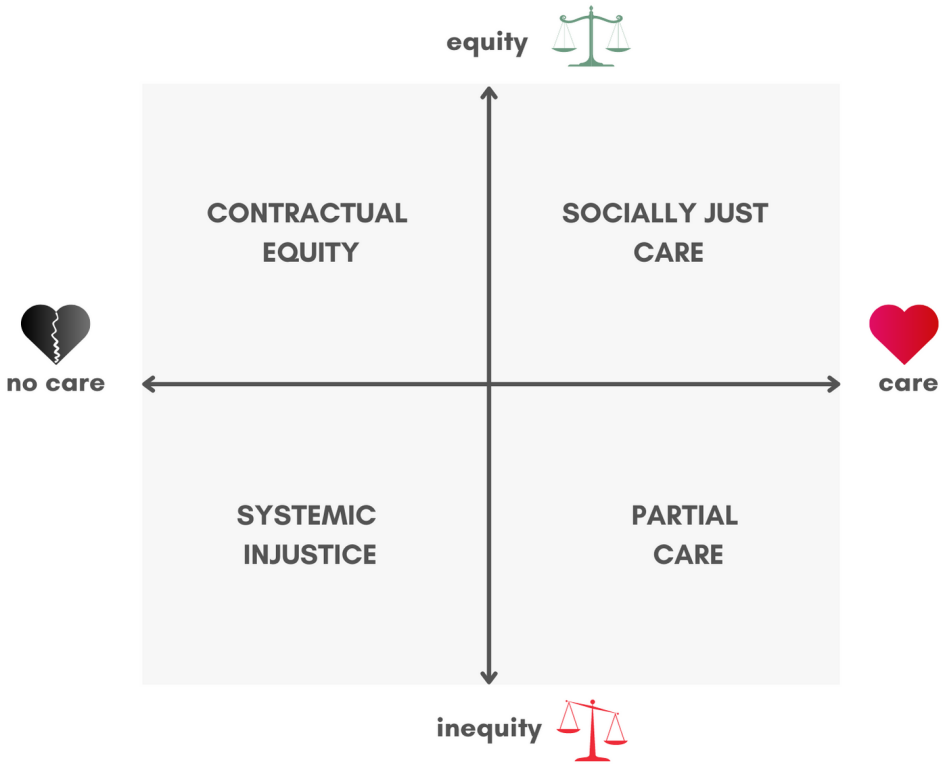
The importance of recognising power and privilege

Again, these approaches share a concern for how larger systemic forces play out in (online) classrooms, i.e. the interplay of personal and systemic inequities and an understanding that we work within micro and macrosystems of power and privilege. Consequently, pedagogical approaches or interventions should have both personal and systemic implications (although these approaches differ in the extent to which they engage with the systemic dimension).

Maha Bali and Mia Zamora (2022), for example, developed a crowd-sourced model (Figure 1) to show the importance of coupling care with equity concerns. They argue that care and equity must be both present for social justice or, as they term, socially just care. They caution that care without equity can lead to partial care, focusing on selected students, while equity without care could result in contractual equity, experienced as tokenism, or mechanical, non-contextual interventions, privileging the goal over those engaged in reaching that goal.

Figure 1

Equity and care matrix (Bali & Zamora, 2022)



Boundaries for compassion

What is evident across all these approaches then is that if we are designing for learning that welcomes all, where all feel they belong and where they can bring their whole person into the classroom, including their emotions, we need to design with social, cultural, and structural inequalities in mind. We need to design for "flattening the hierarchical structure of power embedded in […] dominant culture" (Pacansky-Brock, 2020). This is then what I would call designing with compassion.

This is a huge ask and for many educators who have tried to apply these principles and create more humanising pedagogies, taking their pastoral role to heart, this has meant being accessible and available to their learners 24/7, without clear set boundaries and time for recovery and self-care. While the importance of student mental health is

widely recognised, staff mental health has attracted much less interest. The drawbacks of this kind of teaching, making oneself vulnerable, being always there for one's students, are huge and much less widely discussed.

This then leads to the core questions of this think piece: who cares for the educators? How can we support academics who are intentional about compassion, care, and equity in their learning design and their teaching practices? Who designs for learning that creates spaces where compassion is encouraged and not just mere empathy? Where academics and students are both encouraged to think about structures of inequality and which ones include or exclude?

What questions do we as learning designers or academic staff developers have to ask academics to guide them in this process? How can we engage with our own blind spots in this process, what structures do we need to put in place to alert us to these blind spots? How do we have to adapt learning design processes to ensure they mitigate for the causes of inequity – the prejudices of the human designers in the process, both their explicit and implicit personal biases, and the power of mostly invisible status quo systems of oppression (equityXdesign, 2016)? But also, what are the boundaries for compassion? Is there a limit to compassion? How would compassionate learning design look like that had built-in spaces for self-care for both staff and students, where care and compassion are shared between academics and their students?

We need compassion for our learners but also for ourselves. A compassion that creates both closeness and the necessary distance, to pause and think and critically reflect on our practices. Some practices are emerging in organisations such as meeting-free days or weeks, or obligatory leave. Authors such as Valdez & Thurab-Nkhosi (2020) have started designing questionnaires for staff developers working with educators to engage in difficult questions around positionality and design choices. Communities of practice have emerged where staff support each other through these difficult times (Gachago et al., 2021), but in general there is a dire need to rethink these emerging compassionate academic practices to make them sustainable.

One of the approaches that might help us here is Sharon Ravitch's (2020) FLUX pedagogy. Although much of her pedagogical approach mirrors the ones described above, she adds radical self-care to her toolkit. Radical self-care is not concerned with visits to the spa or regular yoga sessions, although they are important, but puts forward a more radical, communal and collective view of self-care that evokes Audre Lorde's (1988) words: "Caring for myself is not self-indulgence. It is self-preservation, and that is an act of political warfare" (p. 131). Even if we don't have the answers yet, as to what this kind of radical self-care should look like, we need to make space for conversations among us and envision new ways of doing compassion and care that feel more sustainable for both our learners and us educators.

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Strategies for sustainable learning design: A response to Daniela Gachago's "Learning Design Voices" provocation

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Equity | Care | Humanising Learning Design | sustainable learning design

Chapter in brief

Gachago (2023) proposes Compassionate Learning Design as a way to humanise education. However, much of the work relating to humanising pedagogies paints the perfect utopia. Only if learning designers and educators who do learning design work establish what is real and achievable in their own contexts as existing systems are well-entrenched and take time to shift, that we can promote a future where care, equity and justice are an integral part of learning design.

Introduction

It is only in recent years that concepts such as pedagogy of care (Noddings, 1988, 2012), ethics of care (Tronto, 2013, 2015) and trauma-informed pedagogies (May, 2021) have entered into my formal vocabulary as a learning designer. These form the backbone of Gachago's (2023) provocation on "Compassionate learning design for unsettling times" and the practicalities of incorporating humanising pedagogies into the learning design process. For me, it's no no-brainer to support practices that encourage us to intentionally support equity and care. The question is not if compassionate, humanised learning design is needed, but rather how we as learning designers can enact it and do the work within the wider system.

At first, the concept of humanising learning sounded like a strange concept. As I learned more about the movement towards inclusivity, empathy, compassion and care in the student experience, it pushed me to question the system I was working in. I wondered at which point in education did we forget about "humanness" that we needed to add it back in? And what has resulted in the "dehumanisation" of education? And lastly, how do we incorporate these humanising pedagogies into learning design within the current massified system of education?

My decade as a learning designer is primarily based at a residential university in South Africa servicing almost 30 000 students. During this period, I worked on the development of several Massive Open Online Courses (MOOCs), online and blended degree development and supporting mainstream undergraduate and postgraduate courses. I have worked primarily at the course design level, working closely with lecturers, facilitating workshops for storyboard development, reviewing content such as video scripts and assessments, building on the online learning platforms and course maintenance. I had coordination responsibilities, managing teams for course and programme development and piloting innovative projects. Therefore, my experiences stem from my learning design experience on the ground, working closely with lecturers on online and blended course development.

I believe I've always tried to incorporate good practices into my learning designs, although, perhaps in a less explicit manner than outlined by Gachago and others. I consider humanising pedagogies to be integral to my work as a learning designer, and contribute to good teaching and learning. However, I must be guided by my students' and lecturers' capacities and wider constraints. As a learning designer, I am not the sole decision-maker, and my role is multifaceted – I am often the questioner, the devil's advocate, the prompter, the facilitator, the problem-solver, technology support, the teacher and the list goes on. This resonates with words by Walji (2023) who highlights that learning designers often play a change agent role and have

> *"unique insights into a course or programme and in their facilitating of conversations with university teachers, content experts and course teams they will often broker conversations and reflection" (p. 5).*

My response to Gachago's provocation will centre on the practicalities of humanised pedagogies from the perspective of a learning designer and change agent, the challenges I have experienced and how achieving humanised courses and classes will be a process of ideals to engage with, rather than a destination.

The impetus for compassion

As Gachago (2023) notes, many in the field draw on Paolo Freire's work from the 1970s (2020). Freire challenged the banking system of education which emphasises "depositing" information through memorisation, facts, formulas, and discipline. Instead, Freire advocated transformational learning based on dialogue, arguing for mutual humanisation, and for lecturers to be partners with students, where they are jointly responsible for the process to grow and learn. These underlying humanising pedagogies show up in different ways and activities in course design, such as reducing teacher-centredness or creating opportunities for connection and care (Kızılcık & Türüdü, 2022). Bartolomé (1994), highlights an example of moving away from assessing through close-ended activities to diagnose "weaknesses" to using open-ended activities that amplify the student voice. We have seen an increasing emphasis on moving toward culturally responsive student-centred learning for decades, intending to move away from didactic teaching as a default.

The COVID-19 pandemic demanded changes to the higher education landscape, particularly with regard to online learning. That period of time, especially the early intense days of the lockdowns, required even higher levels of empathy and care as students and staff faced unprecedented challenges in their personal lives. For students, this inevitably impacted their academic lives when they had to study in far-from-ideal home environments. Institutions were in a difficult position and staff had to respond to student needs to ensure the academic year continued.

We saw a change in practices such as offering flexible deadlines, moving away from examinations and providing access to devices. An important change was the provision of course material in multiple formats to maximise flexibility and access for those with varying levels of access to devices and the internet. For example, students were provided with videos with downloadable slides and transcripts, or if lectures were live online, students would have access to recordings. We saw big changes to assessments too, such as dropping late penalties for submissions, changes in grading structures and adapting invigilation-based summative assessments. While some of these practices had traction already, in my context some were not widespread pre-COVID-19.

While to some extent, these changes can be considered reactive responses to contextual needs around student wellbeing and access, the conversations on humanised learning become increasingly widespread. Some of the practices have continued even as face-to-face teaching resumed post-COVID-19. And, in my observation, some practices have stopped, with the return of summative in-person examinations, late penalties and hard deadlines, especially as mechanisms to reduce cheating and manage the grading of assessments. These practices are often present in massified systems to improve efficiencies.

The cost of empathy and compassion

Using the word cost and empathy is a contentious pairing, but I use it to surface an important consideration. Empathy requires time, effort and material resources. Academics often experience intense workloads due to research and service demands that compete with their teaching. How do we truly implement a course built around humanising pedagogies while balancing competing demands?

Like the learning designers and education developers in the rest of the world, when the COVID-19 pandemic hit, I was near the front line, upskilling and training staff to deliver their courses online. A few weeks in, the exhaustion, burnout, and lack of self-care among academics started to surface. It was not uncommon for me to have emotionally charged discussions with academics expressing their frustrations and uncertainty. Academics needed reassurance that they were not alone in their feelings and were doing the best they could. At the same time, as academics were experiencing burnout and exhaustion, my colleagues and I, based in a centralised support unit responsible for learning design and educational technology provision, were also experiencing exhaustion.

Eloff et al. (2022) report that, during the COVID-19 pandemic, over and above their academic duties, lecturers played a significant role in the wellbeing of students and had to increasingly provide emotional support to students. The nature of teaching and learning changed during COVID-19, requiring significant curriculum changes. As mentioned, academics no longer exercised strict deadlines and late penalties for hand-ins, citing a lack of certainty about which student appeals for late submissions were legitimate or not. With varied deadlines for students, marking student submissions becoming haphazard and with fewer tutors due to lockdowns, giving timely feedback became much more difficult. The challenges faced by academics during the heart of the lockdowns point to the challenges of enabling flexibility, and what might be considered more individualised and humane teaching practices. Underpinning staff behaviour and choices is a system of standards, policies and frameworks that govern what is expected in a system at scale. Fundamentally, the current higher education system was not – and is not – set up well to foster the level of inclusivity we seek, requiring a much bigger systemic change.

I find that humanising approaches is a balancing act of what we believe is best for students and our knowledge of these practices with our constraints, which includes managing our own health and wellbeing. While a core function of our role as academics and as learning designers is to champion the student experience, we need to consider the impacts on the wider team, including academics, administrators, tutors, parents and even ourselves.

The broader system plays a large role in what we can or can't do. Constraints of a slow, rigid and underfunded system mean we have little choice but to follow what the system tells us to do and breaking that mould is challenging. At times when I have engaged with staff on strategies for creating a nurturing environment, I can be met with pushback by staff who feel reluctant to pursue experimental ideas such as engaging students in a reflective manner. I suspect there are still much-needed conversations that need to be had, that I typically cannot do justice to in my short time with staff when I have one-on-one consultations as changing practices require dialogue over time. It also requires that the learning designer possesses the background or skills to facilitate conversations and communities that centre care, equity and justice. This brings us to essential questions on how we in the field can create spaces where staff become aware and confident in navigating a humanised classroom. There needs to be a level of comfort with experimenting, failing and trying again when changing practices.

Let's look at ungrading which I consider falls under the umbrella of compassionate learning design activities. Ungrading is an approach to assessment that questions the systematic practice of grading and reducing student submissions to a mere number (Stommel, 2021). For example, instead of limiting students to one submission, students are allowed to submit their assignment three times, where detailed feedback is received from the course team on the first two draft submissions. The time required now for marking is three times what would have typically been required. Students are in a much better position to be graded on their final submission. In a class of 500, this assessment design will likely be met with significant pushback due to the people, time and financial resources required. A peer who pursued ungrading in her course and shared some of her considerations:

> *I co-teach a postgraduate course on Online Learning Design with two colleagues. We are strongly committed to students experiencing the course in ways that reflect the best practices taught in the course. Over the last three years, this has meant two substantial shifts. Firstly, we have worked to make the course "looser", to open up the structure in a way that allows course participants to shape the course alongside the course team. Secondly, we've revisited our assessment practices – as themes such as ungrading have become more prevalent in the literature, we've looked for ways to bring this into the assessment design. For example, we negotiated the weighting of tasks with students, whether all assignments were relevant to their practice; we regraded based on student requests and resubmissions, and offered each student a 30 minute consultation to review their final assessment prior to submission.*
>
> *While the jury remains officially "out" on our experiences, greater flexibility in the course structure and shifts towards ungrading appear to generate the most benefit for the strongest students. Students who experience barriers to learning (such as being less prepared for formal study, juggling competing commitments, having less experience in the language of learning and teaching, or having access to fewer material resources) seem to derive fewer benefits from the flexibility and shifts towards ungrading. In fact, instead of making these students more confident, the increased uncertainty created by these two strategies was experienced as stressful and confusing for many students, who expressed a desire for more structure, more direction and fewer choices. At the moment, I'm understanding this in terms of concepts such as decision fatigue, cultural capital, and risk.*
>
> *Although we have a relatively small and adult class, greater flexibility in the course structure and shifts towards ungrading had substantial implications for the teaching team. Our collective preparation time increased - feeding into a more expensive teaching model. We spent a lot more time checking in with each other. While we were happy to think of equitable choices as providing individual students with what they needed to succeed, not all our students understood or supported this understanding of equity which led to quite a lot of additional work with the class. Our time spent on assessment preparation and feedback increased. While this made good sense for a professional course, I can see how this might face resistance in undergraduate courses, especially larger classes.*
>
> *While in theory, I love the idea of not having to give my students a mark, grading is an activity that has import and impact across multiple systems, many outside of my direct influence. To be able to engage in innovative teaching practices and to have the capacity to counter the dehumanising pressures of massified education systems requires more than the intention of the individual, but systemic support.*

Strategies for sustainable care

Although I might have painted a picture that outlines the obstacles, I do believe there are ways to challenge the system to pursue humanising practices even within the systemic constraints. We need to not only build care into the design

process as a whole but also humanising pedagogies into the design of the course as Gachago (2023) emphasises. The following subsection describes key strategies I use in my pursuit of creating a process that fosters care during course design and development.

Be present for your students

Championing students is integral to the work we do and it is necessary to consider their personas and feedback in course design and improvements. When I run a course design process, I typically develop personas with the teaching team to keep students present in our minds during the design process. In an ideal world of co-creation, students would be included in the design journey; however that is often unlikely, and personas are used instead. Personas, typically used in user-centred design, are representations or archetypes of students whose goals and characteristics represent the needs of a larger group of students (Miaskiewicz, & Kozar, 2011). Once personas are developed, at the beginning of each course design workshop, I would print the personas and place them in the room to have students "in the room". For example, if you are designing a course for professional students working in healthcare who work shifts, there needs to be consideration for the timing of content release and deadlines. In this case, working with a course team, we could release two modules at a time, with spaced deadlines as opposed to weekly deadlines. Each case is different and additional changes are likely to be made to the deadlines to further align the course experience with professional lives. Student feedback during and after the course can allow for further improvements.

Channel a change agent mindset

As Gachago (2023) cited, "Design is a living practice, not a done thing" (Morris, 2021). The course design process is often a long journey of up to several months, requiring several interactions over an extended period of time. Therefore, we need to think of our "change agent" role as a process which can be likened to the "change management" process used in business contexts. Successful change management requires extensive efforts: repeated communication and attempts to get the message across, evidence of why the change is valuable or necessary. At times, these efforts may cause moments of tension. For example, encouraging a lecturer to create flexible deadlines to give students choice over their learning or to add a reflective dimension may be met with reluctance. While in principle there may be ambition to use new ideas, these may not be enacted for various reasons such as imposed deadlines, governing policies, capacity and time needed to continuously grade assignments. In our role as change agents, we often plant "seeds" or ideas during course development that may have positive outcomes later on. At the time the idea is brought up, it may receive little interest, but the following time it is brought up there may be more buy-in. It's also important that we understand change is not a solo endeavour, and we often have to gain trust of those we work with and build a community working toward change.

Care considers everyone

As Gachago (2023) mentions, student wellbeing is widely recognised, staff support less so. There are several levels of care that we need to consider in the course design process as learning designers, such as (1) the staff we are co-creating with, often the academics and extended course teams and (2) the students who will experience the course design. While we are almost always championing the student experience, it is important that we don't forget about the rest of the team – including the tutors, assessors, administrative staff, moderators - anyone who is impacted by the course design process and running of the course, including ourselves. This will vastly differ by context depending on role and responsibilities. In my context, tutors, who run small tutorial groups have excellent insight into how students are grasping the course material and administrators have insight into managing the learning platform and student queries. We need to consider a holistic view of care by leveraging the insights of the wider network into meaningful course design.

"Small is good, small is all"

Brown (2017) offers several principles for emergent strategy that we could pursue to work toward systematic change. Brown's (2017, p.37) principle "Small is good, small is all" resonated with me as did the concept of atomisation of large

challenges. Through small, incremental change and continuous improvement, there is a cumulative impact that can very well result in systematic change.

We have all experienced how at the start of any project or process, we are often our most ambitious and idealistic. The reality is that we cannot achieve everything, but instead, we can achieve one or two parts of the design that are highly impactful for students. For example, this could include introducing reflective opportunities for students or changing the assessment structure to have less weighting on a final assessment, thus increasing student opportunities for success. Bali (2020) encourages teaching teams to get to know their students and vice versa. Doing this at the beginning of the course is often the best time as you are setting the scene and engaging in a high opportunity zone to form relationships with students, and students with their peers (Pacansky-Brock, 2020).

As a learning designer, it is often our role to facilitate the design of these initial weeks of a course, prompting academics with key questions, “How are we going to onboard students to the course?” or “What do we need to include in the course to create a sense of community?”. I always have examples to show academics what it looks like to ensure they understand the level of work needed. This does mean we have to be equipped with appropriate frameworks and pedagogies to hold these conversations. Taking small steps, listening to student feedback and iteration are essential.

The path ahead

The concept of humanising pedagogies paints the perfect utopia, articulating a blue-sky approach that gives us important ideals to work toward. However, we need to establish what is real and achievable in our own context as existing systems are well-entrenched and take time to shift. For now, we should aim to take realistic, smaller steps to make our goals achievable and sustainable and do the best we can within the constraints of our environment, as we move toward curricula and pedagogy that emphasise compassion and care. Through learning, unlearning and relearning, we can adopt practices that are more caring towards ourselves as well as to others, in order to promote a future where care, equity and justice are an integral part of learning.

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Critical compassionate learning design: Cases from South Africa and Egypt
Humanising online learning through the lens of engaged pedagogy
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6

Critical compassionate learning design: Cases from South Africa and Egypt

Nicola Pallitt, Maha Bali, & Daniela Gachago

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Higher Education | Social Justice | Care | Learning Design | Emergency Remote Teaching | Compassionate Learning Design

Chapter in brief

This chapter explores the concept of compassionate learning design, which is influenced by humanising pedagogies and trauma-informed approaches, with a focus on equity and care. The authors define compassionate learning design as a critical praxis that results from a desire to enhance learner participation and promote social justice while acknowledging the significance of care and affect. The goal is to achieve "parity of participation," ensuring that all learners, including the most marginalised, have the opportunity to be involved in decision-making within their learning experiences. The authors share three case studies from universities in South Africa and Egypt and analyse their approaches to supporting educators with emergency remote teaching and learning. The cases provide a basis for reflection and analysis rather than providing prescriptive examples. The authors developed a framework based on their earlier work on design dimensions for context-sensitive networked professional development and theories of social justice to reflect on their own teaching and learning practices and hope that these may inform others' practices going forward.

Introduction

The disruption of higher education due to the COVID-19 pandemic forced educators and institutions everywhere to rethink higher education provision. The need for emergency remote teaching meant that educators who knew little about online teaching and those who lacked time and resources to work on learning design ended up teaching online in ways that were not always fully thought through, at a time when they and their students were undergoing the trauma of the pandemic and struggling to cope with inequalities that were exacerbated by this situation.

In this chapter, we share our understanding of compassionate learning design, informed by humanising pedagogy (Pacansky-Brock, 2020) and trauma-informed approaches (Imad, 2021a, 2021b; Substance Abuse and Mental Health Services Administration, 2014), at the intersections of equity and care (Bali & Zamora, 2022). Compassionate learning design, as we conceive it (Gachago et al., 2022), is a critical praxis that results from a desire to enhance learner *participation* (Fraser, 2005; Wehipeihana, 2013), and centre processes around social *justice* (Fraser, 2005; Tronto, 2015), while recognising the importance of *care/affect* (Imad, 2021a; Noddings, 2012). As such, it strives towards "parity of participation" (Fraser, 2005), wherein all learners, including the most marginalised, have the opportunity to be involved in decision-making in their learning experience.

A theoretical framework for compassionate learning design

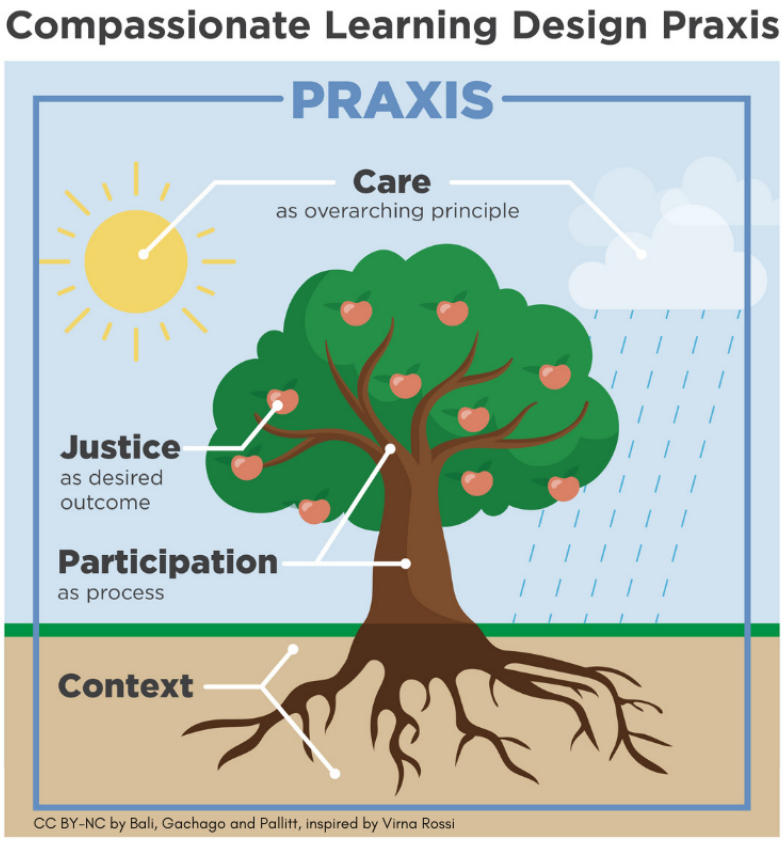
Our understanding of compassionate learning design therefore has four dimensions (Gachago et al., 2022):

1. The desire to increase the *participation* of learners.
2. A recognition of the importance of *affect* and how that impacts on learning, as seen in the emergence of interest in humanising, care and trauma-informed pedagogies.
3. An understanding of *power* and *history* and how that affects our ability to participate: our positionality and intersectionality and how they influence our pedagogies.
4. The aforementioned dimensions result in a *commitment* to act, to take responsibility and move towards more socially just learning design.

Figure 1 shows the relationship between care/affect as an underlying principle, participation (parity) as process, and justice as a desired goal or outcome (even if never reached, this is the intention), with praxis as the intersection between them. This praxis includes both change on an individual level, but also on departmental and institutional levels, as the case studies shared below demonstrate.

Figure 1

Care, justice, participation and context in the praxis of compassionate learning design



Wehipeihana's (2013) work on indigenous participation in monitoring and evaluation processes and its application to faculty/educational development, as presented by Carolyn Ives in Longstreet et al. (2020), inspired our compassionate learning design model. Wehipeihana's model can be helpful in showing different approaches to participation. Her model is about Western evaluation with Indigenous groups, and the levels of doing so involve:

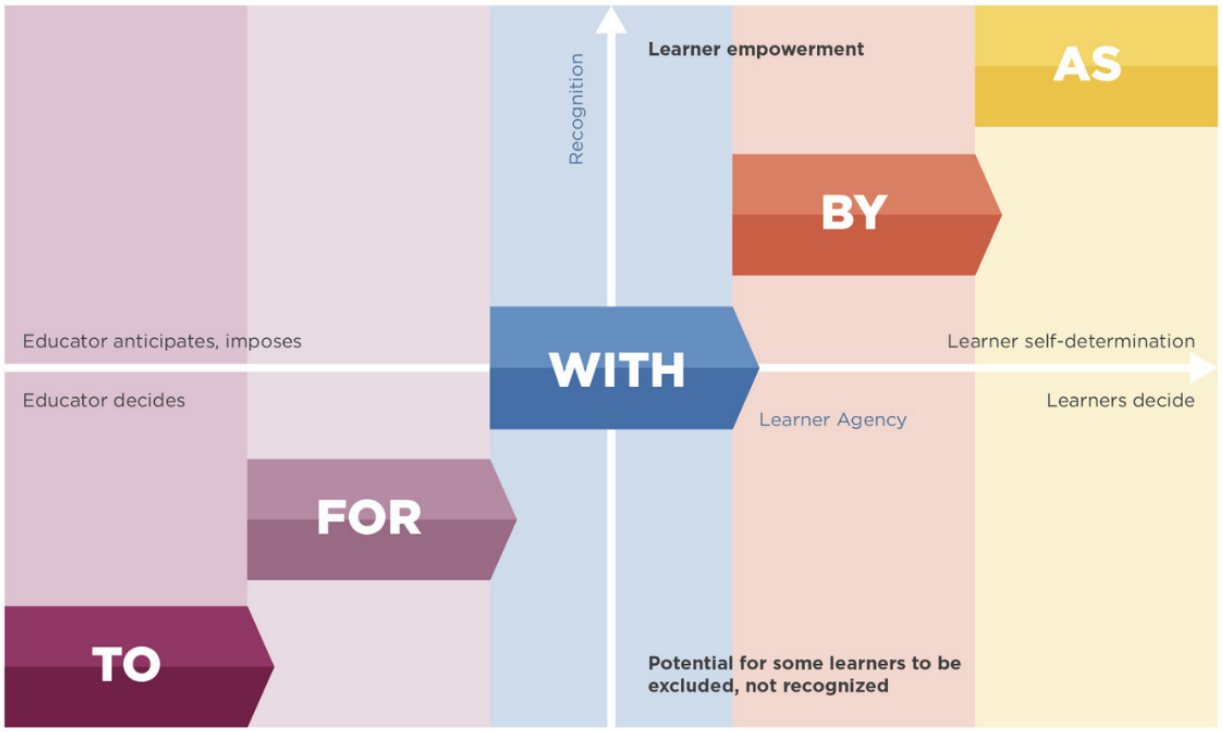
- **TO**: Evaluation done *to* indigenous groups, based on the assumption that Western experts know best. This is the most harmful form of evaluation. Participants are not invited to the table. A meal is prepared for them based on what the designer assumes they need.
- **FOR**: Evaluation done *for* indigenous groups by Westerners, which is benevolent but patronising. Participants are not invited to the table. A meal is prepared for them after perhaps surveying them on dietary requirements.
- WITH: Evaluation done *together*, but most likely with Western ways of doing things. This is the first step towards participation. Participants are invited to the table as guests and offered a variety of prepared meals to choose from.
- **BY**: Evaluation done *by* and led *by* indigenous groups (representation), but possibly still using worldviews of Westerners or needing to explain ways of doing things. Participants are invited to join the preparation for a meal at a table, where they may help prepare the meal, but the ingredients and tools are already there.
- **AS:** Evaluation led *by* indigenous people who have complete autonomy to enact their worldview without having to justify their actions. Participants design their own table, bring their own ingredients and tools to make the meal their way.

We adapted Wehipeihana's model to education (Gachago et al., 2022), as illustrated in Figure 2. In this chapter, we are using the model in the context of educators and educational developers (as did Longstreet et al. (2020), who inspired our work), replacing "educator" with "faculty/educational developer" and "student" with "faculty/teaching staff", because in this context, the faculty/educational developers are designing and facilitating learning experiences of educators at their institutions. Often, educational development is offered to educators by experts who assume they know what "best

practice" is and what educators "need". This is expressed in the term ”academic development”, often used as a normative concept with an implied deficit in higher education contexts, which is open to dispute (Quinn, 2012).

Figure 1

The desire for participation – from designing with empathy to co-designing with compassion



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We recognise that when educational or academic development work is centrally mandated and designed, it may come from a place of empathy (designing for, e.g. surveying educators to gauge interest and need, or responding to feedback after events) rather than compassion (*with* and *by*, empowering educators to co-create their professional development journeys according to their own philosophies and values). This then may lead to a more critical view of educational development, examining how broader structures may impact on teaching and learning practices and enabling us to move beyond the pathologising of individual educators' practices, as argued by Quinn (2012). This requires more than participatory educational development practices, as we will explain below.

Trauma-informed approaches to educational development for lecturers and student development (Imad, 2021a, 2021b), as well as humanising approaches to teaching online (Pacansky-Brock, 2020), gained currency during the COVID-19 pandemic. We draw on these humanising approaches in different ways as part of our support work. However, while these approaches centre agency, they do not necessarily unpack what such agency could look like and what different levels of agency there are. Wehipeihana's model helps us think about how agency plays out along a continuum towards more participation and self-determination. While, in our experience, most educators might embrace the for and with levels and feel satisfied that they have addressed and fostered participation and agency, we strive towards the by and as, which we believe to be more empowering for educators and result in their needs being met more compassionately. We also assert that other dimensions of our model need to be at play for compassionate learning design to be realised. In this sense, participation does not automatically lead to the centering of care or to an orientation towards social

justice. It is only through an underlying ethic of care in the ways educational development is conducted – and a recognition of positionality, intersectionality and the nuances of social justice in our respective contexts, both with educators and students at our institutions – that we may realise a more compassionate learning design "praxis" that involves iterative adaptations/revisions as we reflect on our practices and how they align with our values and intentions (see more in Gachago et al., 2022).

Case studies

Through analysing three cases from three higher education institutions in the Global South located in South Africa and Egypt, we reflect on what the move to emergency remote teaching and learning has enabled as well as the fault lines it has uncovered in our education system. In this case, "learners" are the teaching staff/faculty at our institutions and the term "educators" refers to ourselves as faculty/ educational developers. We analyse the cases through the lens of compassionate learning design to support departments and institutions in the creation and facilitation of context-sensitive and flexible learning experiences with and for students. Based on design dimensions we created for context-sensitive networked professional development (Gachago et al., 2020a; Networked Learning Editorial Collective et al., 2021) and theories of social justice (Fraser, 2005; Tronto, 2015), we developed this framework further to help us reflect on our own teaching and learning practices, which we hope will inform our and others' practices going forward.

We share these case studies for reflection and analysis, rather than as exemplars, and discuss a context-driven approach to compassionate learning design that can be used going forward. All three of the authors used combinations of theories in our context which influenced how we supported staff and/or students. There are many ways to practise compassionate learning design and many theories one can use to inform one's approach.

University management at our institutions mandated training (where training on functional learning management system [LMS] use was assumed to be sufficient) and requested attendance figures of lecturers who attended these sessions. In the process of reflecting on our contexts and approaches to academic development together, we realised that there is a tension between institutionally mandated training imposed by management and more intentionally designed staff development opportunities which are responsive to staff and student needs and emerging contextual dynamics. Our approaches illustrate our agency as faculty/ educational developers and recognition of the agency of the educators we worked with to find the cracks and the potential for empowerment through compassion.

As faculty/educational developers, we have historically been marginalised, operating in liminal spaces within our institutions (Little & Green, 2012). In the wake of the COVID-19 pandemic and the move to emergency remote teaching, we suddenly became central to our institutions' educational offerings (something like "VIPs"), where we had power to use our expertise in digital education to suggest "best practices" to educators. We had a choice to make in how to take on this new role. Would we use our power to push an institutional agenda or could we empower educators at a time when they were facing so much uncertainty and losing control over much of their lives during the pandemic? We also realised that our approaches to offering professional development online during a crisis would serve as a model for educators with their own students. The following case studies describe our approaches to academic staff development during COVID-19.

Towards communities of practice at the Cape Peninsula University of Technology, South Africa (Daniela Gachago)

My case study is based at a large university of technology (a previous "technikon", akin to a polytechnic in other contexts) in the Cape Town metropole. The global COVID-19 crisis hit South Africa hard. South African higher education had already seen major disruptions in the preceding five years. Student protests in 2015, 2016 and 2017 highlighted the inequality that persists in the country's tertiary education system and pointed to the need to rethink approaches to addressing systemic problems (Mbembe, 2019). The Cape Peninsula University of Technology (CPUT) serves a large student population from underprivileged backgrounds, but also from both urban and rural contexts. Many of our students rely on resources offered on campus and in residences, and it could therefore not be assumed that students

would have the kind of access to devices, data and a conducive study environment necessary for continuing the academic project online during pandemic lockdowns.

Phase one: Support “to” and “for” staff

In April 2020, the South African Minister of Higher Education announced that universities would need to move to “multi-modal remote learning systems (digital, analogue and physical delivery of learning materials) to provide a reasonable level of academic support to all our students at all institutions to resume academic teaching and learning support” (Nzimande, 2020). Unlike other countries and other South African institutions which began immediately, CPUT only started what was termed the “multimodal project” on the 1 June 2020, following government guidance, with two months of enforced break. This gave us faculty/educational developers in a central support unit an unusual amount of time to offer extensive staff development programmes to support our colleagues in moving their teaching online.

Following a similar trajectory to other staff development units worldwide (Mihai, 2020), we first offered a series of intense, daily two-hour webinars over approximately two months, focusing on technical LMS training with the integration of some pedagogical advice. In hindsight, it was unsettling how we moved very quickly to this familiar but not necessarily the most effective training mechanism. We had quite successfully run fully online short courses on blended learning course design in the past, albeit with relatively small participant numbers. These short courses covered pedagogical content, learning design activities and the integrated use of various tools, and combined independent online activities and collaboration with short synchronous meetings. We found this helpful in sustaining longer relationships with colleagues and creating deeper engagement and conversation around teaching and learning online. However, faced with the urgency of responding to COVID-19 and the uncertainty reigning on campus, we fell back on tried and tested, short skill-based workshops (as mandated by senior management).

At the time we did not consider the synchronicity/online nature of the webinar format and consequent potential for unequal access among colleagues – and we had fantastic results. As colleagues were not teaching and were under pressure to prepare for online learning, we had 100–300 participants on a regular basis at these webinars (which we recorded and shared for later use with colleagues who could not make it). We supported these webinars with various resources, such as online learning and teaching guides, often adapted from resources shared by other institutions under creative commons licence (for example, UCT's low tech online teaching resources). We also offered one-on-one consultations and technical support to staff and students via a helpdesk.

With time, we were able to improve and diversify our practices, offering more choice and sensitivity towards differently positioned colleagues. This also meant a move towards a more peer-support or mentoring approach, facilitating the sharing of good-practice webinars and the establishment of inter-faculty WhatsApp groups.

Phase two: Support “with” and “by” staff

One of my roles as a faculty/educational developer was to coordinate and liaise with our e-learning champions in various faculties and departments. One of the first things I did when COVID-19 hit us and uncertainty ruled, was to create a WhatsApp group to connect these e-learning champions and allow for sharing and collaboration across faculties; and as such mitigate against the uncertainty that we experienced over many weeks and months, with little and sometimes confusing communication from university management. While the majority of e-learning champions had never met before, my strong relationship with them and the trust we built up over years of working together transferred almost immediately into the WhatsApp group and allowed for intense engagement over many months.

This WhatsApp group started as a community of practice (reflected on in Gachago et al., 2021b), with a clear purpose to share good practices of online learning, and, at the beginning, it was used extensively for this. As these colleagues all identified as e-learning champions, their passion for and experiences with blended and online teaching and learning created a vibrant space for sharing and discussion. But somehow this space also quickly transformed into something more, moving away from purely professional conversation to more personal and emotional engagements. There was a strong sense of care in the exchanges of these mostly women academics, who connected not only through their professional practices as academics pushing hard for innovation in their respective departments (and experiencing a

huge amount of resistance), but also their similar experiences of multi-tasking, gendered distribution of labour and other challenges shared during these trying times. There was also a growing sense of responsibility for each other and belonging to this space that was experienced as different from other academic spaces we inhabited.

Finally, what made this space particularly useful was that it allowed participants to grow the confidence to push for changes within their departments that they would not have had without the support and encouragement of their colleagues. Many of the kinds of innovations (such as online summative assessments), which they had advocated for for many years, often with a huge amount of resistance from colleagues and management, were now suddenly possible. And even where there was still resistance, their shared support and encouragement allowed them to take firmer positions in their departments that they might not have taken without this engagement with this group of academics. This strengthened not only their positions in their departments, but sometimes even faculty and institution wide.

Supporting emergency remote teaching at Rhodes University, South Africa (Nicola Pallitt)

Rhodes University faces an intersection of social justice issues that filters into how we think about and support lecturers and students. A small, research-intensive university, Rhodes University is located in Makhanda, a small town in South Africa's Eastern Cape province. The city's ageing and ill-maintained infrastructure creates challenges for the community and university, from the provision of water to roadworks. Sixty per cent of staff and students are female and 55% of students received national student funding in 2021, indicating their family's low financial income status. The student demographics have shifted dramatically in recent years, from mainly white and middle-class students to a majority black student base with a larger number of students supported by the National Student Financial Aid Scheme.

Phase one: Support "to" and "for" staff

The university acquired a mobile app for our Moodle-based LMS in 2019, as the university was considering sending students home to study because of water scarcity in Makhanda. During the initial phases of the hard lockdown in 2020, a fellow educational technology specialist doing academic development work and I emphasised the importance of mobile friendly, low-tech approaches to emergency remote teaching among educators. We made videos demonstrating the use of the app, as educators with access to laptops and good connectivity had to shift their mindsets about the potential students they were designing for. While students received data from the university during this period and mobile network providers zero-rated URLs within the university's domain, uneven connectivity and infrastructure were major challenges in the province and other places many of our students call home.

Lecturers reported getting a better sense of students' circumstances. Many students reported how their circumstances were not conducive for learning in terms of lack of private space and small homes with many family members where they were often expected to perform household chores and participate in their online studies in between the demands of home life. As students came back after the hard lockdown, lecturers introduced more bandwidth-intensive forms of engagement into their teaching, such as the use of online meeting tools. However, when lockdown restrictions were tightened and students were sent home again, lecturers had to revert to their earlier approaches; they learned that students learning online on campus and students learning online at home are different. To design for emergency remote teaching adequately, educators needed to first understand their students differently, which involved empathy and some engaged in more compassionate approaches. Many educators were unable to go beyond empathy because of their own socio-emotional loads associated with the impact of the pandemic.

My colleagues and I were tasked with designing a student orientation for an online learning site to support students. Resources from the site were also shared openly as open educational resources on the university's open access repository. Key resources were translated into isiXhosa. We ensured that the site and resources were mobile-friendly and used these as an example to introduce educators to concepts such as scaffolding, low-tech principles, accessibility and how they might go about redesigning their course sites for emergency remote teaching. Staff were encouraged to see their course sites through the eyes of their students during the initial stages of the pandemic and as mobile users. It

was also about modelling a combination and length of resources that would be digestible and not overwhelming (i.e. reducing complexity and cognitive load). Some lecturers saw this kind of design for online, and mobile learning in particular, as “dumbing down” content and continued to share the same volume of readings, etc.

While we modelled this approach for educators to use with students, we realised that we were modelling an unsustainable practice through our own approach to supporting educators, which initially took the form of webinars and online resources (March to August 2020). We did so partly because all the other teaching and learning centres were doing it and it was mandated training. It was not an approach they could replicate with their students, as it was bandwidth intensive and the use of online meeting tools was expensive for students as they were not zero-rated by mobile network providers in the same way as university domains.

Phase two: Support “with” and “by” staff

Participation in synchronous online professional development opportunities dropped dramatically once the realities of online teaching played out, in which preparing for class and online marking demanded more time. With a change in lecturers’ workload demands and available time, we shifted our focus to refining and creating additional online resources (end of 2020 and start of 2021). Being responsible for supporting the LMS and responding to educators and students via our ticketing system, these requests were used as a barometer for what resources were needed and when.

”How much information can staff cope with right now?” was the question we asked ourselves on a regular basis and informed how we communicated with educators about resources, how we introduced new tools, and so forth. Timing, volume and relevance became key principles as part of a trauma-informed approach where we tried to decrease the level to which educators were overwhelmed. We sent out timely short communications via our “RU Teaching Online” course site, the university mailing list and supplied HODs with useful timely resources that link to resources on the course site where we curate and organise support resources. We regularly requested educators to share feedback about their preferred forms of professional development and design offerings and resources in response.

Trauma-informed principles (especially as relates to socio-emotional and cognitive load) informed how we adapted our approach, communicated with educators and students, and designed online resources to support them. Attendance at online sessions dwindled dramatically and we found we needed to work strategically to sustain our own energies. While many of our webinars went beyond functional LMS “training”, we found that more pedagogically-oriented sessions were the least well attended. We found that educators’ engagement with pedagogical aspects were best mediated through engagement with fellow educators. Educators were invited, and later volunteered, to share their practices and experiences and some shared resources that they created for their students. We were nominated for teaching awards in 2020 and 2021, but could not be recognised in this way due to the fact that our department hosted the award. We believed this was because educators recognised that we were going beyond “training” to modelling care and creating opportunities for co-creation. “RU Teaching Online” became more than a course site with resources, it was a facilitated learning community for educators. Our tagline ending all communications was and continues to be “Keeping you connected”.

Educational development support at the American University in Cairo, Egypt (Maha Bali)

I am an Associate Professor of Practice at the Center for Learning and Teaching (CLT) at the American University in Cairo (AUC). Egyptian internet infrastructure can sometimes be unstable and unreliable, even in privileged areas. The majority of AUC faculty and students live in these privileged areas, and for scholarship students the university provides devices and support with home/mobile internet. When the COVID-19 pandemic forced us to move to remote teaching, faculty whose home internet was unstable were allowed to connect from their offices on campus, although this was probably not a suitable choice for mothers whose young children were home from school.

In my department, I had a large responsibility during the pandemic, but was not the ultimate decision-maker. Our role was initially to fulfil the recommendations of top administrators, but we decided to listen to faculty and students and adapt in ways that centred care during a traumatic time. We tried to ensure that learning experiences were equitable,

believing that "[t]he work of the educational technologist is care work: we help our colleagues manifest care in their classrooms against all odds" (Gray, 2018, p. 54). While my case study highlights the change in the level of agency and participation of faculty in their professional development, and the care we used in our processes, there is an underlying praxis of constantly iterating and reflecting while we take action and adapt it in order to ensure a socially just learning environment for students and teachers alike.

Phase one: Top-down support “to” faculty

In anticipation of possible closure, senior administration asked CLT and the IT departments to offer training on basic LMS functions and lecture capture software. While we conducted this training, we modularised it and made sure that faculty could choose which elements they needed training on, as some were already familiar with these tools. This was not a participatory approach, as the administration decided what we needed to do to faculty. Moreover, we anticipated that faculty with more interactive teaching styles would need more advice on ways to conduct online discussions effectively, as well as alternative approaches to online interaction including asynchronous (e.g. Google docs and collaborative web annotation) and synchronous video options (e.g. Zoom). Further conversations with faculty during these training sessions confirmed this need and we started offering documents with tips on how to get started. We initiated a more responsive approach for faculty, based on the needs they expressed.

Phase two: Responsive support “for” and “with” faculty

Once the institution and government confirmed university closure and the move to emergency remote teaching, the support we offered changed from tools to pedagogy and included remote, one-on-one support and troubleshooting. Faculty could sign up online for technical or pedagogical support and we also started offering workshops via Zoom.

Administration requested that we create documents on our website explaining to faculty how to convert their activities and assessments to alternatives online. Although these documents were initially created by us, using our own experience and internet research, we also received many phone calls and made many phone calls with faculty to explore what they found applicable in their contexts and the kinds of barriers they faced. When requested to do workshops on things like “alternative assessments”, we kept updating the content and approach based on these conversations, conducting the workshops for faculty after hearing their feedback. Sometimes we conducted one-on-one consultations and departmental consultations on adapting assessments. In later iterations of workshops, after faculty had tried the online assessments, we invited some faculty from different departments to share their experiences (see, for instance, the “Faculty Share Good Practice” webinar).

One of the points for contention in the process of recommending alternative assessments was that we were driven by care for students, wanting to ensure they did not have additional anxiety in times of trauma, while at the same time recognising (especially from late-night phone calls from faculty) that this process was anxiety-inducing for faculty as well, on top of the added cognitive load of the pivot to online and other household responsibilities and health-related uncertainties. For example, we hoped to avoid use of any kind of online proctoring because of internet instability and invasion of students’ privacy; however, some faculty who teach introductory quantitative courses requested it, so the university introduced it, cautioning people to use it only when necessary. As someone who also teaches undergraduate students, I also discussed online proctoring and its harms and dangers in class, and supported students in their protest against its use. One of my students was able to rally his colleagues and convince their department chair to ban proctoring in their department.

For ongoing learning communities such as our year-long Faculty Institute for Learning and Teaching, which I co-lead, I asked them what they needed, and they requested a session on conducting seminar-style teaching online. We conducted the session itself in a seminar-style fashion, with some of the faculty who have experience with online teaching sharing tips on engaging students online via discussion forums and other means. This was an example of collaboration of faculty/educational developers with faculty for professional development.

We recognised the need to offer care for teachers so they could care for their students. In the first semester of the pandemic, I offered open-ended “morning coffee”, my boss offered “afternoon check-ins” and several of us led “ask us

anything" sessions to offer socioemotional support and immediate troubleshooting for people who did not find what they needed in the documentation on our website or did not have time to request consultations. These sessions also gave us an idea of what people needed and helped us design workshops.

When we started offering webinars on topics that came up during consultations, we heard from faculty members that they came not only for the content of the workshops but also to see us model how we used Zoom, so we became more intentional about our modelling of processes. For example, instead of recommending breakout rooms as a way to engage students in small-group work, we would use breakout rooms during our sessions to show how it is done and later offer another session on how to use breakout rooms for people who wanted additional support in the use of breakout rooms.

We continually adapted our recommendations due to student and faculty feedback. Initially, we had recommended doing more asynchronous learning to avoid heavy reliance on unstable internet connections, but it seemed that the Egyptian government improved internet infrastructure during the pandemic and most people were able to connect relatively smoothly most of the time. We also realised that the pandemic situation was unlike previous online learning: faculty had little time to prepare; lockdown meant there was no social life outside of class; and people had a heavy cognitive load because of the trauma of the pandemic itself, affecting people's ability to manage their time and learn (Imad, 2021a, 2021b). In comparison to asynchronous sessions, synchronous sessions seemed to create a lower cognitive load, require less time management and meet a novel socio-emotional need. As more students and faculty chose to integrate synchronous learning into their courses, we started to offer more workshops on how to do so effectively.

Phase three: Preparing for fully online semesters

To prepare for fully online semesters, we created a self-paced online course on designing a course for fully online teaching, and in parallel started offering a three-hour Zoom-based institute that would model good online synchronous interaction, particularly using Liberating Structures for organising conversations among small groups of faculty, and using Google docs for collaborative editing.

Beyond the workshops and consultations, our department also offered a newsletter, New Chalk Talk, usually published every two weeks. Historically, some newsletters were authored by CLT and some by individual faculty members. We had several special editions during the pandemic, including ones authored by us offering top administrators advice moving forward, such as on designing equitable learning experiences. Eventually, we started publishing summaries of feedback from students and faculty surveys conducted by the institution, as well as our recommendations based on these.

Eventually, we started to recognise the need for faculty to hear from each other (rather than us at CLT as "experts") and started writing newsletters where we posed a question to a select few faculty, reporting back their responses based on their practices. This was an example of faculty development with faculty and "by" faculty, even though we were selecting which faculty's views would be represented in order to have diversity. One of the exemplars of this practice was an article where we cast our net wide and asked a large group of faculty to volunteer to write their tips, with a broader question rather than a specific one, and we ended up curating recommendations by 17 faculty members (Addas et al., 2020) and later republishing these tips in regional and global spaces. Afterwards, faculty were encouraged to curate their own newsletters within a department that already conducted a lot of their own professional development amongst themselves, and they shared it with us for publication (see Lewko et al, 2021). This was an example of faculty development "by" faculty themselves.

Global-scale care in educational development

Early in the COVID-19 pandemic, Equity Unbound (an open community which I co-facilitate) offered "Continuity with Care" conversations for educators and students, and later offered sessions open to anyone in the world to attend on topics like trauma-informed pedagogy by experts like Mays Imad. My institution did not have funding to conduct these, so I conducted them publicly via Equity Unbound and invited faculty from my institution to attend (and many did).

Around August 2020, I started co-curating/co-creating community-building resources for online teaching under the umbrella of Equity Unbound (which was funded and hosted by OneHE) using demo videos and resources with adaptations offered by educators from all over the world. This was a case of educational development support "by" educators "for" educators and "as" educators, since they brought in their own practices to share and offered adaptations for others with different contexts (more on this by Bali & Zamora, in press). Originally, I invited particular people to share, but later there was also a button for anyone in the world to contribute and people I did not know contributed valuable resources to the collection. These resources centre equity and care and exemplify "socially just care" (Bali & Zamora, 2022); they recognise the global need for socioemotional care and community-building in online teaching, while also recognising there is systemic inequality in educators' readiness to do so in a fully online class as well as in the support available to them institutionally. They are designed to promote equity, and each activity has adaptations for different cultures and different technologies and tools, as well as templates and additional resources to save educators and faculty developers (many of whom were burnt out by then) time.

Discussion and conclusion

The positions of national governments and responses by university management at different institutions informed how relationships between care, participation and justice took shape. At some institutions, management led the first response to remote teaching and learning. In other institutions, lecturers had more freedom and flexibility. We were also conscious of student data shifting as national plans in our countries and universities evolved. Our institutions shared some approaches amongst each other, such as "low-tech" principles that respond to an awareness of students' data constraints. We were conscious of lecturers' increased workloads, the challenges of adapting their face-to-face teaching for online teaching, the stress of rapidly needing to become familiar with tools and practices many were not familiar with before the pandemic, and the added complexity of teaching students who often did not have the resources to learn online.

What emerged from our reflections is that what drives us and energises us is care and affect, as well as are our underlying principles. Our reflections show how only through constant communication, feedback, reflection and redesign (responding to the always changing and uncertain contexts we were working in) could we offer support that was caring and responsive to the changing needs of our colleagues. However, care can be both paternalistic and parochial (Tronto, 2013), and can lead to burnout if not distributed equitably amongst carers (Bali & Zamora, 2022). In our reflections, we recognise the need for the participation of both caregivers and care receivers, educators, students and management and have all moved towards more participatory approaches over time (from *to* and *for* to *with* and *by*). However, we also recognise the need to co-create conditions for participatory parity in order for everyone to truly participate equitably. Only then can justice be achieved, but justice is never a guarantee:

> *While justice can be understood, can be felt, there is no template to follow, or checklist to work through for ensuring a just outcome. The requirements are humility, a respect for context, and a willingness to listen to the most marginalized voices... Not all problems can be solved, but all problems can be illuminated.*
>
> *(Ursula Franklin, 1989, as cited in Meredith, n.d., paras. 13-18)*

Conversations around how care during the pandemic was gendered, raced and classed (and how care was unequally distributed and taken up) are crucial in the endeavour to support academic staff in these difficult times: they illuminate injustices that are both common across contexts and differ in nuanced ways by context. Praxis then can be seen as the sustained relationship that is needed to change practice through engaged conversations and ongoing reflexivity.

We believe that compassion cannot stop at the individual level, but needs to be infused in both institutional culture and systems to allow broader uptake (e.g. Baran & Correia, 2014). In the current climate of neoliberal marketisation, compassion can very easily be sidelined as something that is relegated to certain groups in an institution, such as women or people of colour, with potential detrimental impact on their academic careers, or certain departments or

units, such as student counselling. Care and compassion are not individual practices, but collective responsibilities towards building a higher education system in which we can all flourish.

This leads us to important questions on what the role of faculty/educational developers is in building a culture of care, in modelling parity of participation and in striving towards socially just outcomes. To what extent do educational developers themselves have agency in order to cultivate it in others, and how do the power dynamics between educators and educational developers come into play? How does this work against a backdrop of administrators focused on neoliberal marketisation and competition? How might this reflect on the learning experiences of students? Are departments/centres of educational development primarily ones that respond to the needs of the institution/administration, or do they work as partners with teaching staff and envision strategic directions for the institution (Czerniewicz, 2021)? These questions unveil the complexity of applying our model in practice and how it might manifest in different contexts, and the fact that we need to strive towards a more compassionate learning design model. As bell hooks (2003) suggests in *Teaching Community: A Pedagogy of Hope*, acts of care have been and remain acts of political resistance and often go against institutional cultures. Educators and faculty/educational developers need to continue to resist and form allegiances to support long-term culture change towards more compassionate institutions.

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Humanising online learning through the lens of engaged pedagogy

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Chapter in brief

The chapter will focus on humanising with technology, learning and spaces, regardless of context. Careful consideration will be given to multiple modalities of connection with students, providing as much flexibility as possible. As learning technologists, our work focuses on inclusion, diversity and accessibility, and, whilst it is underpinned by critical digital pedagogy (Stommel, 2014) and pedagogy of care (Noddings, 1995), it is deeply rooted in practicality, ensuring care for ourselves as educators as well as for students. We will view learning design through the lens of bell hooks' "engaged pedagogy" (1994, 2003). We have facilitated several events on 'care', specifically critically exploring the narratives of resilience and well-being. At the core of these events was the exploration of how educators can care for themselves and students in the face of difficulties and an increased emphasis on the "banking model" in higher education (Freire, 1970). The outputs from these discussions and contributions as well as our lived experiences are collated here under three broad categories: presence, socialisation and engagement, and digital (un)tethering and self-care. "Presence" will explore perceptions of visibility and highlight the benefits and dangers of students occupying online spaces. "Socialisation and engagement" will examine differing views of how student engagement is enacted and how designing humanistic approaches can help build a strong learner community. "Digital (un)tethering and self-care" will highlight the importance of designing in self-care and implementing activities that ensure flexibility, autonomy and social contributions to help circumvent overload and burnout.

> *Progressive, holistic education, "engaged pedagogy" is more demanding than conventional critical or feminist pedagogy. For, unlike these two teaching practices, it emphasises well-being. (hooks, 1994, p. 7)*

Introduction

Educators frequently come to digital learning centres with a query about a specific technology or wanting to know which is the best technology for a particular task; this ”putting the cart before the horse”, where technology comes before pedagogy, is referred to as technical determinism (Sankey, 2019). This view can be simplistic. Considering post-digital education, wherein “digital technology is something in which we are entangled in complex ways”, can be more helpful when discussing learning design and technology (Fawns, 2019, p. 142). In this chapter, the focus is on humanising with technology, learning and spaces, regardless of the situation. Careful consideration will be given to multiple modalities of connection with students, providing as much flexibility as possible. Rather than considering specific individual differences or needs, we employ widely inclusive designs.

As learning technologists, our work focuses on inclusion, diversity and accessibility, and, whilst it is underpinned by critical digital pedagogy (Stommel, 2014) and pedagogy of care (Noddings, 1995), it is deeply rooted in practicality, ensuring care for ourselves as educators as well as for students. In this chapter, we view learning design through the lens of bell hooks’ “engaged pedagogy”. The praxis of which has roots in the philosophies of Brazilian educator Paulo Freire and Vietnamese Buddhist monk Thich Nhat Hanh, and aspires to empower students and teachers alike (hooks, 1994).

We have frequently collaborated on ‘care’, specifically critically exploring the narratives of resilience and well-being. This work began before the pandemic but has become ever more important since. We facilitated workshops and sessions for several conferences and events, each designed with the participants in mind. These events needed to be as inclusive as possible, and engagement and learning were not to be predicated on live interaction. At the core was the exploration of how educators can care for themselves and students in the face of difficulties and an increased emphasis on the “banking model” in higher education (Freire, 1970). These live sessions, discussion forums, Padlet, Twalk (for more on Twalks, see Middleton & Spiers, 2019), and affective, creative activities afforded several connection points with participants.

This chapter has arisen from these discussions and contributions as well as our lived experiences, and will be addressed under three broad categories: presence; socialisation and engagement; and digital (un)tethering and self-care. “Presence” will explore perceptions of visibility and highlight the benefits and dangers of students occupying online spaces. “Socialisation and engagement” will examine differing views of how student engagement is enacted and how designing humanistic approaches can help build a strong learner community. “Digital (un)tethering and self-care” will highlight the importance of designing for self-care and implementing activities that ensure flexibility, autonomy and social contributions that can help to circumvent overload and burnout. It will also challenge the myth that online learning always equates to “screen learning” (Cauthen, 2017 as cited in The Learning Counsel, 2018). Designing and implementing resources that require students to be tethered to their screens at all times negatively impacts students, especially those with privacy or internet issues or neurodiverse conditions.

One island, two countries

Working as educational technologists in two different universities on the island of Ireland, our collaborations have highlighted the diverse and often complicated nature of higher education across the island. Living on two sides of a border having seen many years of conflict, recent peace, ongoing political turmoil following Brexit and the COVID-19 pandemic, marginalised indigenous people and bilingualism provides many challenges, spoken and unspoken, for staff and students. Many of these inequalities have been foregrounded during the pandemic within our situation and beyond (Czerniewicz et al., 2020; Munck, 2021).

In the Republic of Ireland, university enrolments are rising, but students face the highest fees in Europe and an accommodation crisis in many cities. In addition to student enrolments rising, the staff-student ratio has decreased and the student population has increased in diversity (Irish Universities Association, 2018). The social and economic impact of the rise and fall of an economic boom, termed the “Celtic Tiger”, has also affected higher education and employment prospects (Ó Riain, 2014).

Whilst on the same island, Northern Ireland is a country in the United Kingdom. As with Ireland, there are also high fees and an overdemand for accommodation, with "a disproportionate number of young people choosing to move permanently, continuing the brain drain that began during the Troubles" (Noonan, 2021, para 3), a period of conflict lasting 30 years from the 1960s. Wider issues as a country include religious tension, homophobia, racism and lack of women's rights.

Learning design and empathy

In his 2016 Digital Pedagogy Lab keynote talk, Sean Michael Morris (2016) states: "I do my best to stay quiet because when I'm quiet, I can hear you. And it's you I'm interested in. Your stories. Your efforts. Your insights." He laments that there isn't enough listening, and states that, in part, it's the fault of instructional design. As learning technologists our work is deeply entrenched with supporting staff to 'entangle' technology effectively into their teaching and is concerned with navigating the complexities of institutions and the landscape more broadly (Fawns, 2019, 2022). We listen carefully to their requirements, often starting with frameworks and approaches such as ABC Curriculum Design (Young & Perović, 2016), the 7Cs of Learning Design (Conole, 2014), Universal Design for Learning (CAST, 2018). However, the actual design work done with staff cherry-picks from the best and most applicable of these approaches given the circumstances and context they arrive with. This work equips teachers to approach design through different lenses and thus foster their critical design ability.

The work of educational technologists is deeply rooted in empathy - always listening and reflecting in action.

Author perspective: Kate Molloy

Personally, I've found that there's a certain amount of mental agility involved with the work of an educational technologist or learning designer. We solve complex problems, decipher complex contexts, and are often put on the spot as the resident expert in teaching and technology. It is important to be able to adapt workshops and approaches based on behaviour as nuanced as the mood in the room. A large group can generate a bit of buzz or excitement, and activities can be more playful. If participants are stressed or distracted, the more practical elements of a workshop can be foregrounded. I pay attention to their context as we talk through their courses. In some cases, they might be teaching on a large course alongside several others and have very little room to change things. In others, they may be a course leader and want to follow up with a complete overhaul. In those extreme cases, I will pose ideas that I believe to be appropriate and manageable. In the time that I have facilitated learning design workshops, I can't say that I've never run the exact same version. With each session, I listen to participants and reflect on the stories they bring to each workshop to inform my own practice, and further improve each workshop.

Often, small changes or enhancements to practice can be implemented with confidence and ease, and are more effective than lofty, ambitious goals that are too taxing for busy staff; for instance, introducing Hypothes.is, a collaborative annotation tool, in a virtual learning environment on a pilot basis to create social reading opportunities for staff and students. The goal in this example would be to have students support each other and build community within large modules asynchronously, with a low-bandwidth activity that doesn't necessarily need much staff intervention. Collective goals such as these help staff leverage digital tools wisely and create meaningful learning activities.

Presence

> *When we practice interbeing in the classroom we are transformed not just by one individual's presence but by our collective presence. (hooks, 2003, p. 173)*

When hooks speaks of presence, it isn't in a physical sense but one of community and togetherness. She refers to the performativity of teachers as a necessary act to engage students – not in the literal sense of "spectacle", but rather as a means to encourage dialogue and questioning. Prior to the pandemic, this largely meant that teachers spoke to students from the front of large lecture spaces. Everyone in the room was essentially being "seen at all times". This dynamic was turned upside down when teaching moved online during the pandemic and caused significant distress to both teachers and students. The dominant discourse throughout the pandemic centred on educators' frustration with students who did not turn their cameras on during synchronous classes. Many were disconcerted, speaking to dozens of "black boxes" on screen rather than human faces. Some responded by mandating that cameras be kept on. Whilst the issue seems binary on the surface, there is a wealth of complexity below. The students' reasons include not wanting to have their private spaces seen by class peers or teachers, poor Wi-Fi connectivity, lack of camera hardware and the desire to remain anonymous. These factors were further exacerbated when students had never met prior to remote teaching and large classes.

Students also reported missing seeing each other's faces, but the barriers were too high to overcome in the majority of instances (Castelli & Sarvary, 2021; Khan et al., 2022; Leigh et al., 2021). One element that worked for some courses was building trust over time with each other and the teacher. The essential message was that students should "turn it on when you are ready to" and that students being able to see the teacher is much more important. Rather than concentrating on the "spectacle" of presence and performance, we prompt teachers to rethink presence aside from the seeing of faces to a broader, richer experience. Students could be asked to add an image file to their profile, such as a photograph of themselves or something that represents them. Allowing students to share what they would like about themselves and their situations on alternative sharing platforms (Padlet, Jamboard, FlipGrid) could also be used to inspire autonomous contributions.

For students, having a short welcome video from course tutors is an effective way to bring presence to an online space. For teachers, an effective solution for the lack of on-camera presence can be creating small groups that are less threatening and allow for a small number of students to build trust with one another quicker, which usually results in more cameras being turned on.

Anonymity and surveillance

Datafication of students is continually increasing (Lupton & Williamson, 2017; Williamson, 2017), but knowing the number of things students clicked on is not the same as knowing students. Just because they are showing as an attendee in a session, doesn't mean that they are sitting at their computer or listening. Just because they clicked on a video and played it halfway, does not mean that they watched half of the video or that they were even in the room at the time it played. Although the interpretation of student data we have access to is a nuanced skill, it can never replace engaging in dialogue with students to truly know if they are present.

The demand that students must be present, presenteeism, is in its literal sense an act of surveillance (Macfarlane, 2016). Students have many reasons why they are not able to attend live sessions, whether on campus or online, and being attentive to that by providing alternative means of interaction and dialogue is a crucial part of the design of any session or course. Likewise, providing safe spaces as much as possible can ease the apprehension for many students, particularly those with neurodiverse needs, those whose first language is not that of the teachers, and those from minority groups who are subject to abuse. In addition to cameras being off, anonymous polling can give voice to students who would not usually raise their voices in front of others. This could be through a shared document (e.g. Google Doc, Google Slides, Microsoft Word, Microsoft OneNote), a whiteboard (e.g. Padlet, Jamboard) or a polling app (e.g. Kahoot, Menti, NearPod, Vevox).

Lurking/observing

In the sudden shift to online teaching during the COVID-19 pandemic, there was a renewed focus on student engagement and a misconception that students couldn't possibly be engaged in online learning. In Ireland and the United Kingdom, there have been significant negative media stories about universities not teaching during the pandemic and that the online experience was of inferior quality. This perspective is lacking; in fact, "online can be the privileged mode" (Bayne et al., 2020, p. 133). Many staff take great care to balance synchronous and asynchronous activities, engage students in live sessions and create presence and community, despite the great difficulties faced both personally and professionally.

Learning in the digital space, pre- or post-COVID affords more options to students who may prefer lurking and observing. Engagement requires bandwidth, both technically and emotionally. Presence does not equal engagement: presence can be performative. Monitoring the number of clicks and posts made doesn't necessarily provide evidence of student engagement. Those in the background, thoughtfully observing, reading and listening, can be just as engaged. As learning designers, we need to help facilitate this.

Wherever students are learning, there are ways to structure activities to provide value and engagement for all students, even lurkers. Online learning has been labelled as lesser throughout the pandemic, but it's worth doing some self-reflection on the engagement opportunities built into both synchronous and asynchronous activities, whether they are online or face-to-face. Are students provided with meaningful discussion questions that will help them think more deeply about the course content? Do the conversations arising from these prompts help to elicit new information and ideas? If the classroom discussions closely resemble the conversations (or lack thereof) taking place in the online chat window or discussion board, then the obstacle to meaningful discussion may be the design of the activity, not the technology.

Opt-in, not opt-out

Be inclusive. Be intentional. At all times, allow students opportunities to opt-in rather than opt-out to avoid distress and embarrassment. Pay careful attention to crafting activities, whether they are icebreakers, individual tasks or group tasks. For example, don't ask "what is your favourite alcoholic drink?", rather ask "what is your favourite drink?". The narrow question may exclude those who do not drink alcohol for reasons such as religious beliefs, health or personal preference. Rather than asking "what sport do you like to play?" use "what pastimes do you like doing outside of learning?". Again, the narrow question may exclude those with physical barriers to sport, those who choose not to partake or those who have no means or access to facilities.

There's nothing that strikes fear into our collective hearts like hearing, "Now we're going to do an icebreaker". Kate recalls encountering one during her college studies where she had to find someone with the same colour eyes, so everyone had to hesitantly wander the room and rather than speak to someone new, had to stare awkwardly into the eyes of a stranger to find another victim with matching eyes. It was uncomfortable, not very inclusive, and generally unpleasant.

Within our own work, we both use open resources as often as possible and the Community-building activities from Equity Unbound fulfilled many of the design requirements needed for socialisation and engagement sessions. A favourite activity was "Story of your name", as it could be used as an icebreaker, group task or introduction activity. In this activity, all students are given the opportunity to tell a story about their name, on their terms and from any viewpoint. Giving options such as using the chat window or allowing those who would like to volunteer to tell their story verbally ensures that no one feels obligated to share their story. It was helpful for the teacher to provide their story first. This activity safely navigates the challenge of pronouncing unfamiliar or frequently mispronounced names (especially true for Gaelic or international names) by bringing the issue up front in an informal space.

Bringing these different elements of presence back to engaged pedagogy and the aspiration to create a democratic classroom, where all voices are important and dominant voices are skillfully guided, allows space for quieter voices to

be heard. However, it is not enough to declare a space safe; multiple modalities must be afforded to students so that those in the minority are ensured a safe space, enabling those feeling threatened to contribute on their own terms.

Socialisation and engagement

> *There seemed to be no interest among either traditional or radical educators in discussing the role of excitement in higher education. (hooks, 1994, p. 7)*

Social events within higher education primarily occur out of the class, located primarily within student-led spaces such as student societies and clubs, sports centres, and unions. These depend on the student acting and choosing to participate. These choices are not always equitable and the pandemic brought the difficulties of physical and digital access to the fore (Ndofirepi, 2020). All of which brings hooks' observation into sharp focus and educators began to shift their perceptions of the traditional boundaries for socialisation, designing in formal activities to generate excitement (Chu, 2022; Müller et al., 2021; Rapanta et al., 2020).

Playful activities

The poet Seamus Heaney explored the loss of playfulness at university in an address at Harvard in 1982, ending with the hopeful line "Today's the day for intellectuals to play" (The Harvard Advocate & Kiely, 2013). Designing playful activities requires care and clear learning goals. Many hands-on activities such as LEGO® Serious Play® work well to generate conversation, energise a session and encourage different perspectives (Hayes & Graham, 2019; James, 2015; Thomson et al., 2018). These activities can be translated into online situations with modest changes to the design, providing greater flexibility with regards to what participants use, so online participants can use what they have at hand. Once people get past the awkwardness of having something so unexpected and give themselves permission to play, there is a lot to gain by exploring topics with new perspectives (Whitton & Moseley, 2019).

In the initial phase of the move to remote learning, there were so many pressures on teachers and students that simply keeping courses going with clear communication was the priority for many. However, as online learning became a longer-term solution, feedback from students locally and beyond was that the learning was going as well as could be, but they really were missing out on the social aspects of university. Poor design can affect the mental well-being of students learning online, but interactive and collaboration activities can help "mitigate against issues such as loneliness, isolation and lack of motivation to study" (Jisc, 2021, p. 5).

Engagement beyond clicks and didactic approaches

We both take care to point out to teachers how to use data from the virtual learning environment to identify students who hadn't been logging in regularly – not as a surveillance and tracking approach, but as a means of flagging students who need private communication and may require additional support. We explain that data is only one small part of the story and that a student clicking on a resource is in no way indicative of whether or not they read the resource. As described above with regards to cameras being on or off, we tried to move the narrative away from control to one of dialogue.

> *Yet some version of engaged pedagogy is really the only type of teaching that truly generates excitement in the classroom, that enables students and professors to feel the joy of learning (hooks, 1994, p. 24)*

In Teaching Community (2003), bell hooks recounts a moment with a visiting speaker while teaching at Yale, where her students "didn't want to leave". Everyone was "fully present in the now". The most memorable moments can stem from learning experiences beyond traditional classroom confines.

Author perspective: Kate Molloy

My fondest, most engaged memories of my undergraduate studies in the US aren't of the classroom. I remember Evelyn, who taught Post-colonial and Minority Literature. She trusted and supported us to take our open-book exams online. She sat at a student desk beside us, introduced us to the writing of J.M. Coetzee and took us for Vietnamese food to celebrate our final class. I remember going for lunch during our Multicultural Education class with a panel of trans activists invited to class that day and listening intently to their stories over falafel. In these moments, our teachers were building community. They created authentic, meaningful, and engaging experiences. Most importantly, they created memories and helped us to learn in the now. The tireless hours that my advisor, Dr Curtis, spent working with me, unseen. It was the work outside of the curriculum that was so valuable. It was one of those teachers who introduced me to the writing of Freire and hooks. I can't remember who, but I suppose that doesn't matter now.

Enjoyment and pleasure weave through hooks' discussions of engaged pedagogy: the joy of teaching, the joy of being in the classroom and the joy of learning. These are seen as acts of resistance against boredom and apathy within higher education. Technology affords us infinite possibilities to enliven learning. It is important to note that hooks did not experience a blanket acceptance of this; some students and teachers will perform their own acts of resistance against this and may even be angry at the inclusion of fun, or frivolity as they may see it. Being open, clear and inclusive throughout is imperative.

Digital (un)tethering and self-care

> *I celebrate teaching that enables transgressions – a movement against and beyond boundaries. It is that movement which makes education the practice of freedom. (hooks, 1994, p. 12)*

In this quote, hooks is not speaking specifically of technical or physical boundaries, but the parallels for these which speak to a release from the virtual Zoom gaze that has exhausted so many people since early 2020. Tasks and workshops that allow students to move around, go outside or away from the screen are important design choices to make.

Digital (un)tethering

Before the pandemic, many higher education institutions clearly defined contact time between teachers and students as taking place in physical settings, such as a lecture, tutorial or practical. This was often a barrier for those establishing distance learning courses or programmes, as contact time in the virtual space cannot be bounded in the same ways. Communication with one another through discussion fora, commenting on blog posts, editing wikis and annotating online work provides significant contact points – not only between teachers and students, but between students and between students and the wider public. It is also pertinent to keep in mind that at the higher education level, the majority of learning takes place outside scheduled class time. Students are required to read, reflect and complete formative and summative assessments. This affords many opportunities to experiment with means of dialogue and creative engagement.

One very small prompt to care that we embedded into longer sessions was verbally telling people to get up, stand and stretch during scheduled breaks and, if possible, to walk away from the screen. If a session was long with no scheduled break, we would emphasise that slides would be available after and encourage standing and listening for a bit.

Other suggestions that we collated from our care workshops include outdoor lectures, podcasts (or other audio-only resources), reading and reflecting outdoors, using mobile devices to allow for movement, adding calendar entries

especially for self-care activities, using dictation functionality for writing, using read-aloud functionality for documents, and intentional moments of breathing. These kinds of activities can be more inclusive, require less bandwidth for those in the Global South or rural areas and can be done on lower specification devices. They are also more flexible for those with caring or work responsibilities or those with health issues.

Self-care

> *Teachers must be actively committed to a process of self-actualization that promotes their own well-being if they are to teach in a manner that empowers students. (hooks, 1994, p. 15)*

We can only care for students if we first care for ourselves. Responses from our sessions acknowledged the need for balancing work and the "always on" expectation. Activities such as walks, exercise classes, building puzzles, reading books, gardening, cooking, crafts, doodling, turning off notifications, and blocking out time each week in diaries to ensure sufficient breaks were suggested. Given the reality of ever-increasing student numbers and rising workload combined with reduced staff in many situations, it was imperative to design self-care into our teaching. From our experience working with and supporting teaching colleagues, learning resources, dialogue and assessment are three areas to consider.

Learning resources

UNESCO (n.d.) believes that

> *Universal access to high-quality education contributes to peace, sustainable social and economic development, and intercultural dialogue. Open education resources provide a strategic opportunity to improve the quality of education as well as improve policy dialogue, knowledge-sharing and capacity-building.*

In the Irish context, professional bodies like the National Forum for the Enhancement of Teaching and Learning provide resources and support open education. It can be difficult to find materials appropriate to the Irish context and the unique institutional contexts. When learning moved online, the Enhancing Digital Teaching and Learning (EDTL) project team worked together to outline an approach that would be supported by carefully curated open materials. It was crucial to ensure that those seeking advice were saved the time and frustration of sifting through the wider web for advice. All materials produced were openly licensed to reciprocate within a community of sharing.

In our own local work, creating and reusing open resources helps us to amplify open practice for those new to it, or those who are still tentative. The EDTL project resources provide a useful example of community-created resources that have helped support that community, and beyond. Indeed, any good quality resources can highlight the many benefits of open, including cost-saving for students, reduced workload efforts for staff, improved representation, inclusion, and even the greater good. In practising what we preach, we can initiate discussions around open even when this isn't the main topic of a workshop or event. These informal discussions can lead to changes in practice, as we can always refer staff to new resources and workshops, or simply follow up later.

Ownership, agency and quality are, of course, other factors to consider in the creation or reuse of learning materials. In supporting staff to create engaging, thoughtfully designed curricula, discussions around ownership often arise. Creating digital resources can be time-consuming and it can be disappointing to discover that the content cannot be used elsewhere, be it because of technical or copyright issues. In this case, pragmatic approaches to supporting staff to design using tools that don't pose technical barriers (like H5P), and produce files that can be saved to be reused elsewhere or easily shared beyond the confines of the virtual learning environment, are helpful for promoting ownership and agency without sacrificing quality. Supporting and encouraging staff to adopt tools that support open education, like H5P, can also help to open discussion around the ethics of the tool providers we use.

Dialogue

> *In regards to pedagogical practices we must intervene to alter the existing pedagogical structure and to teach students how to listen, how to hear one another. (hooks, 1994, p. 150)*

Once the learning resources have been identified and tailored to a course, the next thing to consider is interaction time with students. For centuries or more, much formal education consisted of a teacher decanting knowledge by speaking at the front of the classroom with students passively taking notes, known as "the sage on the stage" or the "banking model" of education. More recently, the approach in which teachers encourage students to reconstruct the decanted information to make meaning through guidance is known as "guide on the side" (King, 1993). Breaking away from this dichotomy, "meddler in the middle", provides a third option, whereby teachers can encourage students to "experience the risks and confusion of authentic learning by allowing their students to stay in the grey of unresolvedness" (McWilliam, 2009).

Designing hands-on, affective activities can fulfil both meddling in the middle and the exploration of the messiness and not-yetness (Collier & Ross, 2017) of the learning journey, while providing care for teachers and students alike. These are best designed as democratic, inclusive activities. Whether individual or group tasks, only volunteers should be asked to come forward. Should someone not wish to speak but still want to share their story, they could nominate a class peer to share on their behalf. Examples include LEGO® Serious Play® (as previously discussed), mapping with 3D objects such as sweets, pebbles, etc., and the creation of posters or models using only objects found in your near vicinity (Thomson, 2019a, 2019b).

Assessment

In Ireland, university students overwhelmingly stated their preference for open book or continuous assessment (EDTL, 2021). Given that 81% of students favoured more flexible assessments than the traditional final exam, it is clear that dominant assessment practices, which in many cases were already altered to accommodate the emergency teaching in the pandemic, need to be re-examined with a similarly empathetic and flexible approach. However, reimagining continuous assessment practices is a project in and of itself. To have impact, this kind of work requires resourcing and support for staff to make small changes incrementally. For example, when designing a new assessment methodology, one should first turn to existing and supported platforms available to you and your students, thus reducing the cognitive load of learning digital skills.

Some of the alternative modes we have contributed to the academy in continued professional development, conference presentations and reports have included: a gif-based manifesto, a gif-based Twitter talk, a talk using a poetry structure called a Limerick, a meta presentation about H5P using H5P, a fictional court case based around an open conversation. Each of these formats challenges the traditional academic textual expectation, in which "[t]ext has been troubled: many modes matter in representing academic knowledge." (Bayne et al., 2020, p. 49). These formats may lack formal structure and tone, but each story remains an artefact of integrity and rigour.

Engaged pedagogy pushes back against notions that education is neutral and emotionless; hooks instead embraces bonding with students, in an inclusive rather than exclusive way. However, she is also highly attentive to the challenges of adhering to the tenets of engaged pedagogy at scale whilst also caring for one's self. Making effective use of technology and student partnerships can help mitigate some of these problems by facilitating peer feedback on early drafts of assessments or regular use of breakout groups.

Into the unknown

> *It is essential that we build into our teaching vision a place where spirit matters, a place where our spirits can be renewed and our souls restored. (hooks, 2003, p. 183)*

Placed, as we both are, in the liminal space of academic support, balancing the care of colleagues with the care of students during the pandemic has been both exhausting and incredibly rewarding. Sharing with the wider community

around the world and embedding the work shared back by others is humanity in education at its very best. The future of higher education is more uncertain than ever as we navigate contemporary inequalities and challenges of the future such as climate disasters, energy shortages and natural resource constraints. Whatever online teaching and learning journey we each find ourselves on, weaving empathy and care into the design of all interactions will ensure a smoother path and afford us the agility to adapt with hope.

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8

Harnessing the student experience for inclusive online learning design

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Higher Education | Humanising Learning Design | Students as partners | participatory curriculum development | inclusive learning design

Chapter in brief

Traditionally, student leadership development within the co-curricular space has been a synchronous and in-person learning process. However, the advent of COVID-19 created a catalyst for the adoption of online learning in the co-curricular space. This chapter explores the theory and practice of online learning design from a student development practitioner perspective by means of a case study at the University of Cape Town. The case study serves to demonstrate the humanising of learning design practices using a participatory curriculum development process and adopting a students-as-partners approach. Furthermore, the case study concludes by reflecting on the benefits and challenges experienced by incorporating a participatory curriculum development approach into a learning design process.

Introduction

In this chapter, we explore how conducting a participatory curriculum development (PCD) process with students as partners can create a more humanising learning design. These themes inform the design of an online and asynchronous student leadership programme during the COVID-19 pandemic. By means of a case study, we demonstrate how PCD transforms the standard ADDIE (Analyse, Design, Develop, Implement and Evaluate) (Dousay, 2018) learning design model through the infusion of lived experiences.

Background to the case study and the theoretical underpinnings

With the advent of COVID-19 and the resulting lockdowns in South Africa in March 2020, face-to-face classes were suspended and students were sent home to study remotely. To aid in this transition, the University of Cape Town (UCT) developed a framework for remote teaching during the pandemic. The framework provided a guide towards inclusive and equitable learning experiences for all students and highlighted the risks of reproducing inequalities in the remote teaching mode (Teaching Online Task Team, 2020). As a student development practitioner, I (Christine) found myself tasked with having to rapidly redesign the student leadership and induction programmes of the elected student leaders. At first, moving student leadership programmes online seemed a daunting task as, until the outbreak of COVID-19, our method of programme delivery had exclusively been synchronous and in-person. This had especially been the case given the prevailing belief that for leadership skills to be developed, face-to-face interaction and engagement was required.

To implement UCT's framework for remote teaching during the COVID-19 pandemic, I adopted ADDIE (Analyse, Design, Develop, Implement & Evaluate) as the learning design model. ADDIE is a tried and tested model with an iterative and continuous evaluative feedback process flow. This allowed for a structured course of action to be outlined from a project management perspective without losing the design flexibility needed to cope with the ever-evolving operational environment and contextual landscape (Reiser & Dempsey, 2007). Going online asynchronously as per the aforementioned framework necessarily precluded a dearth of synchronous interaction and consequently a decoupling from one of the most humanising aspects of synchronous activity: relational proximity. The asynchronous nature of remote teaching necessitated a new model of student support vis-a-vis student leaders. Clearly, the process for designing a fully online Student Faculty Council Induction (SFCI) programme required something more than before, something that would create a stronger link between the development of the students and their now tumultuous environment. By adopting a theory-based-intentionality-of-practice approach (Immenga, 2021), I was able to draw on my experience as a learning designer. I opted for a participatory curriculum development (PCD) approach known as "students as partners" where I would include students in all aspects of the development of the programme.

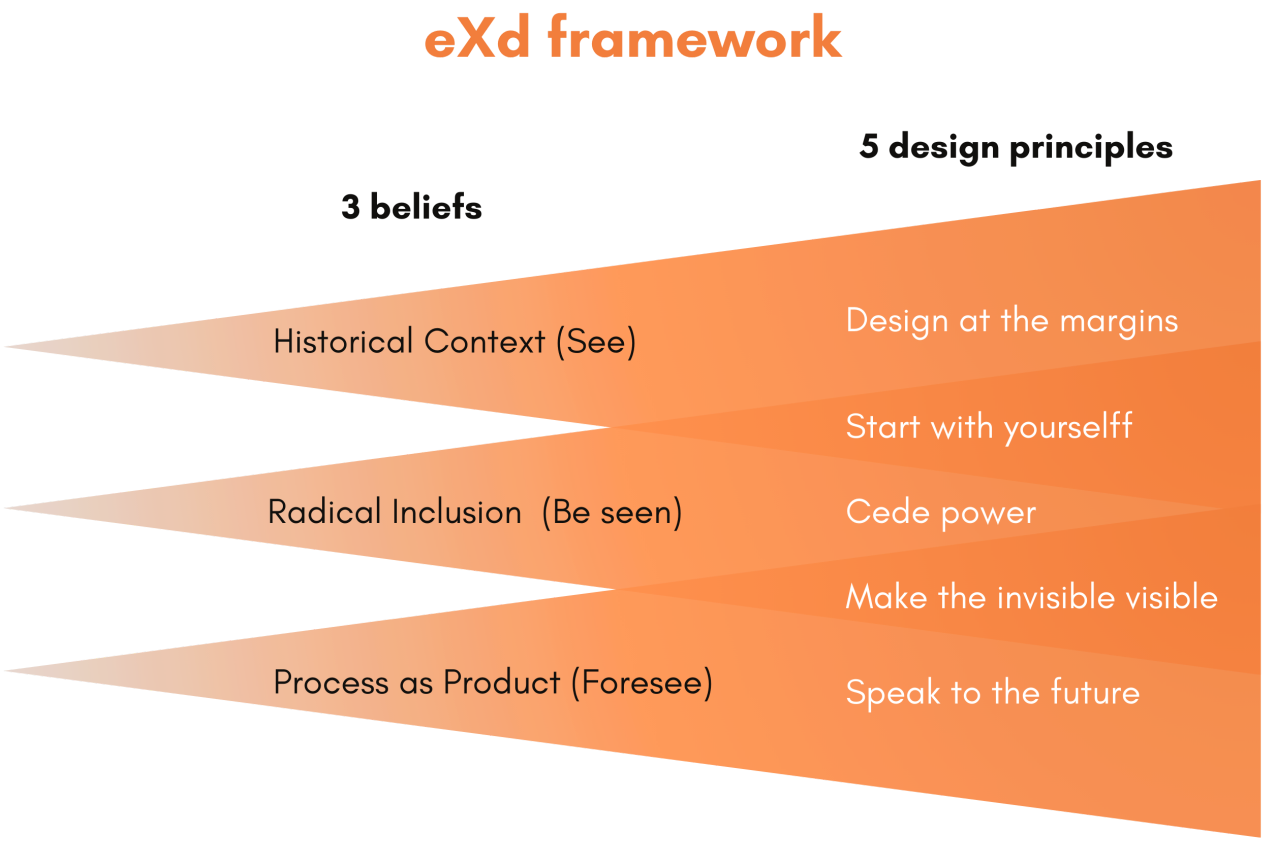
PCD is understood as a multi-stakeholder approach to curriculum development that broadens the idea of the teacher-as-curriculum-maker (Craig, 2020, p.13). Taylor (2000) describes PCD as a process that allows for curriculum development to occur as a result of "the interchanges of experience and information between the various stakeholders in an education and training programme" (p. 94). The students as partners approach is defined as "a collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision making, implementation, investigation, or analysis" (Cook-Sather et al., 2014, pp. 6-7). Including students in the curriculum development process as partners would allow for students to act as experts of their own lived realities, and for these students to provide design insights that would greatly aid the student experience of the curriculum. This process would further allow for voices usually marginalised in a curriculum development process to exercise their agency, for the overall curriculum to have a more student-centred approach and as a result be experienced as more humanising (Cook-Sather et al., 2014).

In striving to work with students as partners to create an equitable and inclusive design process, I drew on the EquityXDesign framework (equityXdesign, 2016). A key tenet to the framework is the belief that to create an equitable product, the process must also be equitable. The framework provides five design principles: designing at the margins, starting with self, ceding power, making the invisible visible and speaking to the future. In this case study, the following principles proved to be particularly helpful:

- Designing at the margins allowed us to design for all students rather than the "average" student likely to be in the programme.
- The act of ceding power by more privileged participants allowed for marginalised voices to be heard.
- Making the invisible visible meant that different perspectives and lived realities could be discussed and considered in the design.

Figure 1

Equity by design framework (equityXdesign, 2016)



PCD in practice: A reflective case study

Tasked with designing a novel online programme for the incoming student faculty council members, my first port of call was to assemble a design team. The design team consisted of 15 student leaders and one student development practitioner (Christine). The student leaders were incumbent faculty council members with two to three students representing each of the six faculties at UCT: Commerce, engineering and the built environment, health science, humanities, law and science. The design team was a diverse group with 10 members identifying as black, three as coloured, one as Indian and two as white. Regarding gender, there was an equal split, with eight members representing as female and eight as male.

As this was the first time that the student leaders in the design team were involved in a curriculum development process in such depth, I had to provide training on key aspects of curriculum development and learning design. We began with a workshop, outlining PCD and ADDIE. More in-depth training was strategically provided in stages as the ADDIE process unfolded (Table 1). We met fortnightly to work on this project and meetings consisted of short theory inputs, briefing of upcoming tasks and reviews of tasks in progress.

The following table provides a summary of the PCD process followed for the SFCI programme:

Table 1

Summary of the SCFI PCD process

ADDIE phase	Themes	Activity (Laurillard's framework)	Artefact
	Introduction to PCD and ADDIE	Acquire	
Analyse	Introduction and theory input on analyse phase	Acquire	
	Conducting a training needs analysis	Investigate	Reflective report
	Big picture objective of Programme	Produce	Reflective report
	Developing personas	Produce	Personas
	Context of learning	Produce	Context description report
	Introduction to learning outcomes and constructive alignment	Acquire	
	Draft learning outcomes	Produce	Learning outcomes
	Evaluation of phase	Discuss	Meeting transcript
Design	Introduction and theory input on design phase	Acquire	
	Introduction to the Universal Design for Learning principles	Acquire	
	Design programme and activities	Discuss	Programme
	Ordering learning activities	Discuss	Meeting transcript
	Choose tools by considering affordance of tools	Discuss	Meeting transcript
	Creating an online community of inquiry	Discuss and Produce	Collaborative report
	Evaluation of phase	Discuss	Meeting transcript
Develop	Introduction and theory input on develop phase	Acquire	
	Make the materials	Produce	Presentations, videos, diagrams, written resources, FAQs, Handover reports, manuals, guidebooks, scenarios, case studies
	Presentation of materials for constructive feedback	Practice and discuss	Meeting transcript
	Evaluation of phase	Discuss	Meeting transcript
Implement	Implement	Collaborate	
	Reflect on implementation	Discuss	Meeting transcript
	Evaluation of phase	Discuss	Meeting transcript
Evaluate	Introduction to evaluation	Acquire	
	Evaluate	Discuss	Meeting transcript
	Evaluation of phase	Discuss	Meeting transcript

Analyse stage

This section provides a broad overview of the tasks conducted in the analyse stage of the PCD process. Here, attention is drawn to the contextual considerations and personas offered by five design team members. The contextual description and personas are of particular interest as they draw on the lived experience of student leaders in which the student design team members are considered experts (Ní Bheoláin et al., 2020). The names of the members have been changed for anonymity and confidentiality purposes.

From needs analysis to vision

The design team realised early on that the COVID-19 context had changed the demands on student leadership due to asynchronous remote teaching and the complexities of the pandemic. Thus, we went back to the drawing board to design a completely online programme. The team conducted a comprehensive needs analysis, consulting the following stakeholders:

1. Past and current faculty council (FC) members.
2. Key staff stakeholders such as faculty managers, communications managers, deans and deputy deans and any other staff who regularly engaged with the FCs in the course of their representative duties.
3. Student leaders such as class representatives or members of the students' representative council (SRC) who frequently worked with the FCs were also consulted. Any student leader who had enough context and understanding of the role as an FC member could provide input in this regard.
4. Broader student community: One of the FCs went as far as sending out a survey to their student constituency requesting feedback on what the SFCI should include.
5. Personal experiences: Finally, and most importantly, the design team members were asked to reflect on the experience of their own induction and their experience as a student leader especially in the COVID-19 pandemic context. Noting that the student design team members were themselves the experts in this regard, their reflections were vital in determining the content the programme should include and how it should be delivered in a fully online context.

We then conducted a visioning exercise based on the needs analysis to determine the big picture objective of the programme. The team was asked to develop a vision for the induction in less than 150 characters by describing their main purpose or hope for the induction. These objectives were discussed and synthesised into an overall objective which guided the design and development of the SFCI.

Developing personas

The next step in the analyse phase was for the design team to create personas. We selected the personas in accordance with the EquityXDesign framework principles to provide a diverse and inclusive sample.

Persona 1 developed by Sandile

This fictitious council member is a foreign-born but South African raised black heterosexual male who is not in any way politically affiliated or interested. He is in his late teens or early twenties & is passionate about collaboration across all disciplines/degrees within their faculty [...]. He has an understanding that the administrative processes of his faculty are vastly different from those of the university at large [...] and wonders how integrated his role and that of his faculty council will be with the rest of the university. As a [...] student, his timetable is very rigid and does not always allow for the flexibility required to consistently attend gatherings or meetings [...]. In light of this, he remains committed to fulfilling his mandate as per the constitution. His one wish is to find and execute impactful ways of doing away with student apathy towards student governance and student-led organisations.

Persona 2 developed by Ayabonga

Born and bred in a small village in the Eastern Cape province, this fictitious council member is a black heterosexual male who hasn't been in a leadership position like faculty council, not even any committee whatsoever. He used to think leadership is for everyone except scientists. On his first [...] field trip, his leadership was tested. He was appointed as a leader of his group. That's when he realised his weaknesses and strengths. The realisation drove him to want to test his leadership even more because he wants to be the best in his field of work. He decided to join the faculty council, he knows that people in that council would have leadership experiences that he would learn from. His weaknesses: He has a soft voice and his English is not good which affects his confidence. He is scared that other members would mize [sic] his ideas because of the two weaknesses above. He wished the council to be as famous as the SRC since he hardly knew about the council until late into his second year.

Persona 3 developed by Dane

This FC member finds themselves for the first time in a leadership position of this calibre or just a leadership position. Everything is new for them and they are still trying to make sense of everything while everyone else seems to be "woke".They have a passion for helping others – no doubt – but not sure how to utilise this passion effectively so that it translates to helping others; so they see this as an opportunity to challenge themselves knowing fully well that it will require much of them. He is prepared for the mistakes that he will undoubtably make but won't equally turn away from. The passionate but inexperienced FC member.

Persona 4 developed by Fatima

This fictitious council member is a young woman of colour who has engaged in a leadership position as a class representative in their first year. They are a combined-stream student so this is the first time they are taking up a leadership position in the law faculty. They are passionate about many of the issues students face but feel demotivated by the administrative burden and apparent apathy within the [...] faculty. She feels stuck because she is not able to develop a "know-how" in navigating various systems within their faculty and the university at large. She struggles to navigate committees where lecturers she is taught by disagree with the contributions made by her faculty council. She also feels undermined in these settings because she is a student. She works part-time on weekends and struggles to keep up with all the demands – both academic and in student leadership. However, she cannot afford to stop working.

Persona 5 developed by Buhle

This fictitious faculty council member is a strong black woman who comes from a very disadvantaged area with few schooling resources. She has always imagined herself as a great leader of the people, being a helping hand and speaking on behalf of the voiceless. She has therefore challenged herself during her school years to partake in leadership roles such as representative council of learners (RCL). She believes that your background doesn't define who you are. And she is very passionate and driven, very determined to bring change and be the voice of the voiceless. That's why she decided to partake in different leadership roles during her schooling years. Through these roles, she has learnt a lot of different leadership qualities. However, this was her first time serving and leading such a large group of students. She was therefore willing to help other students but also she was scared that she would end up making unnecessary mistakes as she [doesn't] fully know the expectations from her by the students. She [has] a busy schedule and sometimes it [is] difficult to attend meetings but her love and passion for the students challenge[s] her to fulfil her role to the best of her abilities. She [has] a great team working along her which help[s] her to strengthen her weaknesses and work towards improving them (Teamwork): "I would really appreciate if more students get to know about faculty councils because they are a great way of improving and learning about different leadership qualities which also contributes towards building the type of person you are", she commented.

These personas proved invaluable in understanding the experiences of student leaders during the pandemic. How these personas shaped the design choices made by our team is further explored in the design stage discussion.

In trying to specifically design with the new context in mind, we reflected on the contextual considerations that needed to be considered in designing the programme. The following are extracts from the design team's reflections. Participants emphasised engagement and inclusivity:

> *I believe that it is fundamentally important to ensure that whatever platform is used to have the induction is as inclusive as possible; it being non-synchronous, even if it is zero-rated uploaded recorded video on Vula [Ed. the institutional Learning management system] would be ideal. With that said, the content that really describes the functions, mandates, responsibilities and structures of faculty councils are buried in long, uninspiring and, sometimes, not reader-friendly documents. Thus, the inclusion of student-developed videos, personal accounts & attractive, reader-friendly and inspiring [explanations need to be included]. (Sandile)*

> *I think we can offer a one-on-one portfolio section where the incoming chairs [have] Q&As with the current chairs. I think this will ease anxiety. (Ayabonga)*

> *This is most probably the first time the FC program will be conducted virtually. […] With this in mind, there will be a need for asynchronous engagement with the content we will be presenting. For example, recordings of different parts of the program as opposed to one long video. This is to grant incoming FC members the assurance that they will have a source of information and guidance that they can refer back to and select the videos relevant to them at the time. (Dane)*

Participants also emphasised ease of engagement and finding enjoyment in the programme:

> *When designing this programme, our main aim should be empowering future student leaders and not merely aiming to be informative. Knowing processes but also being taught tips and skills to overcome unforeseen practical obstacles should also be prioritised. We can ensure maximum attendance by prioritising the production of resources that are cell phone friendly. Engagement should be made as easy as possible with outputs being the main concern. Contextual factors we should take into account are data and resource concerns. Looking at creative ways to engage in low-data platforms like WhatsApp and Google Forms could be considered. We should aim to deliver content in short and concise manners where engagement is seen as a learning opportunity instead of a task. We should focus on practical scenarios and application of rules, policies and strategies in such circumstances. (Fatima)*

> *I believe that in order to ensure that a large number of students attend we should ensure that we make this programme as fun and attractive as possible. We should therefore include eye capturing posters to inform students about it not just send a long email which can be boring at times. And we should adopt measures such as making audios to explain policies and rules as this will make it easier for everyone. So that they can be able to listen to the audio on their cell phones anytime they want to. And we should take note of the data and connectivity issues hence I think zero-rated platforms (e.g., Vula) should be used so that students don't have to struggle accessing the information. (Buhle)*

Many of these reflections went beyond the ambit of the initial task, reflecting on the context and started considering how the programme design could be adapted to solve for the contextual challenges. These reflections and design recommendations proved useful in decision making discussions in the design stage that followed.

Design stage

In the design stage, we carefully considered the insights garnered from the analyse stage by drawing on the personas and contextual descriptions which revealed the experiences of student leaders. Consequently, several design choices were made:

Temporal considerations

Sandile depicted a rigid academic timetable, Buhle a busy schedule and Fatima described a persona who needed to work on weekends to sustain herself financially which made attending synchronous online events difficult. The important insight gained here is that students had competing factors that required their attention and time – this needed to be considered when designing the SFCI. Therefore, an asynchronous programme that is student-paced, whereby a student leader can work through the online programme and material at their convenience is a key design consideration. This consideration aligned with the guidelines provided by the UCT framework for remote teaching during the COVID-19 pandemic.

Engagement and Community of Inquiry

Sandile reflected on the need to understand the relationship between the various faculty councils, the SRC and the institution. There is an interest expressed here to collaborate across student representative structures to fight student apathy. This can be achieved through encouraging participant engagement and the creation of a Community of Inquiry which would create the understanding and trust to work together on tackling institution-wide student apathy.

Lack of experience

Ayabonga described a persona that has never been in leadership prior to being elected to the FC and acknowledges that this persona can learn from their fellow FC members who have more leadership experience. The creation of a Community of Inquiry, where students can "collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding" (Garrison, 2017, p. 2), is vital in creating a trusting environment to facilitate this peer-to-peer learning.

Also, Buhle identified the importance of team building and working collaboratively as a team to succeed in student leadership. Team building in an online space would need to be intentional and the creation of opportunities for the social presence element of the Community of Inquiry would greatly aid the building of teams in the online space.

Feelings of alienation

The fact that students were feeling disconnected from the institution and each other as well as the anxiety created by all the uncertainty and challenges brought on by the pandemic would also need to be considered and addressed. Ayabonga suggested providing opportunities for student leaders to engage with their portfolio counterparts to decrease anxiety around what is expected of the new student leaders. Fatima took this idea further by stating that the SFCI should aim to not only be informative but also empower student leaders. She explained that students can be empowered by peers sharing tips and teaching skills.

Fatima further advised that all opportunities for engagement need to be as easy as possible and the design team must consider creative ways to ensure engagement occurs despite the asynchronous and online nature of the programme as this is paramount for the success of the programme. Online tools that facilitated engagement on multiple themes in many modes would need to be incorporated.

Student discourse and agency

Language is a factor raised in Ayabonga's persona. By deciding that design team members should utilise informal language in their videos and materials, a relaxed space was created where students could engage to co-construct meaning and understanding. Also, the engagement on the learner management system (LMS) was run by the student design team members which meant that the student discourse was consistently used across the programme.

Fatima's persona described a student leader who feels undermined by the power dynamic between staff and students in university committee settings. Hearing from peers about how they successfully navigated the power dynamics with staff whilst in student leadership is invaluable and motivational. Sharing these experiences would inspire and motivate the student leaders to exercise their agency in representing students in committees.

Maintaining interest

Both Buhle's and Dane's personas painted the picture of a passionate student leader who is not sure how to translate that passion into making meaningful change for their student constituency. The online SFCI needed to connect with that passion whilst also providing student leaders with the knowledge and skills required to be successful FC members.

As a starting point, Buhle correctly identifies the need to gain the student leader's attention in an interesting and motivating manner to invite them into the SFCI learning space. The online programme then had to be designed in such a way as to convey all the key information in a manner that was not "long, uninspiring and [...] not reader-friendly" (Sandile). We needed to keep the student leaders engaged with the material without losing their passion or interest

along the way. The content and its delivery had to be interesting, stimulating and fun. One way was to have peer developed materials for students to work through that were created within the student discourse using local and relatable examples. Sandile goes on to state that personal accounts and “attractive, reader-friendly and inspiring” explanations should be included. Examples and scenario-based questions should be developed based on a current student leader’s experience to ensure they are relatable and most importantly make them of interest to the student leaders undergoing the programme.

Dane suggests avoiding long videos but to rather have concise and content-specific videos that student leaders could easily refer to at a later stage should the need arise. Fatima builds on this idea by stating that the content should be delivered in a “short and concise manner where engagement is seen as a learning opportunity instead of a task”. By incorporating practical examples, scenarios where rules and policies can be applied and providing possible tips on strategies that can be embarked on, the content is made relevant and relatable and the student leader’s interest is maintained.

Inclusivity

Sandile identifies the need to ensure that the SFCI is as “inclusive as possible”. Again, in designing the programme, Fatima advises that resource and data constraints need to be considered. To ensure socioeconomic challenges do not prevent students from engaging with study materials whilst at home during the pandemic, the Department of Higher Education and Training negotiated for university websites and LMSs to be “zero-rated” for data usage i.e. there was no financial cost. Sandile correctly identifies the need to ensure that content, links and videos were embedded within the LMS in such a way that they could be engaged within the parameters of the zero-rating.

Fatima states that to ensure an inclusive learning environment, all aspects of the programme featured on the institution's LMS should be mobile-friendly. Buhle advises that the method in which content is delivered should be multimodal to make the content accessible and user friendly to the student leaders in the programme. The multimodal delivery of content would allow for a student leader, who could not play a video as their home environment did not allow for this, to then read the transcript of the video, listen to just the sound of the video or read the captions as the video played. As determined through formative feedback as the process unfolded, home environments were often shared environments where students had to be cognisant of those around them when playing videos, as well as taking into account that often students had to use the quiet night hours to work through the programme as they had siblings and family members to tend to in the daytime.

Develop stage

Having determined the learning objectives and content of the programme in the design phase, we now turned to developing the materials, videos, graphics and resources for the SFCI programme. Noting that the university LMS had been zero-rated and was well known to the student leaders undergoing the programme, it was not a hard decision to opt to host the online programme there. The content themes that had been identified were allocated among the design team members. Each design team member was required to research the topic, develop slideshows and accompanying resources such as guides or diagrams. Members were encouraged to call on other design team members for guidance or assistance especially regarding providing relatable examples. As a mechanism of quality assurance, all materials were reviewed by the full team and formative feedback was given to each design team member. Members found this feedback process constructive and insightful.

Furthermore, whilst an overarching structure had been pre-populated onto the LMS to ensure consistency across themes, design team members were required to upload and construct the sections of the LMS that they had been responsible for. This assisted in ensuring that the instructional text and content remained within the student discourse. Once the final materials had been uploaded, a comprehensive LMS site testing was conducted by the design team to ensure consistency and that all the links worked, and that content was viewable and accessible.

The thematic content was further supported by numerous engagement tools to ensure the possibility of a Community of Inquiry within the site. The following engagement tools were built into the LMS:

- A *chatroom* for all student leaders in the programme to communicate and engage. The chatroom was seen as the informal space within the LMS for student leaders to chat amongst themselves and served as a space for the social presence to emerge.
- A *question and answer tool* where student leaders could pose questions which would be answered by the respective design team member responsible for that FC.
- A *forum tool* where different forums could be created with scenario-based questions; these could be discussed and unpacked.
- A *comment tool* was embedded at the bottom of each thematic section so that questions could be posted on a specific theme.

It is worth noting that the Universal Design for Learning (UDL) principles of Engagement, Action and Expression and Representation were all woven into the programme. This was remarkable as none of the design team members had been formally taught the UDL principles. What seems to have occurred was that, in an effort to ensure that the programme was inclusive and equitable, design team members drew on their own lived experiences and instinctively wove these principles into the programme. This bears testament to how a PCD approach with students as partners can create a more humanising and inclusive learning design.

Implement and evaluate stage

Student design team member involvement was crucial in the implementation phase as the design team was required to be present and communicate with the FC members undergoing the programme through the various engagement tools built into the programme. This constant design team presence also allowed for formative feedback to be provided as the programme unfolded and for immediate and proactive amendments to be made to the programme. Insights could be garnered from the types of questions posed by the student leaders and as a result the programme content could be amended. Use of the of the Site Statistics tool on Vula was helpful in determining any unforeseen issues or in checking in on FC member's activity of the site. For example, we were able to follow up with FC members who had not yet accessed the site or who had done so seldomly. Any problems identified through the constant formative evaluation of the programme could be immediately solved with a student experience lens. Furthermore, the programme could constantly be improved through either content addition or an agile intervention being put in place.

Concluding discussion

In reflecting on the case study, the benefits of adopting a PCD approach to online learning design were numerous. Working with an extremely diverse team in terms of race, gender, socioeconomic standing, cultural background, academic discipline and year of study, a multitude of perspectives and lived experiences could be considered when designing the SFCI. The diversity of the team allowed for the inclusion of marginalised perspectives and allowed the design team to co-create taking a variety of intersectional factors into account in the learning design process. Drawing on their own lived experience and those of their peers and constituents, the design team was able to create a curriculum that was extremely relevant especially to student leaders leading during the COVID-19 pandemic. The relevance of the curriculum was further enhanced by real-life examples from a local and relatable perspective. The programme was made more accessible and inclusive by being presented within the student discourse.

By incorporating students as partners into the PCD process, those students who formed part of the design team were highly invested in the success of the programme. Their enthusiasm in turn spilled over into the FC members who saw peers being inspiring which resulted in greater participatory interest in the programme. This ultimately led to the programme's success. Finally, what is most evident from this case study is that a PCD process with students as partners can enhance a learning design process and cause more inclusive and equitable programmes.

However, adopting a PCD process with students as partners does not come without its own challenges. As noted by Alexander and Hjortsø (2019), a diverse design team with varying experience, backgrounds and expertise can result in a complicated social negotiation when designing the programme. The diverse nature of the team in this case study in

terms of race, gender, socioeconomic means, academic discipline and year of study made for robust discussions. These discussions were centred around the harsh realities facing students in the COVID-19 pandemic context and how student leaders as representatives of students needed to be prepared on sensitivity to lived realities different from their own. Discussions included the ability of student leaders to be able to support and assist students in what were very challenging times. Whilst difficult conversations were had and social negotiation took place, it is our view that these difficult conversations were executed respectfully and resulted in the team creating its own learning community. The learning community in turn became a safe space that was both supportive and nurturing.

Alexander and Hjortsø (2019) advise that a multidimensional and multidisciplinary PCD process can result in "chaos, such as breakdowns, conflicts or misfits" (p. 302). We were fortunate not to have experienced conflict but certainly some breakdowns in communications or the chaos associated with deadlines not being met resulted in delays. It should be noted, however, that because we were working in the challenging times of the pandemic, understanding and compassion were key principles underpinning the working relationship of the design team and this is likely the reason we were fortunate to not have experienced conflict. Where members of the design team faced challenges with a particular task, the others would offer to support and assist accordingly.

Another consideration is that the additional complexity of a PCD process with students as partners can result in longer design timelines. Working with students on a PCD process requires that students be trained in the elements of curriculum development. Furthermore, in an effort to yield an inclusive design product, the design process must also be equitable (EquityXDesign, 2016). To ensure an equitable design process, I, Christine, had to cede the power inherent in my positionality so that the students could be true partners. This was necessary to empower marginalised voices to engage fully and properly in the design process. This process of ceding power, although vital, took time and required trust. PCD is an extremely valuable process and has been shown to lead to more inclusive and equitable programmes but comes with its own limitations. Adopting a PCD approach requires time, capacity and resources that may not always be available to a learning designer.

In conclusion, it is the hope of the authors that this case study will inspire learning designers to broaden their praxis through the exploration of more humanising practices such as PCD and students as partners.

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9

“Open Mind, Open Heart and Open Will” – Applying Theory U for developing meaningful learning in the context of COVID-19

Sandhya Gunness & Rubina Devi Rampersad

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Teacher Education | Teacher Education Leadership | Higher Education | Learning Design | Theory U

Chapter in brief

In this interview, Sandhya Gunness and Rubina Rampersad from the University of Mauritius, discuss their adoption of a Theory U approach to learning design during the COVID-19 pandemic. The discussion unfolds to reveal the unique challenges faced by the small island of Mauritius, with a shrinking student population and the emergence of private universities. The interview delves into the equity concerns arising from the shift to online learning, highlighting the challenges faced by their course participants in their own individual teaching contexts. The interviewees surface the subtleties of societal differences in Mauritius acknowledging the challenges and nuances within their community. The core of the interview revolves around the Theory U approach adopted for their education leadership module, emphasising the importance of building relationships over the duration of the course and creating supportive learning environments for adult learners. Sandhya and Rubina share their experiences of creating a space for open communication, vulnerability, and intense collaboration. The emphasis on care, empathy, and meeting students where they are becomes a key takeaway for learning designers, highlighting the necessity of building relationships and adapting to diverse student needs.

In this interview, I (Shanali Govender) have a conversation with Sandhya Gunness and Rubina Rampersad from the University of Mauritius (UoM). In this interview, they talk about applying Theory U to develop meaningful learning in the context of COVID-19.

Can I ask each of you to introduce yourselves, tell us a little bit about where you're based, what you do and perhaps how you came to this project?

Sandhya: Thank you Shanali for giving us this opportunity to present one module that we've taught during COVID-19. I work at the Centre for Innovative and Lifelong Learning (CILL) at the UoM. We have both been at UoM for more than 20 years, working as learning designers on education technologies and education leadership programmes. While I'm more linked to education technologies than education leadership, we were provided with an opportunity to collaborate with the University of Seychelles and launch the Master of Arts Education Leadership Programme. The programme draws heavily on open educational resources from the Commonwealth of Learning. Most of their content is open access which we can reuse, and adapt based on our contexts and collaborations.

Rubina and I have also participated in the African Leadership in ICT programme where we used The Futures Wheel, and realised the importance of futures thinking and seeing the educational landscape unfold. While researching further came across Scharmer's (2009) Theory U, which I wanted to apply within the Master of Arts Educational Leadership programme because I felt that our students (heads of schools, or teachers with many years of service) needed that reflective approach to understand how to deal with the COVID-19 situation. They needed a more compassionate approach, breaking away from anchored teaching methods, and seeing the education system with fresh eyes..hence the Theory U approach.

Rubina: I'm Rubina Rampersad, I joined UoM 25 years ago. From my background, literature, I re-engineered into instructional design and eventually into educational technology. My core role at the university is working with the industry. We design a lot of training programmes that are tailor-made for the industry. And what I have been doing over the past 20 years is to listen to industry needs and try to design programmes that are really tailor-made for them. We don't try to impose our model on the industry, we let them speak first. We've been designing programmes that are very responsive to their needs and we have been introducing, gradually, things that were not easily acceptable at the university but because they were industry-led, we've been able to introduce, gradually, some innovative programmes. We've been very careful to introduce innovation gradually to make it acceptable and we hope that eventually these changes will be more widely accepted in the university.

It sounds like you have a number of strategies for thinking about learning design and change management. That's something we'll come back to in a moment. Before you dive any deeper though, could you tell us a little bit about the context in which you are designing?

Sandhya: We are a small island of 1.4 million people and our universities bring development to the island. Given the absence of high-value natural resources, a key resource the country has had to rely on is human capital and Mauritius has invested heavily in education through the welfare state which provides free education at all levels (Ramtohul, 2016). So, it's mostly courses which are responsive to the needs of a globalised world but we have been able to diversify in terms of agriculture, engineering, law and management, in terms of ICT, off-shore services and finances. So, we have many baskets where we are investing our human resources.

The public universities eventually respond to these government-driven needs. Universities, especially the UoM, but we have our own Act which defines the objects, powers, functions and structure of the university. We have our own senate and we have our own council that governs all the decisions taken at the university. While the different faculties offer highly specialised and discipline-specific courses, at CILL we have more flexibility to be interdisciplinary given that our academic board comprises faculty members as representatives and together we can come up with more innovative programmes. At the Centre for Innovative and Lifelong Learning, we have the ability to offer these courses a bit more freely. We can reach out to industry, and work in more autonomous and collaborative ways. We are the oldest established university and have the biggest campus. Right now we have around 9,000 students but registration is reducing because a lot of students prefer going abroad. Even with COVID-19, we did not have as many students come back to the university as we thought. Additionally, there are a lot of private universities coming up so we still have to fend for getting students on board, especially in the education fields because we also have the Mauritius Institute of Education (MIE) education and they have been mandated to provide degree- awarding courses to in-service government and Aided-School teachers, which means that the students who would join the MIE for degrees are sponsored and need not pay fees as compared to the UoM. Although, in the past two years we have reduced our fees and undergraduate

students are paying only an administrative fee which is very low. So, basically, our income is from the master's level courses.

Rubina: Tertiary education is free in Mauritius. The advantage we have at the UoM as Sandhya mentioned is that we are the oldest university so we are lucky to get the best students who will be exiting from the secondary level, so it's quite competitive as well. Not only are there many alternatives for post-secondary education but also we have an ageing population so we are going to have fewer people joining primary school, secondary school and eventually tertiary.

So, the problem is a bit more complex. We are living in a competitive world and it's going to be tough in the future to attract students so we'll have to be better, more competitive and innovative. We also have a few international students who are with us on our programmes. And also, they are also on campus as well, from Africa and some doing medicine from other countries as well.

I hadn't thought of Mauritius as having an ageing population.

Rubina: If you look at our population pyramid it's changing, it's changing completely. So now Lifelong Learning is the target. This is what our centre is doing. We are seeing the lifelong learning market as an emerging market and this is where we are putting all our energy because people are going to come back for training, recycling, re-engineering of their degrees so this is where we tap into.

So, that gives me a bit of a sense of what the higher education landscape is like in Mauritius. Can you tell us a little bit about specific equity concerns for your context?

Sandhya: I guess it's quite similar for many institutions. I think many of us realise that even if we were in education technologies, our actual reach into school educators was quite limited. As pioneers in Educational technologies, we had produced most of the educators who were then seconded to duty at the MIE for relaying their skills to teachers in government school, thus cascading (perhaps diluting) our teaching to teachers. And during COVID-19, there's these new voices coming up and saying, okay, this is how education technology should be, especially with education going online.

And staff teaching online for the first time thought "Oh, this (Zoom classes or video conferencing) is what e-learning is about!" and actually it wasn't at all what e-learning was about. They were using Web conferencing tools as a window into their classes. In terms of equity of access, these teachers could only reach out to students who had access to the internet, or did not have to share their devices with siblings. During COVID-19, the activity-based approach should have been favoured, but teachers were not trained to let go of their synchronous ways of doing things. What was an issue for our students was that they had to change their modes of working and that cognitive load did impact on the quality of their work, the quality of collaboration that they could have and the quality of group work that we had already been embedding in our courses.

Equity wasn't as much of an issue as much as quality was — the quality of responses, the quality of research. As these were in-service teachers working together, the time they had available for class tasks was limited. Their home and work responsibilities took participants away from studies at CILL. And I guess the interest in studies also went down, priorities changed, these educators 1were not so much into spending time on their own learning when they had their own students who were not able to learn. So, I think that took some toll on their time.

I'm hearing that over the COVID-19 pandemic there was a shift in the priorities of your more adult students, your masters students and so on. Tell us more.

Rubina: Yes. Because they also had their family obligations. They were wearing so many hats. In 2020, we interviewed teachers from different backgrounds, including those from Zone d'Education Prioritaires. That is schools where children have very low levels, they come from broken families and challenging circumstances. And the teachers were in distress because they could see how their kids were missing out. They were dealing with a lot of distress and they knew some things were not going on as they should. It was a very difficult situation. So, we had a lot of "Once the lockdown is over we are going to do this, we are going to do that." We don't know whether they did it eventually, maybe we have to do a

follow-up interview with them and see but there was a lot of stress. And teachers were at the forefront as parents, as teachers, and administrators.

Sandhya: And you can also say there were two types of teachers. Teachers who saw it as a challenge and really wanted to investigate and explore. At the same time, you also had teachers who were totally at a loss. They didn't know how to connect to students and how to talk to them online, how to even turn on a computer, for example. So, you had these two types of people.

Am I right in thinking that your participants approached it as a challenge?

Sandhya: Yes. I think because our educators come to the course, like Rubina mentioned, they come to the course because it is online, because it is flexible. Well, they think they will be able to get the ropes, how to use the technology.

Rubina: And some are aspiring principals, deputy head teachers, so they do it because the course counts in their promotion. So, it's not just because they want to change the system, to be change agents, no. But they have an interest, a personal interest to do it.

If I think about your participant group, it's a group of head teachers or aspiring head teachers perhaps, and one of the dimensions of difference that you're identifying, intrinsic or extrinsic motivation, is a very internal one. Even in relatively homogenous groups like your head teacher group, there are these dimensions of difference. Sometimes schooling, sometimes the kind of schools that the head teachers come from.

Rubina: And you have a difference between public schools and private schools. Maybe in government schools, they would be more inhibited, they'd be afraid and in private schools, they would be more free.

So, another dimension of difference you're highlighting is the location of the educator. In the Mauritian context, how did the classical dimensions of difference surface? So, are there issues of race, class, gender that surface in your context?

Rubina: It's subtle, it's not obvious. Maybe the outsider will see it more.

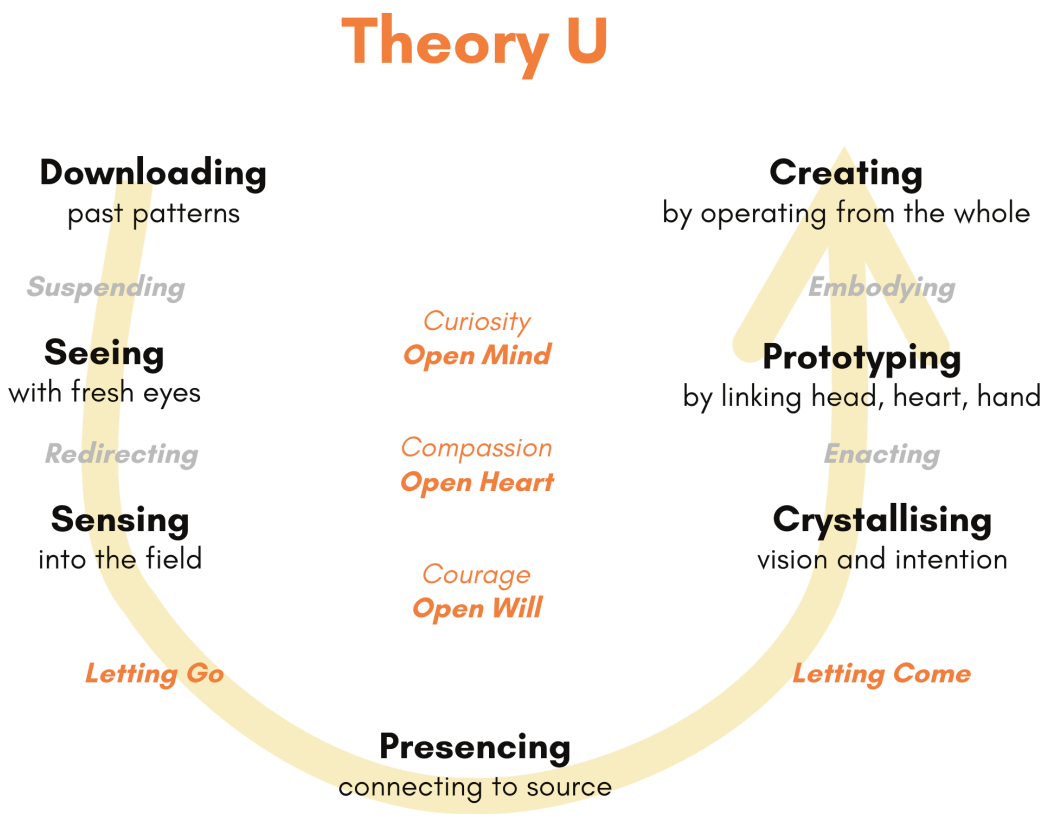
Sandhya: It's also something to do with the small island state that we are in and everybody knows each other but yes, within your own circles. But you need to manage these intimacies, it's called managing intimacies in the context of small states (Bray, 1991, pp. 21–25) actually, and where you are wary of what you say in public but then within your small groups you would have a different sort of discussion. But in terms of education, no, education is free and it is open to everyone and it's by law, it's compulsory to be in school till you're 16.

Rubina: Sometimes the issue can be race but sometimes the issue can be class. So it depends on the issue at stake, then it can shift from race to class. It's very subtle, we juggle with it.

And sometimes it's the complex interweaving of those two things. If we take as given the complex context, created by intersecting dimensions of difference, what was the gap, the space, the triggering issue that you were trying to respond to in your design of this particular programme and workshop?

Figure 1

Theory U by Presencing Institute CC BY SA



Sandhya: So, we were in a COVID-19 situation, heads of schools or teachers who are taking this course are losing ground at work and losing touch with the course. I thought that our module on leading education systems needed a change management approach which was not the usual approach. We needed to bring them back and motivate them into something different.

I came across Theory U (Figure 1) from Professor Scharmer, at Stanford, who proposed it as a change management tool. Theory U is a social methodology that integrates systems thinking, leadership and organisational learning from the viewpoint of an evolving human consciousness. Theory U focuses on enabling change - and we had to shift people's ideas about online teaching — that it is more than video presentations and talking heads or digitising normal classroom practices. Wanting to make an impact, we had to ensure that our target audience understood the difference between decision-making and sense-making, and in this case, about technology integration in their modules. Theory U allowed for "cracks" in the system to become more explicit and could be implemented as an important learning design principle for educational leaders, educators and graduate students, in general, to delve into their "interior conditions".

Theory U pointed us in the direction of "seeing with fresh eyes" and "sensing into the field". We asked "how do we bridge the equity gaps, how do we reach out to students?". It was important that our educators realised it's not just giving notes and getting students to learn things on their own. They had to realise that the situation, the context was different — that their own pupils needed a bit more in terms of human understanding. One of my friends would start her course by asking, "Have you eaten?" Because the shops were closed, some people had to line up for long hours to be able to get some groceries. It was quite a very different situation. This was her way of "presencing" in the situation.

I think we needed to have a more human approach and a bit more of an understanding when the teachers would be thinking eventually of the future of and in their schools. I saw the module as an opportunity for them to rethink the way things have been going through and whether there were changes that needed to happen — lack of teacher empowerment, for example, they're not at all empowered to make decisions or voice out their perspectives.

Now that schools have resumed, teachers are very happy to go back to school but how have they managed? Nobody has taken stock of teachers' experiences from that time. And I think that that's an important discussion to have. And it's more the human touch that we need to bring back into the school, into the education system, the values. Because the way the teachers are going to be talking to the students, to their pupils is going to impact on the pupils. We just need to get that circle a bit more virtuous than vicious. We wanted to have these ongoing discussions so the assignments were not assignments anymore, it was more of discussions, dialogues, and things that we wanted teachers to come up with from a deeper perspective, I would say.

Rubina: I'll just add that we had to make sure that we were walking the talk. When we told our participants that they had to do something with their students, we had to be sure that we were doing that as well with them. So, we had to have that listening ear and be there for them, be available, then be flexible in our assignments and listen to them.

I also encouraged them to open up during the classes as nobody is going to judge. There are no right and wrong answers. so that when they go back in class they see the value of what we've been doing with them and then they can replicate that in the classroom if possible.

What I'm hearing you say is that the workshops were driven by open communication and application in the local context. It sounds like you had yourselves, your students but also all of their students present in that space.

Rubina: We were able to know their story. They were bringing their story to the class so we knew everybody's context. So, it was interesting and it added to the discussion. But it also made us very vulnerable. The two hours on Zoom were lively sessions. We gave them the floor and they were just so happy to just share. And we were listening and that's what was important, listening to them.

What it's like to be in a situation where you are working with head teachers as students, as participants. It's a pandemic scenario, where everybody is incredibly pressured, stressed and traumatised in a range of ways. Holding that, being the workshop leads, being the people who created the design, imagined the design, held the design, what did that ask of you?

Rubina: When I was doing my Zoom session, I had to anticipate that students would be asking me different things and I created folders with reports, articles, because so much was happening around us. We were "stalking" famous researchers and looking at the materials they were sharing. That was our community of practice. That was our resource!

These materials were so handy when we were doing the Zoom sessions because we were creating a community, there were eye-openers. If you look at the PowerPoint that I was sharing during these Zoom sessions, I'd just quickly add links to articles based on discussions during the session. Although this started as my document, at the end of the two hour session, it was something else, it had grown. I'd be adding comments, putting in question marks or images. It grew by maybe 30 or 40% from what I had at the beginning of the session. So, it puts us in a vulnerable situation but you need to be prepared. And you had to have an open mind, open heart, open soul — you had to be ready to be challenged.

And I told them, it's okay because I'm not a primary school teacher, I'm not a secondary school teacher, I don't know their context. And they're free to tell me when I don't understand their specific context and constraints. This is our reality. So, I had to put myself in that very vulnerable situation.

Sandhya: I think it's also about the teachers having the misconception of what is teacher-centred and what is learner-centred. So, for them, when they are teaching they're teaching to their students and they are learner-centred but having just that one-way flow is what they have always been doing and they don't know the two-way or they won't accept or encourage it. Eventually, we're trying to get away from this notion that the teacher knows everything and we want the teachers to bring in their students to participate, to contribute to the classroom.

They talk about this in theory, in reflection, but they don't really do it in practice, they don't have the time, they don't have the space for it. And technology further complicates the situation. Perhaps they feel that the students are overtaking

them in terms of technology, so how do they then manage the students who will say, okay I can get better content outside classrooms?

It sounds like you were very aware of your participants' contexts and that as facilitators, you were comfortable to create a culture of powerful vulnerability.

Rubina: It would have been very presumptuous on my part to say that I understand the primary school setting because I know the context is different there, broken families, resources, imposed curriculum and unions. I wanted all this to come out in the discussion. And we even have a few students who are working at MIE looking at curriculum design in primary schools.

It's just fascinating to me because it sounds like you've got a cultural gap.

Sandhya: Actually, it's a bond — a bond that really binds these people to old ways of doing things. And people don't want things to change because this status quo helps them to not go beyond what they can do, especially, I think, during pressured periods. People wanted the status quo, they wanted things to stay as they were and not be too disruptive for them. I mean, perhaps the new teachers when they have access to, if they're interested, they would want to change things. They would have their own peers who would say, "Why are you bothering yourself with that? Just enjoy what you're doing, just follow the syllabus…". There's lots of peer pressure in schools where some teachers don't like innovation or changes in their usual habits.

And especially, because it's a small island state, because it's a place where either you conform or you become marginal. We're very social beings, home is very important for us. The school system is a very traditional one and getting out of that tradition is a big step.

So, if you think about this process and if you think about both the design that you created but also your experiences of it, what would be your takeaway from that that you would want other learning designers, other folks leading courses to really focus in on?

Sandhya: For me, the care. All the time it was caring. We have human beings who have loads on their backs. So, we have to pay attention. So, empathy and care. It's a duty. It's not something fancy. I think central is care. And you can get them to do so many things, it's a relation of trust that you build with them and then it goes on smoothly. Because then even if you introduce something more to them, it is acceptable so long as you can justify and explain it.

Rubina: Yes. Sandhya was my lecturer when I did my Masters of Science in Educational Technology and she, I think, two weeks before the deadline for our viva voce she said, "Let's do a pitch, a PechaKucha" and everybody complained. She makes us do creative things and I know she has an intention and that intention is noble and pure.

You know working with Sandhya is crazy and fun, she comes up with new ideas often. So, because we have that relationship of trust I know she was not an unprepared lecturer or unorganised. Just she wanted us to do something different.

Sandhya: What I learned was to not be so disruptive. There are very few students like Rubina, obviously. She jumps in and she drives the group.

Rubina: I think that's a balance that we have to build in the class. When I do a class with the students I tell them first to let go. But some can't let go, they need that comfort zone, they need that scaffold. So, we have to be able to use judgement. And I also tell them that I'm okay with the difference. I'm not happy with conformity. I think these are the seeds that you have to sow at the beginning of your classes and tell them your expectations are different.

When we have multimedia students we tell them, you must think differently because if we all think the same we're not going to evolve and this is what we sow in their brains, eventually. But the scaffold is necessary for some but we also make room for the difference. We build, we encourage.

Sandhya: And I think that as a learning principle, the idea of meeting students where they are in terms of understanding and pedagogical approach as the starting point. Then you can gradually hold their hands, be at their elbows and guide them to where you want to get them. They really need a lot of support and hand-holding.

Rubina: For the Master of Science in Educational Leadership we had only 15 students but when you have classes with 60, meeting them only via Zoom sometimes with their camera off, it's like talking to a wall. And after 15 minutes you're drained.

So we had to break them into classes of five and when I met them in small groups it was so interesting. I was meeting human beings with interesting backgrounds, 18 year olds who had their own business, who had interesting lives and who were doing social work. And these things don't come out unless you meet them more intimately somehow.

You need to see as a lecturer what works out and how to reach out to them. You have to. So, somehow you have to get to know your students. I think there's no way out. There's another relationship you're going to build with your students. After each Zoom session, I would be exhausted. You're so passionate, there's so much passion. Each time I had a Zoom session I wouldn't sleep that night because it was so intense. The energy was palpable.

Sandhya: And there's no easy, quick way to do that. You need to get involved as much as the students need to get involved as well.

Rubina: It involves a lot of time.

My takeaway from your design is how incredibly personal it is and how much you have to show up in those sessions and how much you're demanding that of your students. Reflecting on your experiences of using Theory U, are you continuing to use it, and how do you feel about the use of Theory U in other contexts?

Sandhya: I will definitely reuse Theory U, although I'm seeing more and more critiques of it, which means that it's still very much alive and kicking. But eventually, we need leaders who understand the importance of stepping back, taking stock of the situation and having the courage to admit to deficiencies in the system. Theory U does exactly that with a very good dose of Pedagogy of Care, so there's quite a lot of opportunity to use with a mature crowd of students who can understand the value of sensing and presencing – and how your presence has an importance and can make a difference.

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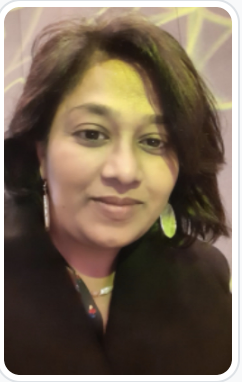

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Did my first degree in Physics from the University of Mumbai. Came back to Mauritius and joined the University as a Lab technician -Physics Department, then joined the Virtual Centre for Innovative Learning Technologies (now Centre for Innovative and Lifelong Learning) moving up from Instructional designer to Senior Lecturer in Open and Online learning since 2014. Have been doing consultancies for COMESA, AUF, COL, in Digital Literacies, Learning design and Moodle. Have been teaching and Coordinating on the MA Educational leadership Programme in collaboration with University of Seychelles. Also teaching on MSc Educational Technologies programme at UoM. Current Research interests include Collaborative Learning Networks and Inner Development Goals.

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10

Designing and adapting for community with Intentionally Equitable Hospitality

Maha Bali & Mia Zamora

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Equity | Social Justice | Critical Pedagogy | Community Building | Pedagogy of Care (POC) | Intentionally Equitable Hospitality

Chapter in brief

In August 2020, Equity Unbound collaborated with OneHE to curate community building resources for online teaching. We, Maha and Mia, together with Autumn Caines, in our roles as leaders of Equity Unbound and Virtually Connecting, were the lead curators. The resources themselves were a response to multiple global inequities. In the context of the pandemic, community building was more important and urgent than ever, it needed to happen online and few people knew how to do it well. The OneHE-Equity Unbound resources were created and shared with Intentionally Equitable Hospitality (IEH) with the following in mind: anticipating potential inequalities faced by learners and offering adaptations for educators according to their own context. Diverse educators from the Global South and North were involved, so the creation itself was an inclusive process. In this chapter, we start by describing Intentionally Equitable Hospitality (IEH) followed by our experiences of practising it when doing introductory activities, warm-up activities and finally ongoing engagement and Liberating Structures.

Introduction

Equity Unbound is an equity-focused, open, connected, intercultural learning curriculum we co-founded with Catherine Cronin. In August 2020, Equity Unbound collaborated with OneHE to curate community building resources for online teaching. We, Maha and Mia, together with Autumn Caines, in our roles as leaders of Equity Unbound and Virtually Connecting, were the lead curators. The first resources were published in August 2020 and the collection has continued to expand significantly with contributions from educators around the world. The resources themselves were a response

to multiple global inequities. First, many educators worldwide were going to teach fully online for the first time for a full semester starting August/September 2020, but most of them had insufficient experience doing so. Second, educational development staff worldwide were overloaded and some educators did not have access to enough educational development support within their institutions – this project supported both the educators and the educational developers. Third, all of this was happening during a pandemic where students and educators worldwide were experiencing varying levels of trauma and were likely to have high socioemotional needs due to physical or mental illness, uncertainty and the lack of a normal social life due to pandemic lockdowns and safety measures.

In this context, community building was more important than ever, it needed to happen online and few people knew how to do it well. Moreover, just because "we were all online" did not mean institutions, teachers or students had access to the same resources. And how might a set of “resources” fit into varying cultural and institutional contexts for learning? As an example, the inconsistency of internet connectivity is a reality for many in Egypt regardless of socioeconomic status, and many learners and teachers at American University in Cairo, where Maha works, are non-native speakers of English, learning fully in English. At Kean University, where Mia works, students are diverse in many ways, including socioeconomic, linguistic, race and identity differences which requires more nuanced intentionality when building community in online environments. Creating a resource that was open access would meet an economic professional development need for those who may not have the resources at their institutions. But to be truly open, the curated resources needed to be adaptable to various cultural and resource contexts.

The OneHE-Equity Unbound resources were created and shared with Intentionally Equitable Hospitality (IEH) (Bali et al., 2019) with the following in mind: anticipating potential inequalities faced by learners and offering adaptations for educators according to their own context. Diverse educators from the Global South and North were involved, so the creation itself was an inclusive process. Most resources were contributed from Egypt and the US, but some were also contributed by educators from Kenya, Australia, Lebanon, Iraq, UK and more. Some of the techniques were inspired by educators from the Global South such as Theater of the Oppressed techniques and some of Maha Bali's original activities. Some activities were not originally from the global South, but were contributed by educators from the global South, such as most of the Liberating Structures section.

In this chapter, we start by describing Intentionally Equitable Hospitality (IEH) followed by our experiences of practising it when doing introductory activities, warm-up activities and finally ongoing engagement and Liberating Structures. Readers will be able to view video demos of the activities as contributed on the site, and we will show particular use cases in classes and workshops and how we adapted that activity with IEH. We begin here by making explicit our positionalities and contexts.

Authors’ positionalities

Mia Zamora

I am a professor of both Literature and Writing at Kean University in Union, NJ, a suburb located about 30 minutes outside of New York City in the USA. I am a Filipina-American educated at Hamilton College in NY, and I received both my MA and PhD in Comparative Literature from the University of Wisconsin-Madison. While in graduate school, I never considered pedagogical practice as the primary focal point for professional and personal growth. My theory-focused work in world literatures has always centred narrative, language and intercultural understanding, and along the way, it has also evolved to include the digital humanities, digital culture and new media composition. Yet, when I began to teach at Kean University, my understanding of “why I do what I do” evolved in particular ways. I have been immersed for 18 years in a university with an unequivocally diverse student body. My students represent every race, age, tribe, culture and creed. Some of my students are also economically disadvantaged, and many work either part or full time in addition to being full time students. The real gift I have received as a teacher/scholar has come from the co-learning and co-creation I have embraced with such a diverse student population. In addition, my role as a faculty mentor to graduate students and junior faculty has been instrumental in refining my understanding of equitable practices and policies for education. I shun academic gatekeeping impulses and continue to aspire to Intentionally Equitable Hospitality (IEH).

Each mentoring relationship has taught me something new about what it truly means to learn. As a result, the significance of our lived experiences has become a critical foundation for my designs for equitable learning as well as my own research and scholarly writing.

Maha Bali

I have been a faculty developer at the American University in Cairo (AUC) since 2003. I'm an Egyptian who grew up in Kuwait and have always had a Western education: British schooling, American university (the same university I now work at) and my masters and PhD in the UK. While doing my PhD research, I became acutely aware of the neocolonial location of the bicultural institution that is AUC, and how it educated westernised elites along with students on scholarship. My main role as a faculty developer is to support other faculty members in their teaching by offering workshops, conducting assessments with students and providing one-on-one consultations as needed. During the COVID-19 pandemic, my own institution was well-resourced in terms of technology platforms, but internet infrastructure in Egypt can be choppy even in affluent neighbourhoods. As I plan my classes (for mostly Egyptian students) and workshops (for faculty - a mix of Egyptian, American and international faculty, educated in different places around the world), I am always aware of the possibility of people having choppy internet, and I'm always also aware of how our language of instruction is English even though most of the learners and many of the faculty are not native speakers of the language. I was also very aware during the pandemic that people did not always have large homes that afforded everyone privacy. Moreover, I am acutely aware of how much of the literature on learning and teaching online comes from a Western point of view. My experiences with designing online learning for students in my part of the world had indicated that some so-called "best practices" did not work well in our context.

What is Intentionally Equitable Hospitality (IEH)?

> *[IEH is] a critical pedagogical approach [that] centers values rather than measurable predetermined outcomes. Intentionally equitable hospitality is not neutral. Rather, it prioritizes the values of social justice while fostering learner/participant agency within the learning space, while never forgetting the ways in which power and oppression work outside of that learning space, and how they influence it ... When we wish to practice IEH, we need to continually renew our intentions to notice oppression and injustice and seek to redress them, to iteratively modify and adapt our practices according to the responses and reactions of participants/learners, particularly those who bring marginalized perspectives. (Bali & Zamora, 2022b, para 5).*

In IEH, educators consider themselves hosts but not gatekeepers and view students as co-creators in a learning community (Bali & Zamora, 2022b). IEH recognises the importance of educators applying "generous authority" (Parker, 2018, p. 81) to facilitate conversations that are as equitable as possible despite variable power and hierarchy within any learning space. It is always a process and "aspirational journey, but never an arrival" (Bali & Zamora, 2022b) because as Sara Ahmed writes "Equality is not a credential. Equality is a task. It is what we have to do, because we are not there yet" (Ahmed, 2016, para 28).

IEH can be adopted in various phases of a teaching process (Bali & Zamora, 2022b):

1. Pre-design (decisions we make about whom to involve in the design).
2. Design (equity considerations in design responding to power differences and inequalities that we anticipate based on previous knowledge).
3. Facilitation (responding and adapting in the moment when we realise our design needs tweaking to be more equitable or to counter an inequity or power difference we discover – what adrienne maree brown (2017) calls "intentional adaptation").
4. Beyond the moment (sustaining community and learning from this how to do better in future).

How does IEH manifest in practice?

Since IEH intentionally pays attention to inequalities within a learning space as well as inequalities outside of the learning space that influence the learning space, it needs to address intersectional realities (Bali & Zamora, 2022b). IEH recognises the multi-dimensionality of injustice and oppression such as Fraser's (2005) framing of social justice as having economic, cultural and political dimensions.

Some students in a learning space face economic barriers, some of which relate directly to technology such as systemic infrastructural issues (inconsistent internet bandwidth in Egypt), or individual differences in access to good quality devices (e.g. some students in Egypt tend to use a mobile or have an older laptop). They can also be related to institutional constraints such as which platform is used or decisions a teacher makes to use a particular platform that privileges students with stronger internet connections. There can also be technical barriers that are not obviously economical such as students' varying digital literacies, but these can be tied to economic causes based on historical lack of access to devices and technology-related education. There could also be economic barriers unrelated to technology altogether such as when students have household responsibilities influencing their control over their time outside of class time, full-time jobs or responsibilities as breadwinners in the home, or living in a small home with many other people influencing their privacy at home, to give a few examples. In some cases, students may be facing housing and food insecurity. Or their economic disadvantage is significant enough that school is secondary to the urgency of making just enough money to cover pressing bills.

There are also cultural inequalities where a particular activity or its content can be unsuitable or offensive for certain cultures or contexts or reproduces dominant culture while ignoring, misappropriating or misrepresenting marginalised cultures. There can also be linguistic inequality where a particular learning design privileges some groups that are more fluent in a (colonial or culturally dominant) language and disadvantages others. Activities that promote critical debate, for example, tend towards a more antagonistic approach that is seen as masculinist than do activities that promote empathy and dialogue that are considered more feminist and often more comfortable for women and minorities (Belenky et al., 1986/1997).

There are also political/power differences that reproduce inequality or highlight marginality that is permanent or situational/contextual and appears in specific learning activities/experiences. For example, permanent inequalities are often known, reported and can be anticipated such as having a diagnosed physical disability (e.g. visual impairment) or a learning difficulty (e.g. ADHD). This is something institutions usually report to an educator and educators sometimes make well-intentioned decisions without involving the learner or respecting their agency. However, there are ways for educators to be mindful of these disabilities throughout a course by discussing with students their own preferences and needs, rather than assuming on their behalf (see the chapter on Critical Compassionate Learning Design in this volume by Pallitt, Bali & Gachago). If educators do not adjust to addressing these students' needs, they would not experience equitable participation and chances of success. It is also worth noting that learners who have been historically marginalised and not given agency may have internalised their own oppression and could make choices that are not necessarily in their best interests (Walker & Unterhalter, 2007). Therefore, Fraser's (2005) ideal of "parity of participation" is complex to apply.

There are other marginalities that may be invisible or irrelevant, except in particular contexts or situations. For example, sexuality or transgender status in a classroom context may not be relevant or disadvantageous unless an activity requires revealing a certain level of personal information to strangers, when students are uncomfortable or unwilling to do so, or the content assumes certain heteronormativity which ideologically oppresses LGBTQI students.

On top of all these systemic inequalities, there can be differences of personality that can affect a person's power in a community or group. Certain learning designs privilege shy or reflective students while others privilege extroverted or talkative students; some activities may not account for the possible dominance of certain people, whether due to personality differences or other factors such as race or gender differences in group behaviour. IEH tries to centre the preferences and voices of the most marginalised of learners as much as possible.

When applying this political element of social justices, it is essential to apply it with care “because justice requires the empathy of care in order to generate its principles” (Okin, 1990, as cited in White & Tronto, 2004, p. 427), otherwise it becomes performative and “contractual” (Bali & Zamora, 2022a). Adapting Noddings’ (2012) statement, "In the caring approach, we would prefer to advise: do unto others as they would have done unto them", we suggest that educators “Do unto students as THEY would have done unto THEM” (Bali, 2021; Gachago et al., 2022; Pallitt et al., 2023).

“Intentional adaptation” (brown, 2017) is essential to IEH because “the notion that one model of care will work for everyone is absurd ... humans vary in their abilities to give and receive care” (White & Tronto, 2004, p. 450). One important mindset for facilitation here would be “less prep, more presence” (brown, 2017) as a central praxis within IEH. In our case, this does not imply not preparing, but that however much we prepare, we need to prioritise reading/observing/listening to the room and the people in the room, to be present and to adapt accordingly. Our presence with the people we are facilitating a workshop or class with is more important than what we have prepared.

Activity design and facilitation

Having mentioned some of the key considerations of IEH, we now turn to how one can apply IEH in practice with some quick examples in Table 1.

Table 1

IEH in practice

Example pedagogical strategy	Which phase of IEH?	Which inequalities it addresses
Pre-survey students on technological infrastructure and devices; design activities around their capabilities or lobby the institution to provide minimal technology for all	Pre-design	Economic/technological
Survey students on comfort with turning cameras on in video conferencing sessions, and avoiding activities that require cameras it if students report discomfort (see resource on video conferencing)	Pre-design	Economic (if connectivity or lack of privacy in a small home are the reasons), as well as cultural (also privacy) and related to mental health and personality.Also, addresses political inequalities because it respects students’ choices with regards to cameras.
Anticipate some students might have inconsistent internet and design activities that would work even if some students were dropping out temporarily (see Wild Tea adaptation below)	Design	Economic
Anticipate personality differences among students and plan for a mix of social small group and large group activities as well as quieter, more reflective activities (see Wild Tea and Spiral Journal described below)	Design	Cultural/personality
When activities need to include everyone's voice, divide students into small groups, and time the contributions of each participant to avoid some people dominating the conversation. But ensure sufficient time for participants to express themselves fully. For example, you may use video of conversation cafe and description	Design	Political by ensuring equitable participation in terms of time: avoiding domination within student groups. Cultural, anticipating linguistic inequality
Changing from a breakout room to full class activity using Chatbox because the teacher notices that many students have connectivity issues	Facilitation	Economic/technology
Creating and using a semi- synchronous "third place" for ongoing community building between students and educator such as WhatsApp or Slack (see Third Places video)	Beyond the moment	Economic due to low bandwidth interaction. Can support "parity of participation" (Fraser's 2005) as asynchronous spaces allow everyone to participate without boundaries of time, and some people, especially shy people and minorities can express themselves more comfortably. Also, it allows for some personalities

Example pedagogical strategy	Which phase of IEH?	Which inequalities it addresses
		who are more comfortable expressing themselves in writing or in informal spaces.

Part 1: Introductory activities

While we believe community-building is an ongoing process and that trust needs to be developed over time, we also believe that our choice of introductory activities can set the tone for a semester or year.

The alternative CV (ALTCV) as asynchronous introduction (Maha)

There are many different ways of doing introductions synchronously or asynchronously. Asynchronous introductions give learners time to choose what they want to share about themselves and reduce the anxiety of introducing oneself which is heightened in live introductions. The ALTCV is one such approach, originally developed by Mahai Bali, Sarah Honeychurch and Kevin Hodgson in 2016 (now published on Maha's course website), that encourages people to share whatever achievements they feel proud of, not only those normally required on a CV, not in a text-only format but in whatever way they wish. This activity embraces Universal Design for Learning by emphasising student choice in modes of self-expression. It also affords everyone time to look at other people's introductions carefully and go back to them later to remember things about people throughout the course. This approach embodies IEH in its design because of the agency it affords learners in the how and the what, while also signalling them to "come as they are". It liberates them from traditional expectations. It also recognises the kind of anxiety that on-the-spot, spontaneous introductions can induce and anticipates how these can feel unsafe for some people. Since it is asynchronous, it becomes accessible to people with varying levels of internet connectivity; because it does not require a particular software, it becomes accessible to people with varying digital literacy skills. In their final reflections, students often comment on how important this activity has been for them because it signals to them early on that they have agency in how they represent themselves in the course.

Story of your name and safety considerations (Maha)

One introductory activity that has been very popular was Patrice Prusko's Story of your Name activity. Basically, students are invited to share the/a story of their name in small groups.

As soon as this activity was published and gained popularity on Twitter, a friend privately discussed with us the ways in which such an activity may be "unsafe" for certain students such as those who changed their name to protect themselves from criminals, those who are transgender and those who just do not feel safe sharing very personal information on the first day. IEH entails ensuring the invitation for such an activity allows people time to think before sharing, and the freedom to skip the activity, or adapt it slightly. For example, participants might share the story of an interesting name that is not their own. One adaptation I have made in the design of this activity is to give students the option to either share a story of their name or to share their ALTCV. Another element that can help is to let students know ahead of time that this is an activity we intend to do, so they can prepare what they want to share, and have a choice to share the story of another person's name, not necessarily their own. See "Safety Considerations" by Kate Bowles.

What kind of animal are you? (Maha)

Kenyan facilitator, Irene Maweu, shared a fun introductory activity where participants respond to the prompt, "What kind of animal would you be?"

Even during the demo video, Irene talked about how she once did this with a group of people and the men refused to liken themselves to animals. In the moment, she adapted and told them they could say "what kind of car" they would be

– IEH in the facilitation phase in response to an unexpected reaction by participants. After this activity was published, Shanali Govender (co-editor of this collection) suggested that using this kind of activity with a post-apartheid South African audience might be considered offensive. Instead, she made other suggestions and her contribution was added into the activity as a cultural consideration. Part of IEH is to recognise that even a diverse group creating together cannot possibly represent or anticipate all cultural and identity factors. Hence, we always welcome suggestions and adaptations and publish them. Culturally sensitive educators, when engaging in activities such as these with new participants, can, in the pre-design phase, seek to understand the cultural and historical contexts of the participants that need to be considered, e.g. by involving people from the target population in their design team. When this is not possible, adapting in the moment of facilitation is key, being flexible to accept that we may have inadvertently offended someone and be ready to shift.

Tour of where you are (Maha)

The "tour of where you are" activity invites students to show, using their device's camera, the place they are connecting from.

Even in the video demo, you will see that people can have different reasons for not wanting to turn on the camera and show where they are: internet connectivity, messy home, lack of privacy due to other family members nearby and many more. I have never done the activity this way in my class because I pre-survey my learners on their willingness to use their camera during Zoom classes and they usually say they prefer not to turn it on for various reasons including connectivity, privacy, anxiety and personal discomfort. Thus, I replace this activity with asking them to post a photo of something that reminds them of home or that brought them delight that week. They can either post it on our Slack team or share their screen to show it, whichever is easier for them in the moment.

Part 2: Warm-ups

To be hospitable in warm-ups, it is important to respond to the needs and preferences of diverse participants by considering the mix of more energising warm-ups (e.g. Wild/Mad Tea) and slower, more reflective warm ups (e.g. Spiral Journal). It is also useful, over multiple engagements, to use a range of writing, speaking, visual and movement warm-ups. Where accessibility differences, whether due to connectivity, physical disability, or learning difficulty, are expected, educators need to design for them, but when they are not anticipated, educators need to be willing to adapt in the moment. Moreover, choosing the appropriate warm up activity for the group you have, the amount of trust you have established and for your purpose/goal is important. For example, activities like Thick Greetings that encourage deeper sharing are more appropriate later in the semester once a group has established some trust. It is important that participants are able to choose among several prompts, so that no one is forced to share something particularly painful or uncomfortable.

Wild/Mad Tea (Maha)

"Mad Tea" is a liberating structure in development, originally named after Alice in Wonderland's Mad Hatter's Tea Party and akin to speed dating or professional networking. When Wild/Mad Tea happens in person, people form two concentric circles, with the inner circle facing the outer circle. Participants shift a step or two around each time to meet a different person and answer a different prompt in quick succession. Online, it can be done in several ways. Chatterfall, also called the text waterfall, simply uses the chat for everyone to share their response – this works well and people tend to enjoy it, especially if you do not have time or access to breakout rooms. Although this is quite different from the original activity, it works well in large groups such as conference keynotes. Both of us use Wild/Mad Tea often in those contexts to encourage audience participation.

The closest to the original activity is to use random break out rooms on Zoom, and recreate them randomly each round, bringing people to the main room to share the prompt, then sending them out again for two minutes or so each round. This is an energising activity that many people enjoy but it can be quite dizzying and disorienting and many people feel the time is too short to actually say anything, especially to a stranger you know nothing about. Moreover, in situations

where people have unstable internet connections, a person may find themselves alone in a breakout room while the other drops out or takes longer to arrive. Therefore, in Egypt, where it is common for people to have poor internet connections and get disconnected when moved to breakout rooms, Maha made the following adaptations:

1. Designing for varying connectivity: Breakout rooms of three so that if one person drops out, the other two will find someone in the room.
2. Adapting time for connectivity and less fluent speakers: Extend the time from 1-2 minutes to 3-4 minutes because people with slower connections take time to reach the breakout room. Also, less fluent or non-native speakers may need more time to express themselves as they either need more time to think or to formulate their responses.
3. Facilitation in the moment: Tell people to come back to the main room if they find themselves alone in the breakout room, and host a "breakout-like" room in the main room. Between rounds, check if people need more time in future rounds.
4. Type the question/prompt in the chat as well as sharing it on the screen and sharing the slides, because people can still see the chat after they go to the breakout room (in case they did not have a chance to read it on the screen or forgot it).
5. Consider the audience ahead of time and ensure the questions asked are ones that people would feel comfortable answering quickly and potentially with a stranger.

The name of the activity in the video is "mad tea", but here we refer to it as "wild/mad tea" and this is because someone sent us an email letting us know that the title "mad tea" could be offensive to people facing mental illness. When we saw this, we emailed several people in the Liberating Structures community and also had a discussion on Twitter where we all made suggestions. We decided to go with Nancy White's suggestion to use "chatterfall" for the text-based version and Maha Bali's suggested "wild tea" for the breakout room version. Many of us in the community have continued using the new name. An additional cultural element here is that the Alice in Wonderland context for the name is not as familiar in Egypt, even though people know Alice in Wonderland in a general sense.

Spiral Journal (Mia)

Spiral Journal is also a Liberating Structure in development, one that uses reflective writing with a small amount of sharing. This activity naturally employs IEH because of the way it encourages focus and starts with private, slow reflective thinking before sharing. We have both used it in classes, conferences and workshops. In Spiral Journal, participants look away from the screen and take a piece of paper, create four equal quadrants, then start drawing a tight spiral for several minutes. After that, the facilitator gives them four prompts, one for each quadrant to write on their own. They are then given a minute to underline or circle something that stands out to them, and then a chance to share one thing with another person in a breakout room.

The Spiral Journal shifts the energy in a community setting by offering people a chance to reflect on their own thoughts and centre themselves. As a part of IEH design, this activity intentionally broadens the possibility of authentic student voice since they are invited to write in their preferred language. This deepens a commitment to linguistic justice, while encouraging participants to privately deepen observations into reflections. It also centres writing as an important pathway for knowledge production. Low stakes writing gives everyone a moment to reflect, to "catch up" with their own ideas and sort the meaning of their observations and passing concerns. They are more apt to notice the worth in their own ideas, and when they share with the group their selected highlight, they would have undertaken a synthetic editorial process because they have refined their own thoughts before communicating with others. The sharing part of this process may also serve to refine one's translation skills. By sharing some aspect of one's reflection (generated in one's most instinctive "low stakes" voice), a student is then invited to bridge multiple linguistic or cultural differences in a classroom to have a selected thought conveyed and understood.

In Mia's Master's thesis course, Spiral Journal is used to cultivate self-awareness which is a critical aspect of endurance through the thesis writing process. It is effective to employ at a midway point and again at the close of the thesis writing process, helping students self-assess their own growth.

Building curiosity and trust with small stories: Image Gallery and Surrealist Portraits (Mia)

Small stories make all the difference in building a sense of community. There is secret power in a story. Stories can be a small gift given with purposeful intention. They can provide insight into the life of the storyteller. A small story can also be a bridge between different people's perspectives. Small story moments can make a big difference in how a sense of community develops, and they make evident how each person has their own unique way of contributing to a community's overall learning.

Image Gallery (Mia)

The Image Gallery warm-up, adapted from "Four Ideas for Checking In", can be used early in a course to establish a community culture of sharing stories. With this protocol, small stories will certainly emerge and they will help people get to know each other in an authentic way. Everyone is asked to look at a grid of images such as a fireplace, a cityscape, a mountain terrain or a labyrinth garden. Each learner is asked to choose an image from the gallery and answer the following questions:

- Why did you choose that image?
- How does it relate to how you feel right now?
- What does that image mean to you and why?

Learners can choose which small stories to share. The critical element of IEH design here is participant agency. There is no expectation or prescription. It is the interpretive openness of the prompt – "What do YOU see?" – that generates something unique. The resulting insights become the glue of growing trust and understanding between co-learners. Sometimes the things students see in a set of abstract images reveals very different lived experiences. But it does this in a way that highlights innate wisdoms and reduces stigmatisation. For example, an image of a small plant growing from the crack in concrete suggests a metaphor of hope and resilience for one viewer. But for another student, it is chosen because it is a familiar sight, seen regularly on the way to school. It is understood as a representation of the cracks and the brokenness in the neighbourhood, and also the wild and unexpected things that emerge from what is broken all around. Such powerful yet subtle differences in what is seen are effectively shared through our small stories. Diversity of perspective is showcased with each person's unique vision of the world.

As a teacher/facilitator, I am always exhilarated when I see signs of IEH values taking hold. IEH is evident when students intuitively suggest ideas for new forms of co-creation. This occurred when a student asked to return to the Image Gallery protocol towards the end of a course. The special twist on the original protocol was that instead of each student selecting an image and then sharing a personal insight, this time each student would select an image inspired by thinking about another student in the course: "What image in the gallery resonates when thinking about a peer in the course?" In this case, I immediately knew that it would only work as an equitable protocol if each and every student received a "shoutout" from another student. In the class of 20 students, I designated five random groups of four students and asked each group to self-assign who they would select an image for within that small group to ensure that every person was accounted for. Since this remix was conducted in Zoom, I also invited them to send additional "shoutouts" to other students in the chat if they wanted to. These would be "extra" insights in addition to the one "shoutout" they shared with the overall group. I knew that many wanted to share their positive insights with more than just one other student in the class. The result was an exhibition of generosity, insight and complex forms of trust. Students shared things they noticed in and about each other and reminded everyone of knowledge they gained from certain individuals along the way. They paid particular forms of tribute to each other and they made evident how each person has their own unique way of contributing to a community's overall learning.

Surrealist Portraits (Mia)

The Surrealist Portrait protocol is another IEH design that gives students a moment to consider their own sense of self while also grappling with inequity and disability as I have adapted it for self-portraits rather than portraits of others. The protocol starts out with a brief explanation of surrealism, the 20th century avant-garde movement in art and literature

which sought to release the creative potential of the unconscious mind. Students are shown some quick examples of surrealist art. The examples emphasise dream-like scenes, spontaneity, unexpected and illogical juxtapositions and bizarre representations of ordinary objects that are seen in a new way. Then students are invited to draw surrealist self-portraits but they must do this with significant constraints. The instructions for this protocol are:

1. Grab a piece of paper and a pen.
2. Look at yourself in a mirror, on Zoom, or by using your phone in selfie mode.
3. Draw for one minute straight without pause, without lifting the pen from the paper.
4. Please use only your non-dominant hand.

The results include a lot of discomfort, a lot of laughter and some healthy self-deprecation – everyone is equally disadvantaged. When asked, “How did this exercise make you feel?” reflections varied. Many talked about the discomfort they experienced and the sense of failure they feel for making something so “ugly”. IEH facilitation becomes key as students can be led to consider the effect of these constraints. With the right follow-up questions, students start to think empathetically about varying experiences of disability and how some people experience other kinds of constraint depending on context and situation.

Conversation and the resulting small stories lead to a deeper grappling with the question of how self-perception is formed. Self-awareness is a skillset and a key foundation for building an equitable learning environment. Social awareness helps others see the perspectives of others and empathise. The Surrealist Portrait activity is a quick and playful way to help students think about their own self-conception and the way others might see them. In creating unexpected portraits together, a group can realise the significance of the stories we tell ourselves about ourselves.

Theater of the Oppressed warm-ups

We have both used Theater of the Oppressed techniques in workshops for educators, especially the very quick and energising Opposites protocol which requires participants to learn to perform the "opposite" gesture to the one the facilitator does.

This physical activity is used to warm up before class, to energise the body or refocus attention during a long class. Although meant to raise consciousness, we would caution that these techniques are not appropriate for all contexts. For example, in Maha’s class, students rarely want to turn their cameras on, thus such an activity would not be particularly effective; using movement activities may be culturally inappropriate in an Egyptian context if people don't know each other. In a situation where people do have their cameras on, or even in a face-to-face context, Theater of the Oppressed techniques may be uncomfortable for those unused to expressing themselves with their bodies, so it may take time to build trust within the group. There is potential for ableism here too - movements should be kept as accessible as possible for people with limited mobility, and participants should be reminded that they can skip the activity if they are uncomfortable or do it with the camera off if they prefer.

Part 3: Ongoing engagement and Liberating Structures

People tend to think community building happens mostly in the first few sessions whereas it needs to continue throughout a course. Liberating Structures are interactive microstructures that can enable equitable, engaged, creative and constructive dialogue. Below we share details of how we use two such structures.

Troika Consulting (Mia)

A liberating structure called Troika Consulting is a powerful exercise to use when building reciprocity between your participants or students and it is useful for quick problem solving. With this activity protocol, an instructor helps to acclimate their students to supporting each other without always turning to an “expert” for solutions.

In three rounds, one person from a trio acts as a “client” and the other two as “consultants”. First, invite participants to reflect on the consulting question they plan to ask when they are the clients, clarify the challenge and the help needed (1

min). Next, groups have the first “client” share their question (1-2 mins). Afterward, the “consultants” ask “the client” clarifying questions (1-2 mins). Then the “client” turns around with his or her back facing the consultants. Together, “the consultants” generate ideas, suggestions and coaching advice (4-5 mins). The “client” turns around and shares what was most valuable about the experience (1-2 mins). Finally, the group switches roles and they repeat these steps until each member of the group has had a chance to be the “client”.

Students (or any participants) are guided to give and receive practical and imaginative help from each other. Maha uses it in workshops to faculty members, so a trio of faculty give consultations to each other instead of asking members of the Center for Learning and Teaching to help.

You can use this any time during the semester to encourage students to reflect on challenges they’re facing and benefit from their colleagues’ input. At the beginning of the semester, it could be a challenge related to learning during the previous semester. In the middle of the semester, it can address in-progress work for the class; it can also be applied as a feedback mechanism after a presentation etc. Troika Consulting builds community effectively because it helps people gain insight on issues they face and it unleashes local wisdom from each and everyone involved. It centres the knowledge that already exists amongst the learning community members while highlighting peer support and coaching. Troika Consulting helps people refine the art of asking productive questions, reveals patterns and encourages the growing confidence of each member by tap into everyday solutions as action items. This protocol embraces the universal design for learning tenets by optimising the relevance, value and authenticity of peer wisdom and students’ motivation. It sustains their enthusiasm by having them help each other while making evident all they already know. By helping and advising peers, they realise the worth of their own contributions.

When using Troika as a form of ongoing class engagement, I have seen many students grow their confidence in synthesising and supporting others and refine their problem-solving skills in real time. It is very useful in guiding masters’ thesis writers in collaboration as each student grows into an active creative thinker when they are both mentor/editor and problem solver. While the students respectfully problem solve for their peers, they sharpen skills that can later be applied to their own challenges. In short, Troika builds consultancy and empowerment skills and I have watched many writing students become better editors and critical thinkers through this practice of rapid “feedback”. By accentuating the power and potential of co-learning, Troika challenges the assumption that the professor-mentor is the singular authority figure.

Maha has used Troika in workshops with educators successfully. When constrained by time, she does one round as a demo, rather than the recommended three. Also, when faced with unstable connectivity, Maha uses groups of four because if one person drops off in a group of three, the activity no-longer works. When faced with both cultural unfamiliarity and connectivity challenges, Maha has run the activity fishbowl style in the main room. Three to four students participate in the Troika, while the others observe quietly. Then everyone comments on the advice and adds their own. Maha does this with undergraduate students. The fishbowl version allows the experienced facilitator to remain present which supports the unfamiliar process.

TRIZ for discussing sexual harassment and gender (Maha)

One semester, while reading some speculative fiction (see posts on Speculative Data Futures, To whom do the streets belong, Would you report? and Karima) about the ways data and digital technologies may be used in the future in the Arab world to combat sexual harassment, I found that students were more interested in discussing sexual harassment itself rather than the digital technologies in the stories they were reading. Based on this and based on students’ feedback on the usefulness of this discussion, I decided to include this more explicitly in future classes especially as my institution was starting to raise awareness of and relaunch its policies on sexual harassment. This was a pre-design and ongoing form of IEH; my future courses were influenced by what I was learning from previous courses and from events on campus.

To be intentionally equitable in hosting such a conversation, I had to first recognise that students are unequally affected by this topic. There may be victims of extreme sexual harassment in my class; there may be some suffering smaller

forms of sexual harassment and may be triggered; there may be some well-intentioned students who aren't sensitive in their use of language around sexual harassment. I needed to recognise that, especially in my culture, women had internalised sexual harassment as sometimes the victim's fault, that there was ideological oppression preventing girls from reporting to authorities or to parents, that institutional structures may create processes for addressing sexual harassment but these other oppressions prevent them from being used effectively or at all.

To plan for this, I first surveyed students on the choice of topics to cover for the next class and, based on their votes, which indicated that several were interested in discussing this topic, I chose it for the next class. I did not assume that this cohort would be as interested as the previous one in the topic. I let them know ahead of time what we would discuss on the day, so that they could prepare psychologically. I said I would not take attendance, in case someone felt unable to participate in this discussion and they would not have to give me an excuse. Almost all students came.

To hold such a controversial and sensitive discussion in my culture, I designed the conversation in several ways to help ensure equitable and open participation.

First, I used a liberating structure called TRIZ which starts problem-solving in an upside-down manner. (See a video demo of TRIZ.) Instead of starting by tackling how we would stop sexual harassment at our institution, with TRIZ, we start by tackling an anti-goal. For example, one could ask, "How would we promote/encourage sexual harassment at our institution?" The TRIZ format brings playfulness and creativity and disruption, and promotes equity by the way it turns a problem upside-down and opens up dialogue around a serious challenge without requiring participants to self-disclose.

Second, within the TRIZ format, I used another format (1-4-all, an adaptation of the Liberating Structure 1-2-4-all) where each individual would take time to think on their own before they work in a breakout room with others (it was an online class that time). This ensures people who need more time to think or those whose command of the English language is not as strong have time to formulate their thoughts.

Third, students had an opportunity to discuss in small groups before joining the large group and were able to put their notes in Google docs (so I could see what is happening across the groups without intruding on them by listening directly in their breakout rooms), where they could post something anonymously even if they did not want to speak up about it.

Next, students were brought back together in the main room to start unpacking which of the items that might "promote sexual harassment" resembled things that were actually happening on our campus, and we found quite a few!

Finally, together, we came up with some action items that they individually could do to help combat sexual harassment. We discussed what was within their circles of control and influence as students and student leaders, and what kind of advocacy they might need to adopt with the institution.

One notable aspect of IEH in this particular context is that some people will be very active verbally and some not. This is one of the topics where I would not call on people who are quiet or reluctant to speak up because they may not feel comfortable doing so. If I felt someone had something useful to say but was quiet, I would message them privately to ask if they would be comfortable speaking up, but I would not call them out publicly. This was also a situation where I would prioritise non-male perspectives in the class. If there were several hands raised or several comments in the chat, I would almost always prioritise the non-male voices first.

Towards the end of class, I would ask students how they felt but also encourage them to let me know privately if anything felt uncomfortable for them or if they feel we could have done this activity somehow better. I could ask "how do you feel after doing this exercise?" and represent ideas as an anonymous word cloud. In this class, we did not take action as a whole class but on other occasions, I could have published a summary of our discussions (anonymised or with student names as they chose) and shared it with administration, for example, or on my blog. Thus, our class becomes not just a site of discussion and exploration but also a site of action in the real world.

Structured Dialogues (Mia)

A powerful activity which encourages uninterrupted listening is the Structured Dialogues activity, designed and submitted by African American, K-12 educator, Sherri Spelic. I have found this activity very effective in having students practise active and focused forms of listening. Listening is the ability to accurately receive and interpret messages in the communication process. Listening builds trust and it helps reduce misunderstandings. It reduces conflict, both in yourself and with others. Listening encourages empathy and is key to all effective communication. The Structured Dialogues activity asks students to slow down and concentrate on listening as an active and complex skill.

Students are paired and work through a set of prompts. These prompts are statements which typically begin with "Tell me about …". They are not questions, but rather openings which encourage the responder to open up and "exhaust" their thoughts on the prompt. The responder is encouraged to say what is essential and then stop, keeping it relatively brief (a minute or two). The listener should not interrupt or interject with related thoughts. When the respondent has completed their thoughts, the listener simply states, "Thank you". After a series of two or three prompts, the roles are reversed – the listener becomes the respondent, and the respondent takes on active listening. The same prompts are used. Crafting prompts that are more specific to your learning context is an excellent way to facilitate learners' reflection. Having learners propose/write their own prompts after having practised this protocol a couple of times can be interesting. What I have noticed is that many students find it difficult not to interject their ideas while the respondent is sharing their thoughts. This exercise teaches us to curb that impulse while extending our focus and concentration through active listening rather than branching off into one's own thinking. Students come to learn that patience is an important part of listening. In addition, they realise that listening can yield more complex insight if that patience and active focus/concentration is employed with discipline.

Conclusion

We hope that by discussing and showcasing a sample of these activities we have helped readers imagine ways to design and facilitate community building activities with IEH, paying close attention to audiences and their cultures and underlying power dynamics in the space. We are reminded that IEH is a journey, a process and never an end goal or achievement. Although all the activities were originally designed with equity in mind, we still needed to continually adapt them. We are also reminded, as Fraser (2005) points out, how an intervention meant to promote social justice for one group of people might put others at a disadvantage or make no difference for them. One key component of IEH is not only to design "for the margins" but "from and with the margins" – not only should educators imagine and anticipate the needs of those at the margins but should also include people from the margins in the design if that is possible. There will always be invisible and unanticipated power dynamics that pre-design and design work cannot predict, but an attitude of "less prep, more presence" and "intentional adaptation" (brown, 2017) is needed to facilitate equitably. Finally, the work of IEH does not end at the close of a live meeting or learning experience – it requires us to continue to communicate and collaborate outside of the key learning moments and to iterate and expand the range of our practices, learning from success as well as mistakes, continuing to go back to our intention to keep trying to make the hospitality we offer as equitable as possible in each context we practise it.

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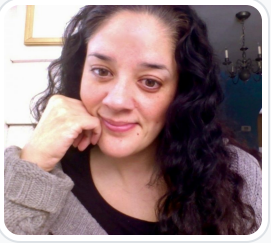

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11

Equity is not an add-on: Designing an inclusive training course for EdTech Advisors

Widad Sirkhotte & Thula Vilakati

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Social Justice | Universal Design For Learning | abc Learning Design

Chapter in brief

A key challenge of online learning environments is exclusionary practices that continuously result in some students falling behind academically. As a way to begin to address this challenge, the University of Cape Town is rethinking approaches to redesigning courses in order to improve student learning outcomes. By extending support to teaching staff, the Redesigning Blended Courses (RBC) project trained and deployed a cadre of postgraduate students as Educational Technology (EdTech) Advisors. Universal Design for Learning principles and a commitment to social justice underpinned the training, which was designed by members of the RBC project. The training provided an opportunity to examine the concepts of accessibility and inclusivity, both theoretically and practically through learning scenarios, and to guide the EdTech Advisors in their work with learning designers. What made the design of the training particularly challenging was its ambitious goal of preparing EdTech Advisors for a dynamic role that is emergent and still in flux. In this chapter, we critically reflect on the design and implementation of the EdTech Advisor training. We highlight the importance of collaboration and integrating explicit learning design approaches from the outset, both of which are important elements for equity-oriented course design, as well as thinking about authentic learning opportunities for students. A potential benefit of this study is to improve EdTech Advisors' training, enhancing their knowledge and skills in order to better support course teams in redesigning courses.

Introduction

In this chapter, we share our reflections on the design and implementation of a training course for Educational Technology (EdTech) Advisors as part of the Redesigning Blended Courses (RBC) project at the University of Cape Town

(UCT). The overarching goal of the RBC project is to redesign blended courses in response to the need for accessibility and inclusivity highlighted by the emergency remote teaching (ERT) pivot, through student surveys and personal experiences (Small, 2021). Within this, the need to practically support and empower teaching staff to design inclusive and accessible courses was also identified.

Although university policies have often emphasised inclusivity and accessibility, this obligation was accelerated during the global COVID-19 pandemic lockdown period (starting in March 2020) which necessitated the redesign of many courses. UCT chose to continue teaching through the online course delivery mode with learning designers supporting teaching staff in transitioning their courses initially to emergency remote teaching (ERT) mode then to online mode whilst exploring ways to make courses accessible and inclusive, and to enhance student engagement. In light of the new developments that were taking place at UCT, in our capacity as a team of learning designers tasked to design the EdTech Advisor training course, we believed that course teams should become intentionally inclusive and equity-oriented from the outset when designing courses. This entailed reflecting on our own biases as learning designers and "who" we are advantaging or disadvantaging when storyboarding key themes, selecting and developing resources, and thinking about which pedagogies and forms of assessment to use. Therefore, our understanding of equity is that it entails more than merely making features of a course accessible, but also offering opportunities for students to improve their learning outcomes through socially-just pedagogies (Luckett & Shay, 2020; Rose, 2021).

During the ERT phase, when almost all students were learning from home, teaching staff became acutely aware of student learning needs and challenges. These included unaffordable data costs, lack of time management skills, uneven digital literacy skills, escalating mental health or wellness concerns, inaccessible language and other barriers (Czerniewicz et al., 2020). Additionally, we realised that UCT teaching staff required support with redesigning their courses and resource materials for online teaching and learning, especially in an equity-oriented manner for a diverse student body. Furthermore, some of the teaching staff realised that they needed to be upskilled on how to use educational technology tools and applications for the online course delivery mode. Many of the teaching staff also expressed concern that they were not "connecting" to and actively engaging with their students.

Intervention through the Redesigning Blended Courses project

The Centre for Innovation in Learning and Teaching (CILT) at UCT, through the RBC project, recruited and trained a cadre of postgraduate students from different faculties within the institution as EdTech Advisors. As members of the RBC project who work in the area of learning design and have an interest in inclusive learning design, we were tasked to design the training for EdTech Advisors. Our mandate was to ensure that EdTech Advisors received training so that they would be able to assist and support teaching staff with integrating educational technologies, underpinned by tenets of Universal Design for Learning (UDL) as an explicit framework for accessibility in blended courses as well as other models.

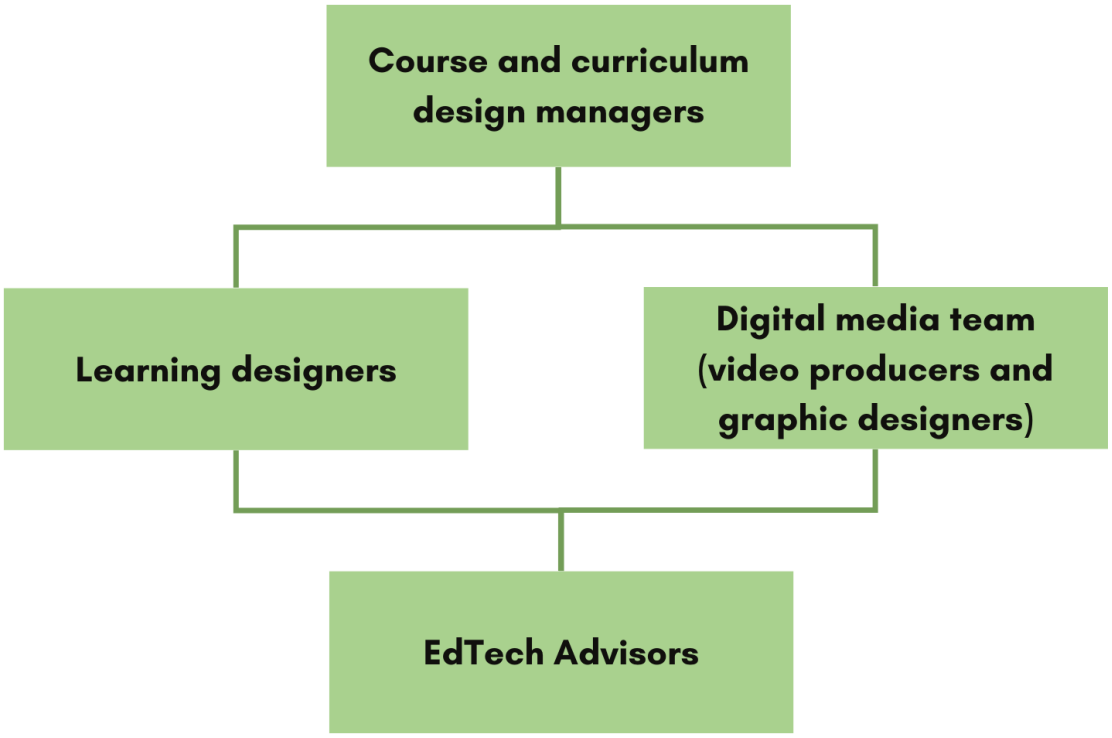
In describing the roles of EdTech Advisors, we followed a shared decision-making process through consultative meetings with members of the RBC project who are key stakeholders across UCT. For example, the Disability in Education in Africa (IDEA) research unit provided expert input on UDL and social justice aspects. We also involved the UCT Disability Service around accessibility standards for online and blended learning. Further, we partnered with the Education Development Unit in the Humanities Faculty, which provided us with an opportunity to collaborate and pilot UDL training with their tutors and teaching assistants. Following wider consultation, we delineated EdTech Advisor roles such that they differ from those of tutors and teaching assistants, in that they are not directly involved in working with students or the teaching of courses.

The role of EdTech Advisors under the RBC project is also different from that of learning designers in that they predominantly provide practical assistance in building course sites and components under the guidance of learning designers and in consultation with teaching academics. Figure 1 shows the leadership structure within the RBC project and how EdTech Advisors fit into it. In the conceptualisation of their role during the ERT period, where student learning needs and challenges were foregrounded, it was envisioned that they would be more involved in advising teaching staff

about accessibility and inclusivity concerns, hence their title "EdTech Advisor" rather than "EdTech Assistant". However, learning designers at CILT soon realised that redesigning accessible and inclusive courses means that the entire team needs to be involved, rather than assigning this to a particular person. In addition, learning designers who are often involved in course design processes that involve conceptualisation, development and implementation of course components would need to take the lead on this but would require the support of EdTech Advisors to implement further. Furthermore, we anticipated that the course team would benefit from EdTech Advisors' input, as the first-hand experience of these postgraduate students in the ERT and online learning modes could help bring about significant course improvements. At the time of writing, UCT learning designers, EdTech Advisors and RBC project members continued to explore accessibility and inclusivity approaches in course redesign.

Figure 1

Course and Curriculum Design team organogram



The EdTech Advisor training course process

To prepare EdTech Advisors to support teaching staff, we designed a fully online training course so that they could become adept at their supporting roles. Furthermore, the intent in the design was to foreground accessibility within a social justice agenda in higher education, which we envisaged to be a driving factor for the work that EdTech Advisors would be doing. We included opportunities for experiential learning in socially-just pedagogies, such as by including a session where EdTech Advisors could actively experience the pedagogy of discomfort and ethics of care. The intention was to make EdTech Advisors aware of biases, the importance of diverse views and to enable critical reflection beyond simply learning how tools worked. On a technical level, we designed the training to equip EdTech Advisors on how to use the institutional learning management system (LMS) so that they could assist teaching staff with their courses.

Drawing on the concept of constructive alignment put forward by Biggs (1996), we expanded on the training needs by specifying and aligning intended learning outcomes (ILOs) with the content, learning activities and inclusive

pedagogies, and assessment. These key training course design features, depicted in Figure 2, will each be discussed in the next section.

Figure 2

Course design features

Translating job-oriented roles to intended learning outcomes and training topics

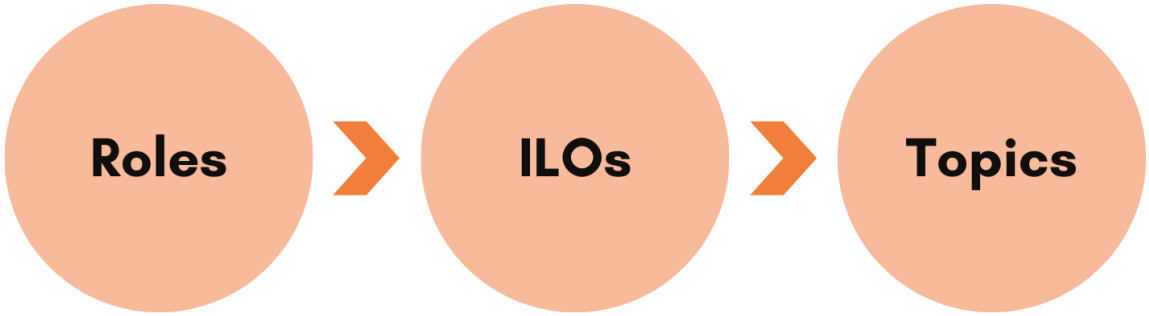
We envisioned the EdTech Advisor roles as a form of graduate development with targeted graduate attributes to be attained over time. For example, through initial training and ongoing practical guidance of learning designers, we conceived the roles as follows:

- Identifying student learning needs, as well as gaps in catering for the identified needs in existing learning materials.
- Helping with the creation of learning materials to be aligned to UDL principles in order to meet standards for minimum accessibility.
- Promoting mindset changes among teaching staff towards using educational technologies to enhance inclusivity within various academic disciplines.
- Advising and assisting in the re-organisation of courses and learning materials to enhance the student learning experience.
- Assisting with surveys and data analytics to support learning.
- Advocating for inclusive learning and teaching in the wider UCT institutional context.

We delineated EdTech Advisor roles, translated them into intended ILOs for the entire training course and mapped out the requisite training session topics (see Figure 3).

Figure 3

The transition from roles to ILOs and topics



1. Student diversity and learning needs in higher education
2. Universal Design for Learning (UDL)
3. Accessibility guidelines
4. Multimedia tools

Designing for inclusive, competency-based assessment

Once roles were delineated and translated into ILOs with training topics, we designed various competency-based assessments in order for EdTech Advisors to demonstrate their competencies. In this instance, we used the backwards design approach to ensure that the ILOs were not only linked to EdTech Advisor roles but also supported authentic learning.

We further planned for the mini-assessments under each of the topic sessions to culminate in a capstone assessment, in the form of an integrated e-portfolio task. EdTech Advisors had to demonstrate cumulative knowledge building, skills acquisition and embody values through creating artefacts that capture their reflections on critical learning incidents, as well as any shifts that may have occurred towards equity-mindedness. The artefacts entailed designing infographics to capture how diverse students demonstrate learning together while thinking about the accessibility of the text, colours and images. In addition, we used Padlet, a real-time collaborative bulletin board, with guiding questions for EdTech Advisors to reflect on lessons and skills learnt.

Activity-based learning and inclusive pedagogies

Course storyboard development

The storyboard process of capturing key themes for the EdTech Advisor training course took place gradually. To stimulate our thinking, we used a version of Laurillard's Arena Blended Curriculum (ABC) design methodology that CILT learning designers had adapted and inserted into a storyboard template (CILT, 2020). This methodology makes use of six learning types – Acquisition, Discuss, Produce, Investigate, Collaborate and Practice – to visually represent the type and order of learning activities and assessment.

We adapted the CILT storyboard template to make it applicable to the EdTech Advisor training course by adding a focus on UDL and accessibility. We added a specific "UDL and accessibility" column (see Appendix A), as the aim of the course was not only to teach about these concepts, but also to model embedding UDL principles during course design. In this column, we aligned each learning activity, one row at a time, to incorporate UDL principles and accessibility

protocols whilst also specifying additional requirements. In the UDL and accessibility column, we thought about how the selected multimedia content would enable multiple means of representation as well as the kinds of opportunities (engagement and expression) it provided for EdTech Advisors to share, reflect and build relationships. Such alignment ensured that, from the planning stage, we designed the course to maximise the opportunity for inclusive learning and accessibility during the actual training stage.

By using the CILT storyboard template, each learning activity could be considered and detailed. This allowed us to align learning activities in relation to the ILOs and tools, as well as to think about the flow and pacing of activities, resources needed, duration, mode, UDL principles and accessibility protocols.

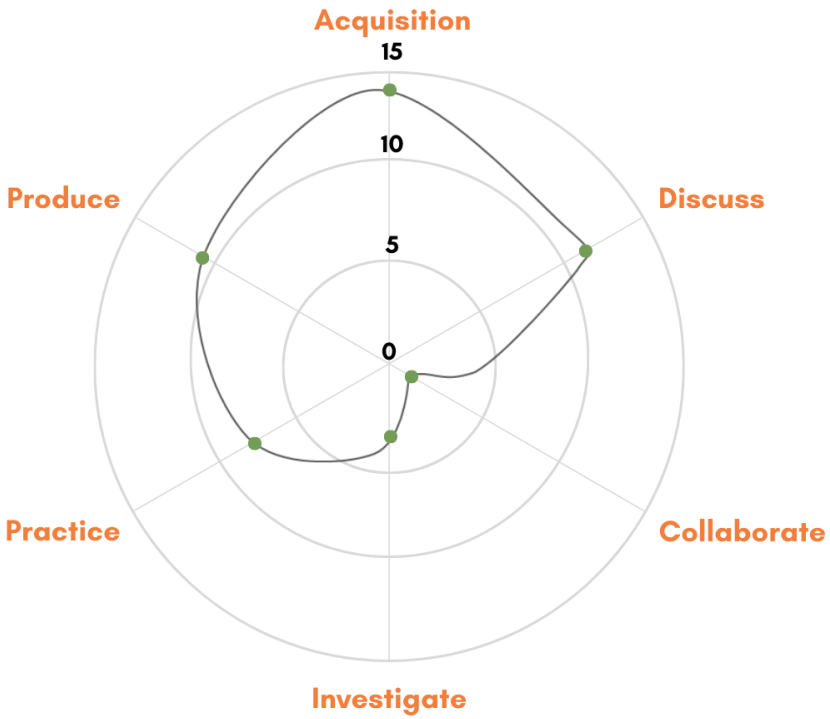
We added a column (column G in Appendix A) to the template to indicate which person would be responsible for developing or facilitating that particular learning activity or would lead in presenting the live webinar component. By doing so, we aimed to ensure diversification and representation of voice among the trainers involved in the course. The trainers for the EdTech Advisor training course were diverse in terms of expertise, gender, race, religion and nationality.

For continuous feedback, we added feedback columns for RBC project members who are specialists in their own fields (disability inclusion, learning design) to review and provide continuous feedback as the storyboard developed (See column L in Appendix A for an example). The expert feedback captured in these columns ensured that requisite knowledge and skills were well integrated for the necessary experiences and learnings to be achieved.

Having the column on “Learning Type” (column C in Appendix A) provided a visual representation of the learning types EdTech Advisors would experience in the course at specified moments. This was helpful when taking a big-picture view of the course design. It showed which learning types were dominant through colour visualisation as well as through the course shape that was simultaneously forming as the template was being populated. The course shape, a feature that the CILT learning design team made possible through automation within a spreadsheet, is helpful to reflect on course design features, by supporting planning conversations. Figure 4 is a screenshot of the final course shape that developed for the EdTech Advisor training course.

Figure 4

Course shape for Edtech Advisor training course



The dominant colours in column C of the spreadsheet (Appendix A) and the shape of the course design in Figure 4 allowed us to reflect further on the learning activities. We thought about the shape in relation to the pedagogical approaches identified as critical. In noting the number of collaborative learning type elements in the course (Table 1), we were a bit concerned as this element was reflected only once, despite the interactive webinar sessions involving several collaborative activities. The collaborative learning in this course was not necessarily captured in this template, as one could not put two learning types in a single row. This was one of the limitations of this approach, as many other activities planned tended to overlap with other learning types. In this regard, we adjusted the storyboard by providing more detailed descriptions for learning activities as well as breaking down the activities into parts to capture the dominating ABC learning types.

Table 1

Number of times each learning type appears in the storyboard

ABC learning types on CILT storyboard template:	
Acquisition	14
Discuss	12
Collaborate	1
Investigate	4
Practice	7
Produce	10

Another concern with the automatically generated radar diagram was the time calculation component. The radar graphic captured the number of learning activities that were to occur in the training course, but not how long each would be. This was problematic because it appeared that the training course included more acquisition-based learning

activities (reading, viewing and watching) than collaboration and practice, even though more time was allotted for these learning activities. As a means to resolve this, we did manual calculations to assess whether learning types and time aligned.

Sequencing of topics and learning activities

As the storyboard developed, we began to think about how the four identified topics were to be sequenced. For example, should EdTech Advisors first learn about UDL and then Accessibility Guidelines, thereafter Student Diversity and Learning Needs; or vice-versa? According to the course ILOs, it did not matter which topic came first as the ILOs were not structured in a linear order, but were based on the roles that EdTech Advisors would perform.

After discussion with RBC project team members, we decided that it made sense for the topic of Student Diversity and Learning Needs to be featured first to activate prior knowledge of EdTech Advisors through their lived experiences and understandings of diverse student learning needs at the university. We also thought that this focus would be strategic during the induction phase of the training to develop motivation from the start regarding their roles as EdTech Advisors. This provoked further consideration regarding “what” and “how” much information should be covered under the topic of Student Diversity and Learning Needs. And “by whom”. Thereafter, EdTech Advisors would explore topics pertaining to UDL and Accessibility Guidelines as strategies to address the identified student diversity issues covered in the first topic which would then lead them to the topic on Multimedia and Tools. Table 2 captures the sequencing of topics for the EdTech Advisor course.

Table 2

Sequencing of topics

Topic 1	Topic 2	Topic 3	Topic 4
Student Diversity and Learning Needs	UDL	Accessibility Guidelines	Multimedia and Tools
EdTech Advisors to become aware of students' diverse learning needs.	EdTech Advisors to learn about UDL as a means to address the varied learning needs of students.	EdTech Advisors to learn about how accessibility is possible, as underpinned by one of the UDL principles and using accessibility guidelines/protocols.	EdTech Advisors to learn about multimedia and LMS tools and how to use them to create inclusive, accessible and equitable learning and teaching environments.

We hoped that the sequencing of topics in this manner would allow them to build upon each other, while simultaneously developing the skills and knowledge of EdTech Advisors.

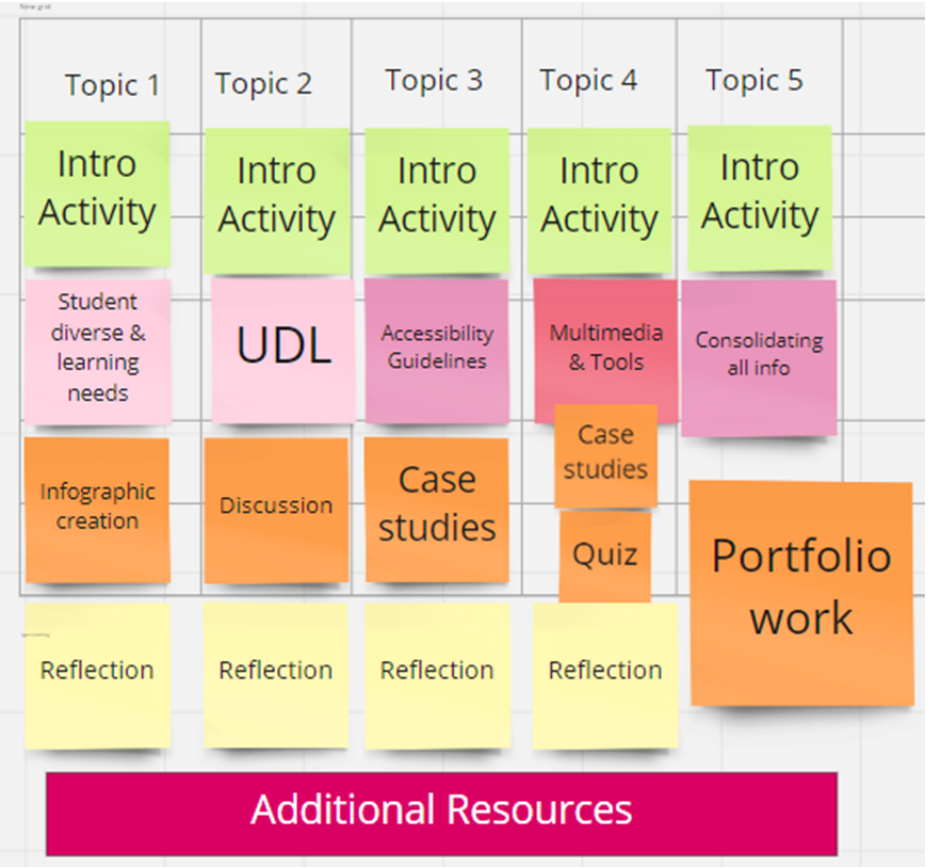
As the development of the storyboard continued, the ABC learning types in each topic could be visibly tracked through the colour codes that were programmed as part of the CILT storyboard template. Although there were many of the same colours (learning types) in each topic, they were not in the same order. This led us to think about re-sequencing the activities in ways that would form a learning pattern. We thought about how the use of learning patterns would enhance the learning experience for the EdTech Advisors, for instance by creating familiarity with how to access and approach content and activities in each topic. It was through re-sequencing the activities that we noticed more gaps in how EdTech Advisors would possibly engage with the content. For example, some topics did not have introductory or practice activities. Furthermore, topics such as Student Diversity and Accessibility Protocols had too many activities. Eventually, re-sequencing ensured that each topic had:

- An introductory activity that would activate EdTech Advisors’ prior knowledge and experience.
- A core webinar session that would comprise various parts and be two hours long each.
- A practice opportunity for EdTech Advisors to practice skills learned.
- Space for EdTech Advisors to engage in a reflection.
- Additional resources related to the topic for EdTech Advisors to access and explore.

Figure 5 provides a visual overview of the re-sequencing. A fifth topic was added to consolidate what was to be covered in the training course as well as the capstone assessment.

Figure 5

Visual overview of the re-sequencing of learning activities



Choice of mode and tools

We considered two course delivery modes for the training course: online or blended. In this context, “blended” would imply delivering some components in online mode and others in face-to-face mode. However, given the uncertainties of the pandemic, we decided on a fully online approach based on technical, educational and social affordances we deemed necessary to provide various forms of student support during the COVID-19 pandemic. The intention was for EdTech Advisors to become familiar with how different educational technologies can be used for different learning delivery modes. It further became clear that online asynchronous learning activities would be suitable for reading and commenting on readings and forum posts, the content of which would supplement what had been covered in the live, online synchronous sessions.

In terms of choice of tools, we considered a variety of tools used at UCT, which the EdTech Advisors could familiarise themselves with and assess in terms of how they could be adapted to create inclusive and accessible blended learning and teaching environments. We opted, however, to focus on tools that would enable specific learning activities instead, such as LMS blogs, LMS forum discussions and Padlet. The tools supported the process of reflection in the course, the aim of which was to provide a space for EdTech Advisors to deeply engage with topics in relation to themselves and others, guided by the ILOs (Conole, 2015). In these reflection activities, EdTech Advisors were encouraged to share their learnings in their chosen medium (voice, text, image or video).

In order to explore and compare which of the above-mentioned tools were most suitable, we used Bower's (2008) affordance analysis e-learning design methodology which focuses on tool affordances. As part of this process, we considered some of Bower's (2008) key social, educational and technical affordances:

- Share-ability: EdTech Advisors must be able to share a variety of media files and manage the quantity of posts.
- Comment-ability: EdTech Advisors must be able to comment on reflections made by peers.
- View-ability: Although EdTech Advisors must be able to view peers' reflections, these must not be publicly accessible.
- Relate-ability: Reflections should be grouped under each session or topic so that their relationships are established between each topic and what is shared.
- Navigate-ability: As there are several EdTech Advisors on the course, it should be easy to find specific peers' posts and to navigate to different reflections.
- Size-ability: As EdTech Advisors are sharing a variety of media files, the tools should allow large files to be sent.
- Permission-ability: Reflections should be restricted to only the group and reflections should not be editable by others, only by the author.

In the end, we embedded Padlet boards in our LMS as the main tool for reflective activities in each topic. Since Padlet offered similar features to forum discussions and blog tools, we agreed on having the same tool in each topic to create familiarity. Having used the tool-affordance approach, it also became clear why only using Padlet was more suitable than using a variety of tools. While this approach limited tool exposure for EdTech Advisors, the skills acquired through the use of Padlet could be applied when using similar tools.

In terms of equity considerations regarding tools used in the course, we selected institutionally-supported tools, as this would enable full access to the EdTech Advisors. We opted for tools such as Google Jamboard and Google Docs for collaborative tasks. We also considered tools that would provide EdTech Advisors with multiple means to express themselves. This meant tools with rich text editor functionality, allowing for text, audio and video sharing. As the advisors were not familiar with all the tools provided, we added step-by-step instructions on how to use each tool to scaffold their participation.

Building the course on the university LMS

On the LMS course site, we arranged for each topic to begin with an introductory activity to activate EdTech Advisors' prior knowledge and experiences. To enable such engagement, we used Padlet to provide a space for the advisors to express themselves. This was accompanied by instructions on how to use the tool as well as an instruction that EdTech Advisors could respond in a format of their choice. In addition, we used instructional text to encourage them to engage with peers' responses, with the aim of building community, trust and a sense of belonging.

We invited guest presenters with specialist knowledge to lead some of the interactive webinars and provided short biographies about them to increase credibility and reliability regarding content to be covered. We set up the webinars using MS Teams; educational tools such as Padlet and Jamboard were also used in some of the sessions.

On the course site, we embedded reflection activities called "Takeaways" for the EdTech Advisors to express themselves on what stood out for them in each topic, what they still wanted to learn more about and what they felt confident doing. Through this activity in the training, EdTech advisors shared their knowledge and experiences. In addition, we could track their learning progress to a certain extent. We further provided resources on each topic for EdTech Advisors to explore on their own or for quick reference when working on tasks.

Inclusive pedagogical strategies

In line with backward design principles (McTighe & Thomas, 2003), we began with the end in mind by specifying what the capstone assessment would entail. The next challenge was to ensure alignment with how the EdTech Advisors experienced inclusive learning themselves. To do so, we used scenario-based and job-related training activities, with aligned pedagogical strategies to ensure coherence for the core components of the course. For EdTech role readiness,

the training included learning how to adapt LMS tools to enable the attainment of ILOs, as well as how to support experiential learning through inclusive pedagogies and opportunities for interaction and engagement.

We included a dedicated session titled Pedagogy of Discomfort and Ethics of Care for in-depth discussion on moments of discomfort and care in the online class related to contentious issues such as language, gender and race, and on how to navigate these issues in a critical yet balanced manner, as based on understandings offered by Hunma et al. (2019). During the training webinar session, EdTech Advisors addressed moments of implicit bias through various scenarios in a bid to surface deeply entrenched race, language and gender inequities. We deemed the creation of discomfort followed by care as transformative by enabling a learning community to challenge some power dynamics. Through open discussion and sharing of experiences, EdTech Advisors and RBC project team members also discussed different perspectives on race, gender and other topics that affect learning in higher education. Providing a space such as this is necessary to challenge students, educators and training facilitators to engage with each other in authentic ways (Adams, 2020). Another potential benefit is openness to learning from one another, which can also foster a sense of belonging in the academic community (Peacock et al., 2020). As RBC project team members who were involved in the design of the training as well as facilitators in the webinar sessions, we felt the need to examine our own assumptions and biases by being intentionally inclusive and equity-oriented towards all students (as far as possible) and to challenge our assumptions regarding class, gender and race.

The training drew on the tenets of a situative pedagogical approach where interaction was intentionally designed "to be close to – or identical – to the situation in which the learner will eventually practice" (Beetham & Sharpe, 2007, p. 230). Some of the compelling reasons for EdTech Advisors learning in the same environment as they would be working in include being able to:

1. Build familiarity with the kinds of tools and resources they would be working with,
2. Provide exposure to the problems typically encountered,
3. Provide clarity on envisaged supportive roles, and
4. To model equity-mindedness and attitude change in order to foster social change.

We linked these benefits to the specified ILOs for the training and the anticipated dynamic roles of an EdTech Advisor. We used authentic case studies to deepen problem-solving and to foster engagement with equity issues through dialogical and reflective learning activities. Furthermore, while we drew upon other pedagogical approaches based on constructivism as an underlying learning theory, Mayes and de Freitas (2007, p. 16) remind us that "learning-by-doing and the importance of feedback" is associated with both behaviourist and constructivist approaches. The EdTech Advisors also engaged in collaborative learning by sharing and solving cases with peers while being simultaneously guided by expert facilitators. Besides working collaboratively on tasks to co-create knowledge and act on feedback on a range of topics, they also engaged in individualised learning tasks to consolidate a range of knowledge sources on multiple topics without being scaffolded. As a final assessment, EdTech Advisors created mini e-portfolios which allowed them to showcase their skills and to reflect on individual learning progression.

What actually happened: Design versus implementation

Not all our plans materialised. In this section, we reflect on what changed and why. The first item that was not implemented was the competency test. This was not used as initially planned because we realised that when the postgraduate students applied for this position, we had given them a similar task. Instead of another test, we analysed how the appointed EdTech Advisors had completed the task and used the data to plan what to cover during the training. For example, the data provided input for the content to be covered on tools and accessibility protocols.

Secondly, the LMS tools that we had planned to use for certain activities could not all be used. Although it was important for EdTech Advisors to be exposed to as many tools as possible, we found that certain tools (such as Google Jamboard) used in the live webinar sessions were not accessible to one of the EdTech Advisors who had a visual impairment. In this instance, we changed the activity so that there were both verbal and written responses so that all

advisors could participate equally and optimally. For this training course, it was paramount that both the training facilitators and designers exemplified inclusive teaching practices. There were many critical learning incidents for us all. It also helped the RBC project team advocate for our institution's inclusivity goals, thus, even though there was only one EdTech Advisor who could not access the tool, it mattered a great deal.

Thirdly, we had to modify how the EdTech Advisors navigated reflective learning spaces. For the "Take Away" reflections in the first topic, a few EdTech Advisors requested specific questions to guide their reflections rather than keeping the task open-ended. This made us change the instruction for the rest of the topics so that EdTech Advisors could extract optimal learning from the training course. Amongst the RBC project team members, it was often a debate: whether to keep guidelines broad or to make them specific. As a course team with diverse skills and backgrounds, we also realised that there is no right or wrong answer to this, as we all have our own learning preferences. What is important is to provide different options.

Fourthly, we found that the time element posed a constraint. Time in the online space seems to go "faster", as there was not always enough time to do all the activities planned in the webinar sessions. This was partly due to explanations and activities taking longer than anticipated. The lesson that is to be learned from this was that activities should be planned in the storyboarding phase by taking into account the time needed for explaining or reading the instructions. We cannot assume that everyone knows how to use the tools, how to approach the activity or what to do.

Lessons learned

Equity is not an add-on: Designing for equity from the outset

Equity-oriented higher education provision post COVID-19 entails intentional redesign of blended learning environments. There is a benefit to approaching such redesign from an explicit learning design perspective, such as the one offered by the UDL framework, and complementing this with other models. For example, UDL provides a framework for redesigning learning experiences for students to have options in terms of how they learn, what materials they use and how to demonstrate their learning. Nevertheless, it is when UDL in course redesign is implemented through a lens of equity that the framework can offer ways to describe interactions likely to maximise opportunity for improved student learning outcomes, especially for those who have been historically marginalised (Indar, 2018; Novak, 2021). What matters is why and how students learn through engagement with learning materials, facilitators and with each other, as well as how they then demonstrate their learning. What then becomes impactful is to redesign courses for equity, diversity and inclusion through leaving deliberate gaps in the course design narrative for the students to fill in. For example, some argue that course redesign for equity presupposes an inclusive mindset from the perspective of accommodating student views in order to negotiate values attached to shared goals (Gachago et al., 2022). As a result, the course redesign should specify instructional strategies that are oriented towards interactivity, participant engagement, humanisation and adaptability for social justice. The ILOs should then also be aligned to learning activities that are oriented towards context-sensitivity, equity and justice driven by student learning needs.

Inclusivity and our own practice

It has been a challenging yet rewarding process working with a diverse team to develop a training course. There has been iteration on so many levels, such as through designing the course on inclusion and accessibility, while we ourselves have been trying to be inclusive in how we work by inviting others to work with us. We often had to be agile in redesigning certain components to be more accessible and inclusive to visually impaired and other disadvantaged students. Another critical aspect was learning to accept criticism by involving different experts to review our work-in-progress course design while engaging with others to lead sessions. When running the planned training course, we learned about flexibility by not rigidly following what was planned and designed by adjusting tasks and scaffolding content, where needed. In such instances, the EdTech Advisors themselves played an active role in co-designing the course to make it work for them and the trainers. We realised that the various levels of training design iteration and collaboration went hand-in-hand with providing opportunities for inclusion of multiple perspectives through providing a

space in which the voices of teaching staff, learning designers, EdTech Advisors as well as disability and social justice experts could be heard.

We found storyboarding helpful as a process and an efficient way to visualise the design of the training process, particularly when approached from an underpinning explicit UDL framework for accessibility and inclusion. It helps when there are guidelines to provide a degree of structure and more organised ways to think about important aspects, and to reveal gaps and misalignment. Moreover, collaboration is key in redesigning courses for accessibility and inclusivity, as this facilitates ongoing critical reflection.

Conclusion

Although it is still too early to assess the impact of the training on Edtech Advisors, it is likely that this will be a role that many more universities will consider as educational technologies continue to develop and influence higher education, as well as shape our world in general. The need for suitable training for these budding higher education practitioners is therefore important.

It is not enough to merely design topics where accessibility, inclusivity, social justice and student diversity issues are taught conceptually. We need to design for training teams to embody those concepts in terms of change in attitude, disposition and mindset. One of the most important lessons we learnt during the implementation of the Edtech Advisor training course is that meaningful change entails undergoing a process of discomfort combined with readiness to examine assumptions and biases. Thereafter, it is necessary to become a caring practitioner by continuously reflecting on underlying motivations in a bid to resolve prejudice and become exemplary advocates for inclusive learning and teaching practices.

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Appendix A: Example of partial course storyboard

A	B	C	D	E	F	G	H	I	J	K
Date	Activity #	Learning Type	Learning activity title	Learning activity description	Materials/ Resources	Person	Mode (Async, Sync)	LOs	UDL & Accessibility	Time (mins)
Topic 1: Orientation and Student Diversity and Learning Needs in Higher Education										
	1.1	Produce	Pre-task: Introductions	EdTech Advisors introduce themselves through the Padlet. They are also to view posts from peers and to comment as optional.	Sample of what to do; instructions; guided questions	Widad and Mark	Async	LO1	Engagement and representation - EdTech Advisors will be sharing about themselves (in text/video/ audio) as well as viewing and interacting with each other's posts (liking, asking questions, responding).	30
Day 1	1.2	Acquisition	Interactive webinar Part 1: Intro to topic	An introduction to student diversity and how this impacts learning needs. Dimensions of a student	Presentation slides; Models	Anusha/ Thula / Widad	Sync	LO1	Representation - Visual models to be explained when shown	15
Day 1	1.3	Discuss	Interactive webinar Part 2: Pedagogy of Discomfort in Higher Education and Ethics of Care	Using case studies to talk about student learning issues, exclusion and 'what can be done about it'	Cases	Anusha	Sync	LO1	Engagement and representation - using 'real' and 'relevant' case studies to talk about issues and solutions	60
Day 1	1.4	Discuss	Interactive webinar (Part 3): Share and discuss	EdTech Advisors share their lived experiences of learning at university	Discussion in webinar	Anusha	Sync	LO1	Engagement - involving EdTech Advisors through asking them to share their experiences of discomfort prompted by a scenario	15
Day 1	1.5	Investigate	Delving deeper into student diverse learning needs	EdTech Advisors identify and investigate diverse student learning needs. Draw on live webinar components.	Activity instructions	Widad	Async	LO1; LO6	Representation and expression - EdTech Advisors to become aware of diverse student learning concerns and related issues in the university context.	60
	1.6	Produce	Capturing and representing student diverse learning	EdTech Advisors work in groups/pairs to create an infographic that captures student	Activity instructions; Provide space on LMS to upload infographics; Due date	Widad and Thula	Async	LO1; LO2	Action and Expression - EdTech Advisors express how they think about student learning	60

A	B	C	D	E	F	G	H	I	J	K
			needs and issues	diversity, assets and concerns as investigated in previous activity. This will be shared.					needs in university spaces. Relationship building between EdTech Advisors as they work together sharing their findings and creating an infographic. Not to be prescriptive with choice of tools/ applications - EdTech Advisors to choose.	
	1.7	Discuss	Peer viewing and commenting on infographics	EdTech Advisors to view and to be encouraged to comment on each others' infographics	Activity instructions	Widad and Thula	Async	LO1; LO2	Action and Expression- EdTech Advisors' voices encouraged; become familiar with different means for action and expression (text, infographic, voice) on LMS.	15
Day 2	1.8	Discuss	Feedback from facilitators/ course team	Course team to provide feedback on infographics that culminated to EdTech Advisor consolidating their learning through a visual on: "Leaving no one behind infographics" as well as "Yosso's asset framing" model	Models: Leaving-no- one-behind; Yosso's asset framing	Widad and Thula	Sync / Async	LO1; LO6	Representation - Visual model to be explained when shown	15

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Nokuthula is currently undertaking full-time PhD study in Education, in the University of Cape Town (UCT), South Africa, researching academic staff development for blended learning approaches to curriculum design and pedagogy. She is also part of the UCT Project Team on Redesigning blended courses through Universal Design for Learning. Nokuthula is on study leave from the University of Eswatini, Institute for Distance Education, serving in an Instructional Design and Development portfolio. She contributed to the Southern African Teaching and Learning Forum (SAULT) research project on rurality and technology in higher education. Further, she co-created a Commonwealth of Learning course on Quality Assurance for Blended Learning.

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12

Promoting community and collaboration: Models underpinning an academic professional learning

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Ethic of Care | Critical Digital Pedagogy | Community of Inquiry | academic professional learning

Chapter in brief

This chapter examines the theoretical frameworks and models that underpin the design and facilitation of an academic professional learning short course at a research-intensive public university in South Africa. These principles for learning design and facilitation can be applied in a variety of learning contexts to promote community and collaboration. The "Facilitating Online" short course is facilitated through the adoption of an "ethic of care" perspective that promotes modelling, dialogue and the adoption of a critical digital pedagogy stance. The design and facilitation of the course is underpinned by the Community of Inquiry framework for online and blended learning that talks to the importance of three pronounced presences: teacher, social and cognitive. In our view, learning is a social phenomenon that manifests through collaboration between facilitators and participants. We focused on the establishment of a digital community to create safe spaces for learning to occur. Throughout the course, the need for active and responsive facilitation is emphasised. This is modelled for participants to encourage adoption within their own courses and for their own students. The chapter contributes a view of how frameworks and models can be used to inform the learning design and facilitation of courses that emphasise the importance of community and collaboration within a local institutional context.

Introduction

The University of the Witwatersrand (Wits) in Johannesburg, South Africa, is a traditional residential university. The University's 2020–2024 Teaching and Learning Plan (Wits, 2019) recognised the need for more flexible and digital learning opportunities in response to changing contexts. With the COVID-19 pandemic in 2020 forcing a transition to

emergency remote teaching and learning, as described in Hodges et al. (2020), the need for learning design proficiency among academics working as university teachers became imperative.

Despite substantial investment in learning design expertise and structures at Wits University, there remains an overriding tendency in current design processes to focus on the content and associated technologies. Very little emphasis is placed on the role of the facilitator. Furthermore, many academics are unfamiliar with learning models and frameworks within blended and online learning spaces. Since 2018, the Wits Centre for Learning and Teaching Development, in collaboration with teaching staff within the institution, has reconceptualised an Open Education Resource (OER), the Facilitating Online short course. The focus of this course is to support the professional learning of academics to be able to promote community, collaboration and an openness to diverse voices in learning spaces. The aim is to remind academics of the humanising aspect of learning and teaching with technology, and in so doing adopt a human-centred pedagogy (Karakaya, 2021). A critical digital pedagogy stance is foregrounded, as too often the digital is privileged at the expense of critical pedagogy (Morris & Stommel, 2018).

This chapter argues that learning can be a social process and that through careful and considered design and facilitation, community and collaboration can be promoted in online and blended learning environments. Two frameworks are provided the Community of Inquiry framework (Garrison et al., 2000) and an "ethic of care" perspective (Bali, 2020; Noddings, 2012) that can be used in the design and facilitation of courses to promote community and collaboration. The chapter begins by describing the context, learning design approach and evolution of the short course. It then reviews the frameworks that underpin the design and facilitation of the course, particularly the taking of a critical digital pedagogy stance, the use of the Community of Inquiry framework and the adoption of an ethic of care perspective. The learning design implications are discussed before providing a set of recommendations for academics and learning designers.

Context

Wits University is a public, urban, residential university in Johannesburg, South Africa. It can be considered to be on the periphery, as it is located in the Global South. As a research-intensive university, academic focus and incentives are primarily related to research output rather than teaching and learning. We have found limited focus on learning and teaching in general and limited focus on learning design in particular. This has led academics to grapple with limited online identities and agency depletion around innovating in learning and teaching. Prior to the COVID-19 pandemic, the university was slowly transitioning to a blended learning approach. The pandemic necessitated rapid acceleration of this approach. To support the transition, Wits offered the Facilitating Online short course, an eight-week, fully online offering, creating an opportunity for academics to consider their transitioning and emergent identities as they move into more digital learning and teaching spaces.

The Facilitating Online short course was adapted from an openly licensed OER that makes use of active and experiential approaches to learning and teaching. The OER was developed at the University of Cape Town (UCT) in South Africa (Carr et al., 2009), published under a creative commons attribution, and has been adapted in other higher education contexts (Mallinson & Krull, 2015). As an OER, the course could easily be adapted according to the needs of the local institution. While both UCT and Wits are research-intensive and compete with the Global North in terms of rankings, the use of locally developed OER represents a shift in practices that enable access to multi-layered knowledge and a heterogeneity of identities and interpretations. We recognise that within higher education, there are questions around voice, power and authority (Freire, 1972) that aim to dismantle knowledge conceptions that reproduce hierarchies and support the wider need for decolonisation in the South African higher education sector. Decolonisation within the context of South African higher education refers to a deconstruction of Eurocentric standards, epistemologies, social practices, symbols, marketised systems and institutions, thereby capturing the agency of the current collective (Heleta, 2016).

Due to the previous apartheid dispensation in South Africa, higher education symbolised a system that was designed for an elite minority who retained cultural and economic capital as well as their social standing and superiority due to

inherited wealth. The move from an elitist South African higher education system to a massified system raised the need for widened access. One of the approaches to dealing with this challenge is to use design principles that support innovative open education practices (Cronin, 2017). The use of OER is one form of open practice that enables provision of materials associated with free costs, ease of use and freedom to reuse (Conole & Brown, 2018). These principles align with the open access practices described in the Statement on Open Access to Research Publications in South Africa set forth by the National Research Foundation in 2015.

We support education as a "public good", which needs to be shared openly through collegiality, in line with the principles of the open education movement (Conole & Brown, 2018; Cronin, 2017; Veletsianos, 2015). We recognise that open education practices "are shaped by social, cultural, economic, and political factors" (Veletsianos, 2015, p. 202) and are aware that the technologies used to support openness are influenced by the values and assumptions of learning designers. The intention for choosing this OER was to start with a tried and tested resource, instead of "reinventing the wheel". Adapting an OER made it easier to start from a solid theoretical and experiential base, while also (re)conceptualising the learning activities for contextual relevance.

The Facilitating Online course

This section describes the course structure as well as any adaptations made to the original UCT course. It also describes the process of building community through surfacing different voices.

Course description and adaptations

The Facilitating Online short course is a professional learning course for academics. Based on the principles of fostering playful yet reflective online learning communities (Carr et al., 2009), the purpose of the course is to assist academics in developing an awareness of the skills and specific toolsets available to support online facilitation. The course foregrounds designing and facilitating online activities through the use of an appropriate combination of technologies (Armellini & Aiyegbayo, 2010; Conole & Brown, 2018). Within this approach, the use of technologies for learning and teaching purposes requires content specialisation and grounding in pedagogy (Koehler & Mishra, 2009).

The Facilitating Online short course consists of approximately 100 notional study hours and spans eight weeks. It is offered twice a year and each iteration is different, owing to continuous improvement by a rotating group of co-facilitators and the varying needs and experiences of each iteration's participants. This is aligned with the view of seeing good learning design as being primarily about redesign (Armellini & Aiyegbayo, 2010). Typically, there are three to four co-facilitators and a maximum of 25 participants. The participant-to-facilitator ratio is purposefully kept low to support the creation of a learning community in a short timeframe. Participants are required to complete a series of weekly (asynchronous) activities and participate in a weekly live (synchronous) session. Each week builds on the focus of supporting the creation of online learning communities, aligned to specific themes. Table 1 provides a summary of the course model.

Table 1

Facilitating online short course model

Week	Theme	Short description
0		A short pre-course engagement to become familiar with the course information and environment.
1	Arriving	Participants "arrive" and navigate the online space, introduce themselves and evaluate their facilitation capabilities.
2	Conversing	Participants consider how to work together to form a learning community through getting to know each other, creating shared goals and discussing how to facilitate engagement.
3	Facilitating	Participants practice using key strategies and skills for online facilitation.

Week	Theme	Short description
4	Creating	Participants consider issues of diversity and inclusion and create an authentic learning activity.
5	Applying	Participants reflect on their course experiences and learnings and create plans to continue learning after the course.
6	Consolidating	Participants work on their ePortfolios to consolidate their learning.
7	Showcasing	Participants showcase their e-portfolios and receive feedback.

Over time, the course was reconceptualised to be more relevant to the specific and evolving needs of academics at Wits. This highlights the need for contextualised learning design. While the principles of the original course remained the same, three aspects were modified.

Flexibility

The first change was around enabling greater flexibility (as a part-time course) in terms of when participants were required to complete activities and engage in discussions. In the Wits context, some participants compounded their workload to complete it at the end of the week while discussions by other participants had been concluded in the preceding week. The course coordinators elected to provide greater flexibility while allowing participants to engage anytime, anywhere through meaningful discourse.

ePortfolio

The second change focused on a summative assessment component, based on the authentic assessment principles put forward by Herrington et al. (2014). The authentic assessment principles promoted by Herrington et al (2014) include assessments that are complex and collaborative, have real-world relevance, take place continuously and show evidence of work activity. The final assessment took the form of developing and showcasing an ePortfolio that consolidated and added to the activities completed each week. The ePortfolio comprised a short background of the participant, a synthesis of weekly reflections, a professional learning plan extending beyond the course, a consolidation of course research completed and a sample of learning activities designed. Peer assessment, together with facilitator reviews, served as a feedback mechanism. The ePortfolio was then showcased at the end of the course, resulting in an increase in the notional hours of the course.

Mentor-mentee

The third aspect focused on a mentor-mentee relationship. Each participant was paired alongside a facilitator who also acted as a mentor for a group of participants. The aim was to provide more personal assistance and support, as well as more general advice for participants. These changes reflect the need to redesign the course to suit participants' workloads and contexts as a form of critical practice. Table 2 provides a summary of the adaptations.

Table 2

Summary of course adaptations

Category	Original (UCT)	Adaptation (Wits)	Implications
Pacing	Limited flexibility in activity completion	Greater flexibility in activity completion	Enable participation when suitable to cater for busy workloads
Assessment	Formative assessment only	Inclusion of an ePortfolio as a summative assessment (including an increase in course notional study hours)	Participants use their learnings from weekly activities to build an ePortfolio that is showcased at the end of the course, enabling a cumulative and authentic approach to assessment

Category	Original (UCT)	Adaptation (Wits)	Implications
Mentoring	N/A	Establish mentor-mentee relationships	Greater support for participants to foster relationships and communities that extend beyond the course.

Incorporating voices from the community

The short course afforded us the opportunity to incorporate different voices from the university community. These voices were incorporated in three ways. The first was to rotate the co-facilitators of the course each year among various members of the Centre for Learning and Teaching Development and faculty Teaching and Learning Units. Secondly, we invited previous participants to be facilitators in the next course iteration so that their voices emerged through co-facilitation. Thirdly, engagement in course evaluations (by participants) and focus group reviews (by facilitators) after each course iteration allowed for consolidation of feedback that was taken into consideration for the next iteration of the course.

Aligned with the cry for decolonised education (Heleta, 2016), another focus for the course was to highlight the need for (and benefit of) embracing diversity and inclusivity. By enacting and conceptualising liberatory forms of conscious and adaptive material (OER) and facilitation (through co-facilitation and enactment of critical practices) in the online space, we coupled openness with critical digital pedagogic practice. This conceptualisation in turn supported conscientisation and critical thinking skills that course participants could use to connect to the lives of their students, irrespective of the learning environment.

While attempting to foster the idea of working collaboratively in a community (which does not form organically unless there is a shared objective and a safe space with common interests), the course made it possible for participants to become a community when practices were shared. This aspect links the importance of pedagogy while emphasising community; a community in which participants openly drew from one another through decisions around tool selection, how to facilitate, how to support the lived realities of their students, and so forth. In this way, participants were reminded of the humanising aspect of technology integration through the course facilitators enacting a critical digital pedagogy that transitioned participants' thinking and engagement while creating spaces for democratic participation in the online space.

Creating a safe and empowering course environment

An important aspect of the course was to provide a safe environment for participants to develop trust with the facilitators and each other. This was achieved in several ways. Firstly, facilitators acted in an authentic manner by sharing their own experiences and vulnerabilities in the live sessions and online discussions. Facilitators were open about the mistakes they made and where they could improve their design and facilitation skills. This encouraged participants to feel safe enough to do the same.

Secondly, there were two introductory activities at the start of the course where participants and facilitators had to introduce themselves (one of which was in video) and get to know others. Participants also needed to complete a pre-course introductory survey about their skills and experiences and share some (limited) personal information about themselves. An activity in Week 1 was designed for participants to reach out to another participant (not known before the course) who shares some identified commonality. Participants received constructive feedback from facilitators for virtually every activity, either through the live sessions, online discussions, or mentor-mentee interactions. While there were structured weekly activities, some space was left in the course for additional topics that participants wanted to explore.

During Weeks 3 and 4, as participants transitioned from being participants to co-facilitators in the course, they had to jointly facilitate a discussion forum or live session where they selected the topic for discussion. This encouraged participants to bring in their own perspectives and experiences, while practising their facilitation skills in a safe space.

Acting as mentors, facilitators support and motivate participants to succeed. Through reflection activities, participants were encouraged to discuss how they were feeling and what they felt was working or not working well in the course.

Frameworks underpinning the Facilitating Online short course

The learning theories, frameworks and models that underpin the design and facilitation of the Facilitating Online course are discussed in this section.

Critical digital pedagogy stance

A critical digital pedagogy stance was adopted throughout the course, as it exposes power differentials, inequalities and dominance (Freire, 1972), even when the digital dimension is integrated into learning and teaching (Morris & Stommel, 2018). In line with this approach, the focus was on identifying learning design principles and approaches that could be used to support achievement of the desired outcomes of the course. . As the idea of enacting critical digital pedagogy manifests through the facilitation of the course, we focus on the individual in the collective exchange of ideas in participative groups (Stommel, 2014). This stance was due to a need for “intimate pedagogy” instead of automated “embodiment”, as our belief is that critical digital pedagogy is a habitus at its nucleus (Pryal, 2010). This enactment was further strengthened through normalising conversation and dialogue at the core, so that educational technology could be integrated in a humanising way at the periphery.

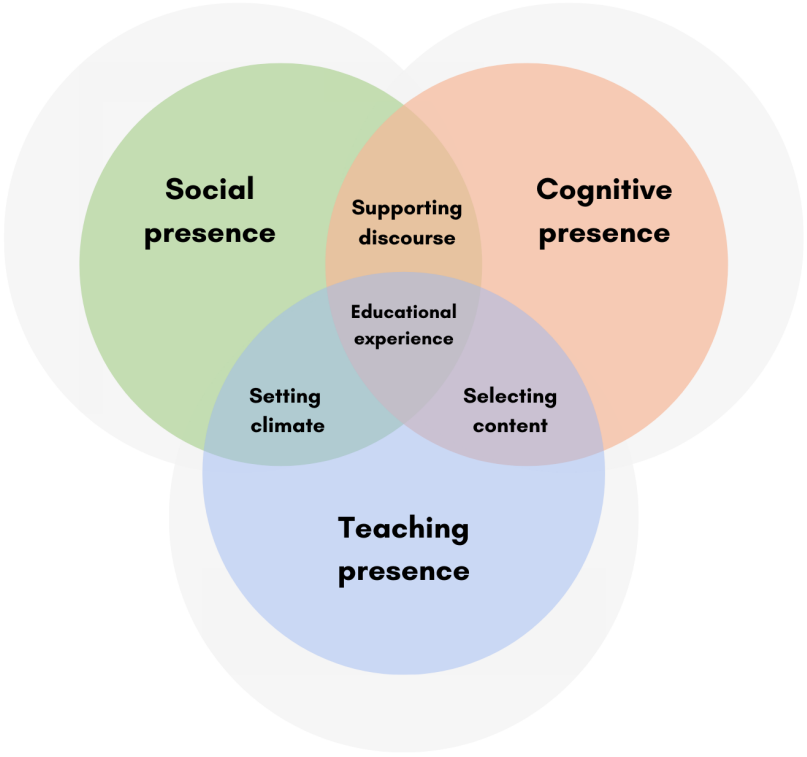
Community of Inquiry framework

Many educators venture into teaching blended or online courses without a solid understanding of how learning in this environment is different to traditional in-person learning. This impacts on the learning experiences of students in these courses.

In the higher education sector, community is seen as essential to supporting discourse and collaborative learning (Garrison & Arbaugh, 2007). The Community of Inquiry framework emerged from the textual interactions within online courses in higher education (Garrison et al., 2000). The aim of this framework is to design and facilitate a learning environment that will support meaningful collaboration and purposeful inquiry. A community of inquiry involves “questioning, reasoning, connecting, deliberating, challenging, and developing problem-solving techniques” (Lipman, 1991, as cited in Garrison et al., 2000, p. 91). The Community of Inquiry framework is based on socio-constructivist approaches to learning in higher education (Garrison & Arbaugh, 2007). Figure 1 provides an overview of the framework.

Figure 1

Overview of the Community of Inquiry framework (Garrison et al., 2000)



Cognitive presence is “the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication” (Garrison et al., 2000, p. 89). It focuses on higher-order thinking processes that occur across four phases: a triggering event, exploration, integration and resolution (Garrison et al., 2001). An educational community occurs within a broader social-emotional environment. Social presence is “the ability of participants in the Community of Inquiry to project their personal characteristics into the community, thereby presenting themselves to the other participants as ’real people’” (Garrison et al., 2000, p. 89). Relevant cognitive and social presence requires the presence of a teacher. Teaching presence consists of “the design of the educational experience” and “the sharing of the facilitation function” (Garrison et al., 2000, p. 90). The design of the educational experience includes “the selection, organization, and primary presentation of course content, as well as the design and development of learning activities and assessment” (Garrison et al., 2000, p. 90). The role of the teacher is to facilitate discourse and reflection by “presenting content, questions and proactively guiding and summarizing the discussion as well as confirming understanding through various means of assessment and feedback” (Garrison et al., 2000, p. 102).

Within online and blended learning, the Community of Inquiry framework has attracted the attention of many scholars and practitioners (Garrison & Arbaugh, 2007). The framework has been used in different settings and scholars have continued to test and enhance the framework (see Garrison et al., 2010; Stenbon, 2018). Over time, several authors have suggested additional presences should be incorporated into the framework, including emotional and learning presence (Kozan & Caskurlu, 2018).

The ethic of care perspective

In addition to the use of the Community of Inquiry framework in the course, we adopted an ethic of care perspective which emphasised modelling and dialogue. Central to the ethic of care perspective is “listening, dialogue, critical thinking, reflective response, and making thoughtful connections among the disciplines and to life itself” (Noddings, 2012, p. 771). In this context, a caring relationship exists between a teacher and a student, which involves a teacher being attentive to the expressed needs of the student and, after listening and reflecting, requires a response that

maintains the caring relation. This caring relation underpins the work teachers do (Noddings, 2012). Noddings (1988) proposes a model of moral education, consisting of: modelling, dialogue, practice and confirmation. Using this approach, a teacher can model caring through a perspective that is broader than academic achievement. Teachers model patterns of intellectual activity as well as patterns of interacting with others. Open dialogue ensures the development of trust and maintaining caring relations. Practice in caring creates opportunities for students to practice their learning in a safe space, to engage with other students (peer interactions and group work), support each other, and reflect. Confirmation involves trust and continuity, to affirm students through knowing them and by encouraging "responsible self-affirmation in their students" (Noddings, 1988, p. 222). The ethic care perspective emerged more strongly globally as a response to the challenges associated with the COVID-19 pandemic (Bali, 2020; Karakaya, 2021).

Discussion

As this is a professional learning short course for academics, the distinction between facilitator and participant is a small one. The distinction is further blurred during the course as participants are encouraged to take on more active facilitation roles. The course is a work-in-progress. Through ongoing reviews that bring in different voices and critical practice, the course is updated with each iteration, based on participant feedback through a course survey and a facilitator focus group conducted after every iteration. This emphasises a redesign approach to learning design.

The course is guided by models and frameworks that highlight the importance of establishing digital learning communities that promote collaboration and an openness to diverse voices. Using an ethic of care perspective ensures that facilitators model the types of practices that they would like to see participants adopting. It also ensures continuous dialogue between participants and facilitators in the synchronous and asynchronous activities. An ethic of care perspective ensures that care is demonstrated in the course philosophy and design, and in how it is facilitated. It can also be demonstrated by going beyond the professional interactions by caring at the personal level (Bali, 2020). Facilitators are encouraged to show their vulnerabilities and share about themselves in an authentic manner to encourage participants to feel safe enough to do the same. Aligned with a view that learning does not take place without reflection (Loughran, 2002), the final activity in each week is a reflection activity. Participants are also required to synthesise their reflections at the end of the course.

The course aims to support academics to transition from classroom to online learning environments. Participants are also sensitised into the online course space through the use of Salmon's (2004) five-stage model that scaffolds structured activities and support in a new learning environment. This is underpinned by the establishment and interconnection between the three presences of the Community of Inquiry framework: cognitive, social and teaching presence (Garrison et al., 2000). This is done in a way that supports a holistic view of learning and teaching in higher education. For example, fostering a sense of willingness to understand the people around you, knowing how to choose appropriate technological tools and how to apply learning design principles. This goes beyond the focus of a specific professional learning short course for academics, extending these learning design considerations and principles to courses throughout the university.

The move to greater use of digital learning and teaching environments brings about the emergence of transitioned identities and diverse voices. This includes the voices of the course designers, facilitators, participants and (indirectly) students. From ongoing discussions with participants after course completion, many academics continue to question their learning and teaching assumptions and practices, transitioning their identities from "being" to "becoming" (Barnett, 2009). The focus on encouraging diverse voices within the course sometimes results in challenges for facilitators, but these are also opportunities for learning. For example, a previous participant with strong views severely disrupted a live session. However, this incident forced the facilitators to look at the particular topic through a different lens and to identify with the lived experiences and context of this participant. By adopting an ethic of care perspective, it became a learning experience for both participants and facilitators.

Aligned to the Community of Inquiry framework, a key principle in the design and facilitation of this course is a strong initial focus on creating a community, and then only focus on the learning. This requires the creation of safe spaces and

building trust to support learning once these aspects are in place. As part of this, the facilitators open up about their own experiences and vulnerabilities, which in turn encourages participants to do the same, thus promoting a sense of community and collaboration. In addition to the foregrounding of social presence, aspects of the cognitive and teaching presences are also explored.

As many academics experienced during the rapid transition to emergency remote teaching and learning during the COVID-19 pandemic, establishing social presence online could be challenging. While this may occur more naturally in an in-person setting, it may not occur online without facilitators establishing the appropriate environment and support mechanisms to enable participants to establish this presence. In previous iterations of the course, many participants came in to complete the required activities without wanting to engage with other participants. Accordingly, the course requires that facilitators highlight the importance of social presence in higher education and encourages the adoption of principles of community building. One of the great joys associated with facilitating this course is seeing the continuation of some of these connections once the course is complete as well as the development of new communities of practice between participants and their own networks.

The intersection between theory and practice is complex. This chapter has highlighted just a few of the frameworks available to support the design and facilitation of learning. Many academics rely on their own expertise and experience in approaching learning design, but the use of models and frameworks can provide a theoretical grounding to design and facilitation. These frameworks are also brought into discussions around their impact upon learning and teaching practices. The use of theoretical aspects may not be appreciated if these do not manifest in practice. Perhaps there is too little action or embodiment of changing practices taking place.

Recommendations

This section highlights several recommendations for learning design emanating from the discussion. Our central recommendation is that learning design needs to be thought of holistically to include the facilitation of courses. Considerations for how courses are facilitated are as important as how courses are conceptualised and designed. This is something that academics do not often consider as their focus is often on course design. Enabling academics to enhance their active and responsive facilitation skills can help to improve learning design generally.

Many academics moving into online and blended learning environments are unfamiliar with available theories and frameworks. We recommend that academics and learning designers engage with the theories and frameworks discussed in this chapter to ensure a solid theoretical basis. Additionally, there are other frameworks that can be utilised for learning design that are beyond the scope of this chapter. These frameworks and models can be applied to improve the design and facilitation of courses in higher education. We recommend that an activist stance be enacted to use theory to guide practice, to foreground the practicality to make sense of the theories so we meet the needs of our students.

Aligned with the elements of the Community of Inquiry framework, we recommend an intentional focus on the formation of learning communities to create safe spaces and build trust among participants. This can be supported by facilitators sharing their experiences and vulnerabilities, and in so doing encouraging participants to do the same. It also requires facilitators to get to know their participants. Once these social presence elements are in place, there are supports for learning to take place.

The adoption and promotion of OER support the incorporation of resources and ideas created in different contexts and the incorporation of different voices. By adapting an OER created at another South African university, the practices of openness and sharing are encouraged across higher education institutions. In order to promote contextually appropriate good learning design and facilitation practices, we further recommend the adoption of open education practices and a focus on reflective practices.

Conclusion

Within a South African higher education context, we have shared our voices as learning designers and facilitators who provide learning and teaching support to academics. This chapter has shared how particular models or frameworks can be used to influence the design and facilitation of online and blended courses. The adoption of the Community of Inquiry framework, an ethic of care perspective and a critical digital pedagogy stance can inform learning design and facilitation processes that promote collaboration and community. In particular, the adoption of the ethic of care perspective required us to be responsive to participant needs and their contexts, by, for example, paying attention to their workloads and identities. The adoption of the Community of Inquiry model enabled us to first establish social presence that then empowered learning to take place. To promote community and collaboration, we believe that the social aspect needs to be emphasised in online and blended learning spaces. We have argued that learning design needs to be considered holistically, which includes how courses are facilitated. This is an area upon which future research can expand. We have illustrated these principles through an example of the design and facilitation of a specific professional learning short course for academics. Adapted from an OER, this online facilitation short course for academics encourages a transition in thinking and learning and teaching practices. We have further argued for greater adoption of open education practices to support learning design in higher education that encourages adaptation for local needs. Finally, the chapter has affirmed that learning design is not static; it needs to be flexible to the contexts of students and requires a continuous focus on (re)design.

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13

How to insert design into the emergency online response – learning designers' reflections

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Higher Education | abc Learning Design | staff development

Chapter in brief

Like most other countries, South Africa experienced hard lockdown restrictions because of the COVID-19 pandemic in 2020. Higher education institutions across the country, including the University of Cape Town (UCT), were closed and teaching and learning moved online. In this chapter, we, two online learning designers at the Center for Innovation in Learning and Teaching (CILT) at UCT, document our experiences rapidly developing a short online course: the "Design Studio" for teaching staff during this unplanned pivot to take their teaching online. Our roles as online learning designers positioned us as experts to provide our reflections and lessons learnt through our practice designing and teaching on the short course that may resonate with the curriculum and course development sector globally. In Design Studio, we made use of three of Meyers' strategies for reimaging online spaces as opportunities for transformative learning for students by creating a safe environment, encouraging participants to think about their experiences, beliefs and biases, and adopting teaching strategies that promoted engagement and participation. Critical reflection and orientations to student-centred design, specifically, Universal Design for Learning underpinned design choices in order to both support participants and model good practice.

Introduction

The literature on the COVID-19 lockdowns in education describes how academics globally faced numerous challenges that included a lack of experience and knowledge with technology skills, pedagogy in an online space, organisation of content and students' lack of interactivity (Ferri et al., 2020). In the South African context, both teaching staff and students were ill-prepared for teaching and learning online. Due to historical discrimination and extreme differences in access to resources, not all staff and students could participate in online and blended modes. The shift to online

learning further deepened the existing inequality gap (Statistics South Africa, 2019) by removing access to relatively well-resourced higher education institutions (HEIs). Students were dispersed across the country and away from university residences which had provided physical needs and better access to digital infrastructure than is available in most home environments. Many faced challenges such as unstable electricity supply, absence of digital devices, poor ICT infrastructure, limited data access, socially unfavourable home conditions and information literacy to support learning (Czerniewicz et al., 2020). This was also the case for students from the University of Cape Town (UCT), the most highly ranked university in Africa.

Due to the sudden move to emergency remote teaching (ERT) (Hodges et al., 2020), the Centre for Innovation in Learning and Teaching (CILT) was called upon to provide structured institutional support for teaching staff. As a centrally located organisational unit working across the institution, CILT had to rapidly ramp up support for teaching staff who needed to create online courses over a few weeks by providing webinars, training, individual support and self-help documents. The webinar programme introduced the key principles of low-tech online teaching to help teaching staff orient to the new reality, provided just-in-time training on topics such as how to record a lecture video and how to create an online test. CILT also produced a series of new text and video help documentation over this time.

The need for a Design Studio

While there was good uptake for the webinars and help resources, it became clear that there was a need for a more structured process to guide teaching staff in their own online course design. At first, we introduced an online Rapid Design workshop of two hours as part of the regular webinar programme. We sought to communicate a “design approach” that is so important for online course development. However, we found this was not sufficient time to work through all the key stages of design, while also providing a much-needed space for personal and peer support in dealing with the radical changes being experienced. In our interactions with teaching staff, it was also clear that the lack of experience of online learning meant it was very difficult (often impossible) for lecturers to imagine what they were trying to create and to understand what students were going through. The Design Studio was CILT's response to support those seeking deeper engagements to redesign their own courses online on UCT’s learning management system (LMS) Vula and to provide opportunities to build a new pedagogic practice and identity as an online teacher.

Both of us were part of the team of CILT academics and learning designers who either created or facilitated the Design Studio. Between us, we authors have over 20 years of experience in educational design from various sectors, ranging from school-based education to adult informal education. Mashudu joined the team as a learning designer during the pandemic and stepped in to co-facilitate the course and make iterative revisions from 2021. Janet is a senior learning designer and unit manager who was part of the original course design team in 2020.

This chapter serves as a design precedent that seeks to disseminate knowledge that may resonate with other designers offering “behind-the-scenes” activities, building knowledge about learning design in practice and benefiting designers across various contexts (Boling, 2010). Using Brookfield’s (2017; Brookfield et al., 2019) concept of critical reflection, we review the Design Studio and the key design practices that we adopted.

Design Studio: From conception to reality

The road to Design Studio

Prior to the pandemic, most staff had used the institutional LMS primarily as a repository for resources and to make class announcements. ERT required that teaching staff teach almost exclusively online, and, in the South African context, that they make use of low-tech, asynchronous, online options. With many staff having little personal experience of online learning, they had few reference points for the challenge of ERT. During support sessions early in the COVID-19 crisis, staff articulated strong concerns about online learning including a lack of skills and experience of using technology and digital content to teach. Our challenge in providing support became more than simply doing skills training for recording lectures or using the LMS tools (which we did as well) – it was to provide a rapid immersion experience in becoming online educators.

The learning design team at CILT had already adopted the ABC design approach developed by the University College London based on Laurillard's (2013) conversational framework for the development of fully online courses. The ABC design approach was, at the time, an intensive 90-minute, paper-based guided design process. The conventional ABC workshops were intended for a teaching team involved in a more formal redesign process, while we now needed to be more flexible and revisit what we included. The in-person design workshop was transformed into a virtual workshop called the Rapid Design workshop, and we found that designing for online modes offered lecturers an opportunity to experience what they were creating for their own students. But given the scale of the demand on lecturers, the single Rapid Design workshop was not sufficient to enable staff to undertake redesign processes on their own. The ABC method focuses on student learning as the starting point for design, and while this approach was retained, we felt teaching staff needed more support to move beyond the content transfer model. This was the inspiration for developing a longer engagement which would provide teaching staff with a guided course design process intended to build their capacity as online lecturers through a "learn-by-doing" experience.

A brief description of Design Studio

For teaching staff, the usual mental reference points about what it is like to be a student based on their own experience in the lecture theatre or the lab were no longer available. The learning design team had to think of a way to give lecturers an insight into the experience of being an online student. Brookfield (2017) insists that a critically reflective teacher must be able to take into account the perspective of students (the lens of "students' eyes") as well as the perspective of peers. Design Studio built on our experiences with the Rapid Design workshop, and offered teaching staff a step-by-step online course design process over six weeks while also providing them with an immersive experience of being an online learner. In the role of students on the Design Studio course, staff participants are guided on a six-week journey to redesign their course. It requires approximately 20 hours of work with much of that time spent on producing components for their course. The course objectives are for academics to produce a well-structured, high-level plan for their course using the ABC design method, create a few digital learning materials (such as a video), develop ideas for student engagement activities and build a restructured course site. In producing the artefacts, they are practising the skills being taught and applying some of the insights gained in viewing learning materials as students ("personal experience lens"). The Design Studio actively strives to create a positive peer-to-peer learning environment with Padlet boards for sharing content artefacts, online discussion spaces about common problems and fishbowl-type exercises working on aspects of volunteers' courses during the live sessions.

Getting staff to reflect on the challenges of the COVID-19 context and what their students were experiencing online was a key element of the Design Studio. The adult education tradition strongly emphasises the experiential learning cycle (Kolb, 1984). Kolb's experiential learning theory describes a 4-stage learning cycle: concrete experience, reflective observation, abstract conceptualisation and active experimentation. In the UCT context, Design Studio invites participants to occupy several concurrent roles: teacher, designer and student. They arrive as lecturers bringing their subject-matter expertise and pedagogic approach and they are invited to participate in the role of teacher-as-designer (Laurillard, 2013). By engaging with the Design Studio course site, lecturers are exposed to a model for site design and experience the value of a systematic site layout and scaffolding learning. Lecturers are enrolled as "students" on the course site providing an immersive experience similar to that of their students. By placing staff in both a student role and a designer role, they have opportunities to reflect on their teaching and existing course site design. Reflection, a key part of the experiential learning cycle, creates space for the development of new knowledge and for adaptations in practice.

The weekly live synchronous sessions were set up to model online teaching or facilitation – exposing participants to new tools and approaches as well as a first-hand experience of what it is like to be on the student-end of virtual teaching. The abstract conceptualisation stage introduces them to learning and teaching concepts and frameworks. The entire course is structured around staged tasks that participants are asked to complete each week to create a part of their own course design. These weekly tasks require "active experimentation" – the final aspect of the experiential learning cycle.

While our goal was a fast, practical guided design process with an immersive experience, this approach surfaced many contradictions.

In reality, for many staff, keeping up with the learning and producing artefacts during Design Studio proved challenging. Even during the heart of the lockdown period, the Design Studio was a voluntary activity; most staff continued with their regular teaching, often with extended pastoral duties for students. Some staff shared their feelings of being overloaded due to changing workload as academics (continuing regular responsibilities supervising students, marking assessments) and new roles in preparing online learning materials. Additionally, given the COVID-19 context, most of our participants were working from home and not always in spaces that were conducive to an uninterrupted workday (Czerniewicz et al., 2020). Staff members with children had to take care of their children and attend to daily chores at home (Czerniewicz et al., 2020). While they expressed the intention to work through the Design Studio's asynchronous learning activities, few were able to keep up with the course schedule even when we tried different pacing options.

Much as we had seen from designing massive online open courses (MOOC), volunteer learners have to be strategic about their time and will do what they feel is most valuable given the competing demands (Deacon et al., 2019). For Design Studio, participants often came along to the weekly live sessions even if they could not keep up with the course outputs. The live sessions became a space for peer support and solidarity – sharing the emotionally and physically exhausting experience of teaching online under these conditions. As facilitators, we had to be flexible and adapt to accommodate our participants. For example, we recorded the live sessions for those that were not able to attend to watch when they could. We also offered extended deadlines for participants to complete the asynchronous course materials long after the official course period had ended. We hoped to model caring approaches to students by intentionally facilitating peer support, mutual self-help and building trust in the classroom (Imad, 2021) to give staff a personal experience of how this can transform a student's learning engagement.

The Design Studio team

The design process for Design Studio included a collaborative team of 15 people, drawing in both learning designers and academic staff developers, some in design roles and others as teacher-facilitators with a few doing both. The initial run of Design Studio, in mid-2020, consisted of three overlapping cohorts each with a different facilitation team. While the highly collaborative process was exhilarating, it was not a sustainable approach. After the first three cohorts, we reduced the Design Studio team to five people who took responsibility for administering, running, reviewing and maintaining the course.

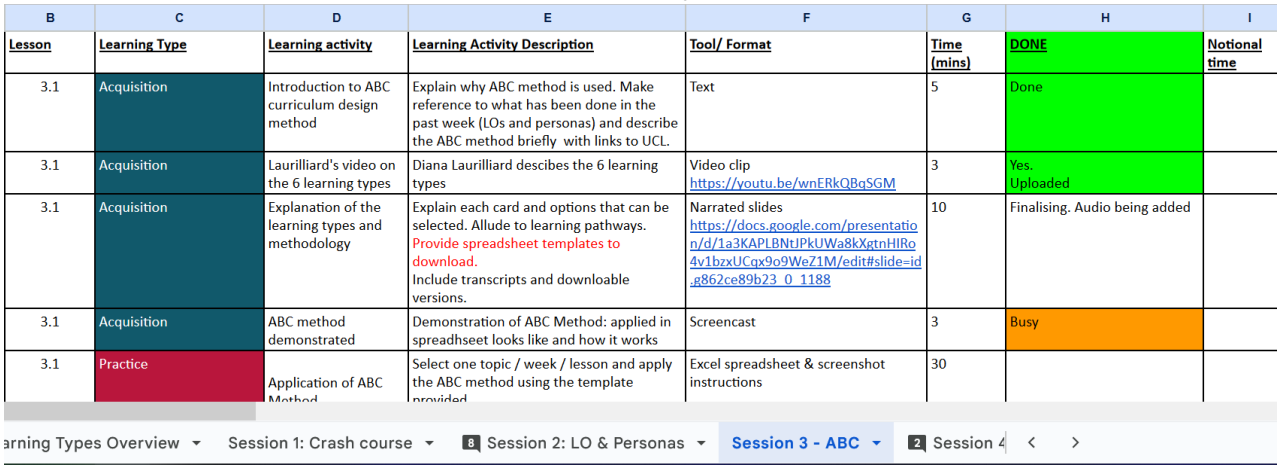
The Design Studio facilitators had imagined the collaborative nature of the design would encourage peer support among academic lecturers. This was not always the case – some participants felt that the CILT example was unrealistic and impossible to replicate. There is a risk that the modelling of "good practice" is discouraging to lecturers who have neither the collaborative organisational context nor the digital skills and resources available to the CILT team. This was a sobering reminder to us as learning designers to adopt our own principle of designing for the students we have rather than for ideals. While we might promote collaborative teaching, we cannot assume this will be possible and should not design for this idealised context.

The learning designer's experience of Design Studio

In many ways, as designers we were simulating the experience of the regular teaching staff – having to come up with immediate solutions without the careful design approach we would normally recommend and adopt. Nine learning designers participated in a guided design process to come up with a curriculum, create the learning materials and build a course over a month. After a collective virtual workshop, the team split up to work on modules: creating course maps, materials and learning activities on the LMS. It was a uniquely stimulating experience for the learning designers. Although the timeline was short and often required the design teams to work overtime and on weekends to get the course ready, most of the CILT staff enjoyed being involved in creating a course design as the experts instead of the advisory roles they are normally called upon to play. With the high levels of design competence and multimedia skills, the process from course mapping to course build was very quick.

Figure 1

Screenshot of one of the Design Studio module "maps" from May 2020 using Laurillard's learning activities



B	C	D	E	F	G	H	I
Lesson	**Learning Type**	**Learning activity**	**Learning Activity Description**	**Tool/ Format**	**Time (mins)**	**DONE**	**Notional time**
3.1	Acquisition	Introduction to ABC curriculum design method	Explain why ABC method is used. Make reference to what has been done in the past week (LOs and personas) and describe the ABC method briefly with links to UCL.	Text	5	Done	
3.1	Acquisition	Laurilliard's video on the 6 learning types	Diana Laurilliard descibes the 6 learning types	Video clip https://youtu.be/wnERkQBqSGM	3	Yes. Uploaded	
3.1	Acquisition	Explanation of the learning types and methodology	Explain each card and options that can be selected. Allude to learning pathways. Provide spreadsheet templates to download. Include transcripts and downloable versions.	Narrated slides https://docs.google.com/presentation/d/1a3KAPLBNtJPkUWa8kXgtnHIRo4v1bzxUCqx9o9WeZ1M/edit#slide=id.g862ce89b23_0_1188	10	Finalising. Audio being added	
3.1	Acquisition	ABC method demonstrated	Demonstration of ABC Method: applied in spreadhseet looks like and how it works	Screencast	3	Busy	
3.1	Practice	Application of ABC Method	Select one topic / week / lesson and apply the ABC method using the template provided	Excel spreadsheet & screenshot instructions	30		

arning Types Overview | Session 1: Crash course | 8 Session 2: LO & Personas | Session 3 - ABC | 2 Session 4

Transformative pedagogy in an online space

Meyers (2008, p. 219) identified five strategies for reimaging online spaces as opportunities for transformative learning for students. He encouraged staff to:

1. Create a safe environment.
2. Encourage students to think about their experiences, beliefs and biases.
3. Use teaching strategies that promote student engagement and participation.
4. Pose real-world problems.
5. Help students to implement action-oriented solutions.

Although Design Studio serves staff rather than student participants, Meyers' strategies nonetheless provide a practical lens for understanding Design Studio practice. The Design Studio seeks to function as a space where transformative pedagogy through experiential learning takes place. This is achieved in both synchronous live sessions and asynchronous interactions in the Design Studio course site. We sought to create a safe and inviting environment for participants, encouraged them to think about their experience, assumptions, beliefs and biases, and to use teaching strategies that promote student engagement and participation. Furthermore, Design Studio has a strong real-world orientation as participants work on real courses for actual students and is fundamentally oriented to promoting and achieving equity in relation to multiple dimensions.

Create a safe and inviting environment

First, before the course begins, participants receive an outline of what they can expect from the course, the overall structure and a schedule of events.

One of the most challenging aspects of the short course design has been dealing with time constraints. A common refrain of the teaching staff was the massive increase in workload in the online pivot. The design team tried to maximise the value of the expected learning engagement for teaching staff by designing Design Studio activities around artefacts and processes that staff could use in their own courses. Despite this, participants struggled to keep up with the expected outcomes. We continue to look at adjustments to the current design based on feedback including reducing the number of expected outputs and encouraging participants to focus on the most useful aspects.

We designed the course to offer flexible engagement (mostly being online and with many opportunities for asynchronous learning and work), with limited, carefully designed live sessions to keep participants motivated. Through several variations, we found the most effective pacing includes two live sessions per week – an optional 30 minute live briefing at the beginning of the week to clarify and elaborate on tasks participants needed to complete in that week and

a required 1.5 hour synchronous live Design Sprint session later in the week were allocated time for participants to work on their own courses and with help close at hand. In the 30-minute introductory sessions, we offered participants a space to speak or write about their experience of the course at that moment. Such feedback allowed us to make adjustments as we went along. Participants were also encouraged to contact us via email with any queries that would arise. We consciously tried to build a sense of community and connection in the live sessions, emphasising respect and support to create a safe space for sharing affective and practical challenges.

A flipped classroom approach was applied where the week's module was unlocked before the first 30-minute live session. The resources to be used and discussed in the session such as the slides were made available to participants before the live sessions.

Encourage students to think about their experiences, beliefs, and biases

The course begins with a module titled Designing for your Context. This module gives participants an opportunity to review how their courses have run previously and to think about how the local teaching context will shape their course design and teaching practice going forward.

In this module, we asked staff to reflect on how ERT impacted on their past design and teaching process. They identified and shared with colleagues through online comments, key aspects of their context that shape their design in relation to Universal Design for Learning (CAST, 2008), disciplinary context, assessment requirements and broadly active, student-oriented pedagogic strategies. Lastly, they identified or constructed a model of online and face-to-face teaching that responds to their students' contextual requirements and constraints.

In the live sessions, we used questioning strategies that prompted the participants to continuously think about their context, who they were designing for, what they wanted their students to learn and to think about how they could create meaningful learning opportunities for their students.

Use teaching strategies that promote student engagement and participation

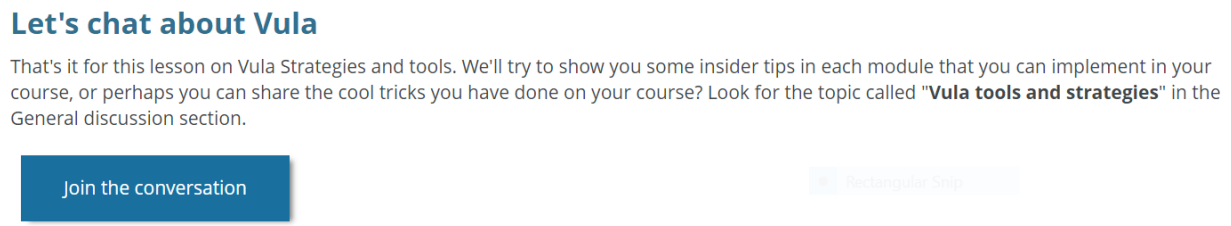
A common challenge during ERT was the lack of, or perceived reduction in, student engagement and participation in the new online space. Teaching staff expressed the need to find new ways of connecting with the students and creating a community in an online learning space.

In the Design Studio course, we modelled ways to encourage participant engagement in both live sessions and asynchronous activities. At various points in the last three years, we have used Zoom and Teams. While Zoom performs better in terms of accessibility especially for mobile devices, MS Teams is available to all staff and students and has persistent chat functions. Live meetings were scheduled and hosted on these platforms. Participants could hold discussions in the meeting chat, they could reply, like and react with emojis. Live meetings also allowed facilitators to run small group discussions in breakout rooms where participants would have discussions and give feedback to the rest of the cohort members after the group discussions.

In the Design Studio course site, several opportunities and activities were created that required the participants to actively engage in structured discussions using a range of tools such as "add comment" function, chat and discussion tools. An example of such an activity is shown in Figure 2 below. In this short activity, participants shared with each other some of the LMS tricks and tips that they had used before. A discussion activity such as this one provides participants with the opportunity to engage with one another and learn from each other.

Figure 2

LMS (Vula) strategies – chat activity



In module 2, titled *Engaging Activities,* the Design Studio outlined a method for thinking through how to design opportunities for engagement into a course. This has been the greatest source of frustration for academic staff. In face-to-face teaching and learning context, engagement seems to happen "naturally". In an online environment, opportunities for engagement need to be specifically designed into a course and even then participation varies: we discuss the challenges, provide resources on student engagement and then give participants an opportunity to think about what could work for their students and their context.

In Design Studio, we provide participants with a four-part distinction that helps them identify key opportunities for engagement in their course by focusing on what students are doing. By outlining elements of the course i.e. content, student activities, communication and learning organisation and assessment, participants can identify opportunities for engagement in each quadrant. The course unpacked how this framework might be used in great detail in an online course. As a result of these challenges experienced, teaching staff expressed their need for strategies and tools to help them continue to transfer certain interactions that were present in a face-to-face environment to an online space. This ranged from formal and informal assessment strategies such as quizzes, tests, student engagement and discussion strategies.

During the ERT period, it was evident that many academic lecturers who were experienced with face-to-face teaching lacked exposure to tools that support learning online. They battled to ascertain which tools would best be suited to promote engagement and create learning interactions in their course. Some academics were also not well versed in the technical use and application of the tools that they needed to create meaningful teaching and learning experiences in an online space. For example, some of the academics had little to no expertise in recording lecture presentations from their own devices remotely, a skill they suddenly needed to have to create recorded lecture videos for their students.

Without time or support, many lecturers had not designed clear learning pathways for students. Some used the LMS as a materials repository and materials that would have otherwise been presented on paper and on face-to-face lectures were replaced by digital equivalents.

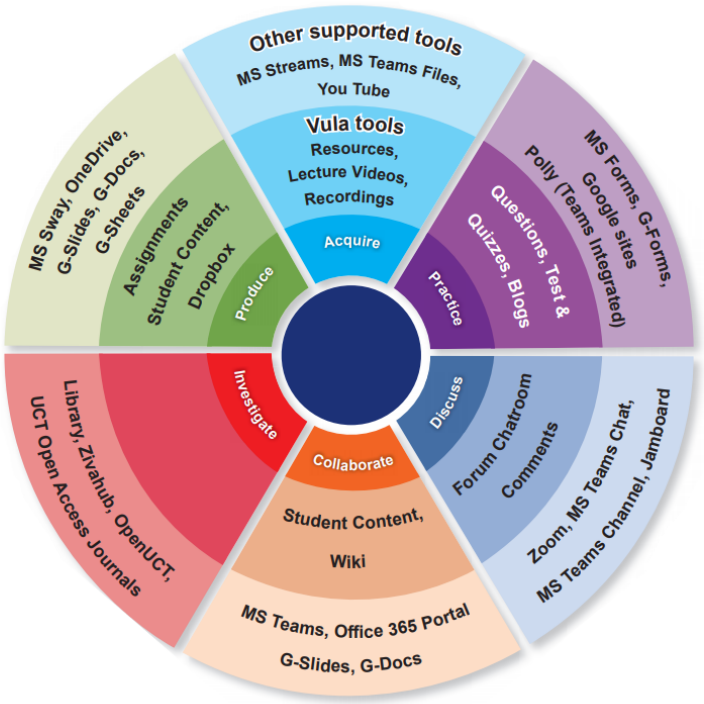
We tried to address the challenge above by incorporating various tools within the course through learning activities to provide teaching staff lectures with a student experience of using the tools. We designed the course to provide participants with opportunities to interact and use the new tools in the Design Studio course, giving them the personal learning experience needed for a teacher to adopt a practice. We hoped that by requiring staff to create learning activities and digital materials, they would develop more confidence and mastery in managing technical tools.

The course modelled how those tools could be used in their courses both on course sites and in live synchronous sessions. Although, during ERT, we were cautious about promoting synchronous activities for students due to the cost of data and difficulties with connectivity from remote locations. The activities on the course site also modelled instructional text on how to use the tools or participate in activities as this was an area of inexperience for staff and students alike.

Apart from the concrete experiential learning tools, the Design Studio introduces participants to content where participants learn about appropriate tools to use for specific learning types according to Laurillard's framing. One of the modules describes how one could select tools that might enable the six learning types in an online learning space. We focused our attention on the core LMS tools as well as third party supported tools. We developed a tool wheel that mapped many of these tools to the six learning types (Figure 3).

Figure 3

The tool wheel



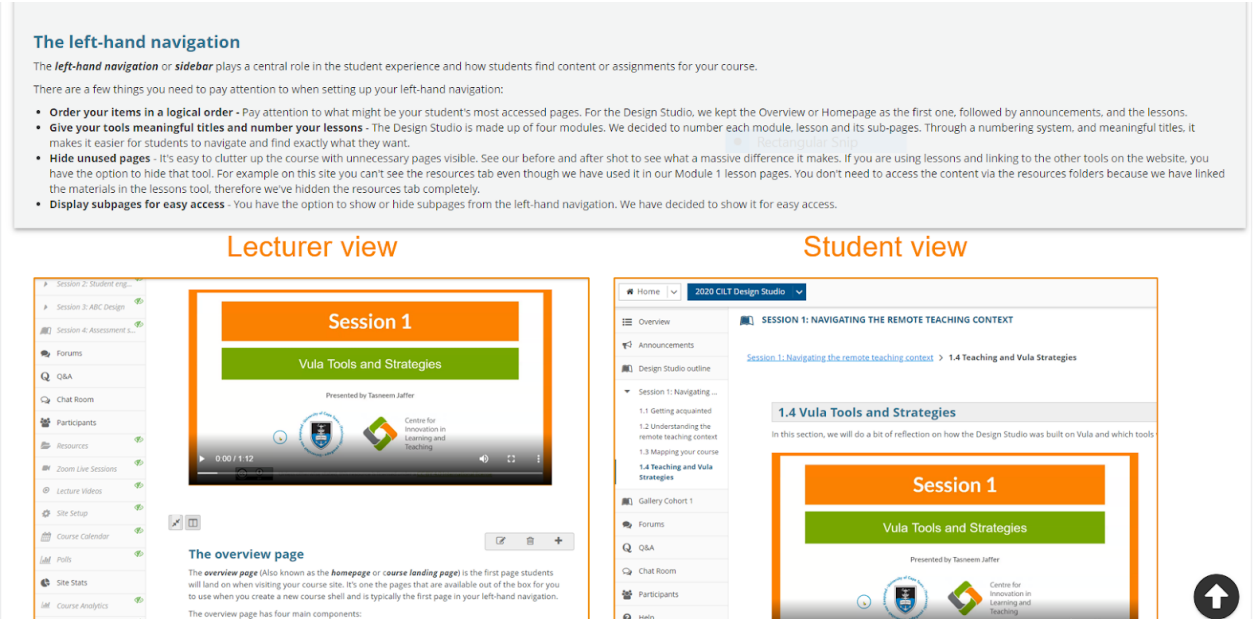
Organisation of content

Design Studio enrols teachers-as-designers (Laurillard, 2013) in understanding the key approaches to designing learning via the LMS course site where they would get ideas of how a course could be organised and experience the value of a systematic site layout. Participants would be given opportunities to reflect on their teaching and existing course site design, and be encouraged to refine their sites on the basis of their reflections. Most indicated that the course gave them a student's experience of the LMS site through this engagement with content.

After each module, we would unpack how that module had been designed, explaining our design rationale for the selection of tools as well as any technical setup. This invited the teacher-as-designer to look back at what they had just experienced to see exactly how it had been created on the LMS.

Figure 4

Screenshot showing a module's design rationale for tool selection



Design for a diverse range of participants

Given the relative speed of the course development process, we needed to adopt an iterative approach – seeking feedback and making adjustments after each course run.

We have experimented in a range of ways with the structure and pacing of Design Studio. A self-paced version was created with the intention of creating multiple learning pathways through the course site. The number and length of the live sessions have varied. Overlapping cohorts were run off a single site which proved complex to manage. The order of modules has been shifted around. New material has been added and professional development certification is offered.

The design team has been reflecting on what this short course can provide for teaching staff given the diversity of needs. Several assumptions were made at the outset including that the primary participants would be teaching staff from UCT. We made intentional decisions to model effective practice around site design and layout and to promote the institutional LMS (because it was less data intensive for students) and institutionally supported learning tools (because it would be easier for staff to get assistance when they required it). A few individuals from other universities participated in the short course and indicated that the design principles were translatable into their own LMS. While teaching staff have a range of needs based on their experience, confidence navigating digital environments and specific disciplinary contexts, Design Studio focused on providing some fundamental design approaches that could be adapted as necessary. There was an emphasis on the student context which included thinking about personas and an introduction to Universal Design for Learning which emphasises inclusive design.

Critical reflection mirrors the learning cycle in that it is an interactive continuous process of monitoring, improving and adjusting. The original purpose of the course was to cater for the community of teaching staff at the university, but Design Studio is not an effective learning experience for all. We are experimenting with Rapid Design workshops, the self-paced version and DIY resources but our challenge, as learning designers, is to continue to better understand and focus on what the teaching staff in our context need from a course. We continue to redevelop and adapt our approaches to accommodate those needs while remaining committed to our first principle – the “experiential learning” aspects of learning online.

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Provocation 3

The challenge of designing learning experiences

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Higher Education | Learning Design | Authentic Learning | Learning Activities | Meaningful Learning | Technology-Enabled Learning

Chapter in brief

Learning activities engage students in the learning process and support them with achieving the intended learning outcomes. A critical analysis of design challenges in relation to pedagogy, technology, and content is presented based on theoretical aspects. A series of authentic scenarios have been included to stimulate reflective thinking of educators and those in the field.

Introduction

Learning activities are critical components of a learning experience. Learning activities engage students in the learning process and support them with achieving the intended learning outcomes. Very often though, these activities are targeted at the acquisition of subject matter knowledge, and not enough on the development of skills and competencies necessary for solving real-life challenges. Unless learners are quite clear about *why* they are doing an activity, and *how* it is linked with their real-life situations, it would be neither meaningful, nor useful for them. Thus, design of learning activities with a clear purpose and supported by a strong theoretical view of how learning occurs, is essential to help development of critical competencies of learners. This is certainly a challenging task!

This piece attempts to provoke educators' thinking about contextual issues and challenges faced in designing learning experiences. A critical analysis of design challenges in relation to pedagogy, technology, and content is presented based on theoretical aspects as well as my own experiences as an educator in an open and distance learning (ODL) higher education institution (HEI) in Sri Lanka for three decades. A series of authentic "scenarios" have been included to stimulate reflective thinking of educators and those in the field to relate these issues in their own contexts, and to engage in a meaningful discussion on how best to manage such challenges.

Designing meaningful learning experiences

The development of knowledge is a product of the learning situation and learning activity embedded in the context and culture in which it is developed and used (Lave & Wenger, 1990). Learning is best seen as a situated cognitive activity that occurs in social, cultural and physical contexts (Brown et al., 1989). Accordingly, a productive learning experience takes place only if learning is situated in a meaningful context within the culture and the community in which learners live and/or work, and when they engage in knowledge construction through contextualised learning activities.

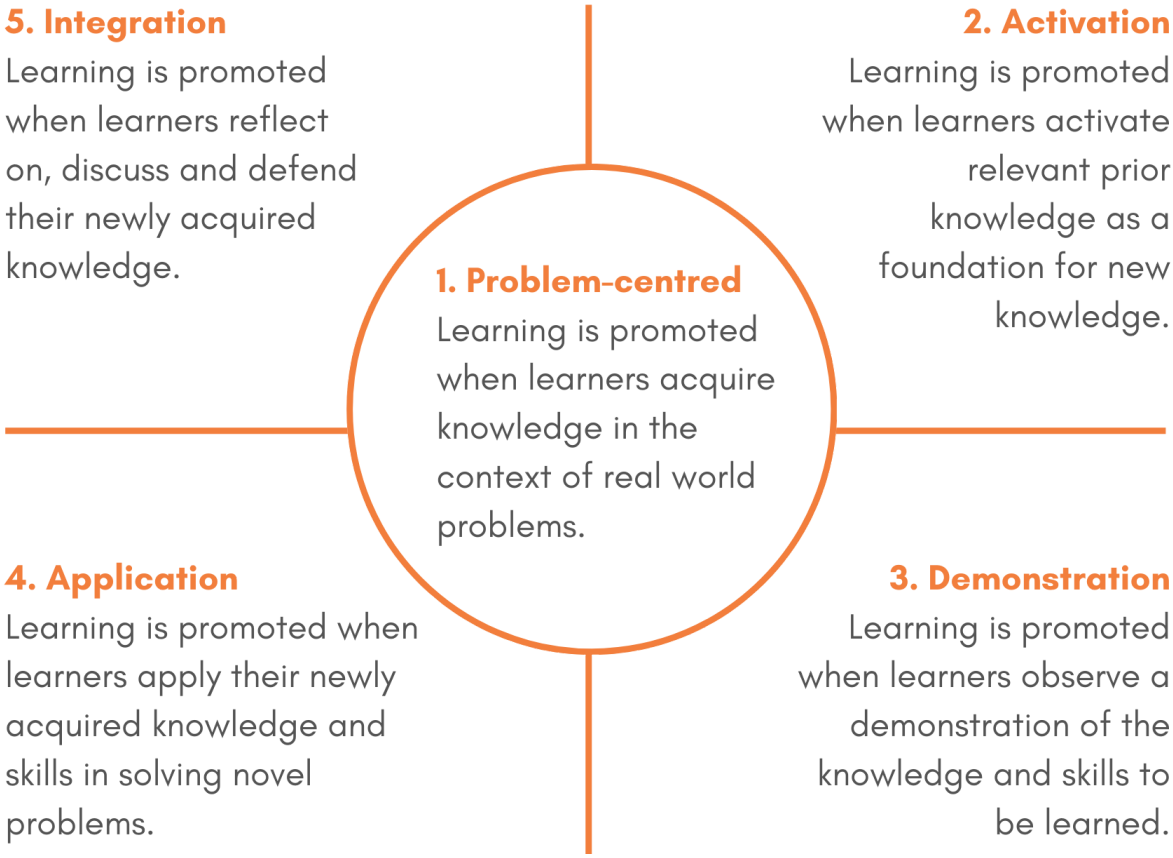
This fundamental conceptualisation of learning provides a strong theoretical base for teachers to design learning experiences with purposeful learning activities embedded in authentic scenarios, where learners will engage in solving real-life, problem-solving tasks. As emphasised in the first principles of instruction (Merrill, 2018), meaningful learning happens when learners are presented with real-world problems.

First principles of learning: David Merrill | Watch on YouTube

Accordingly, learning is promoted through problem-centred instruction, activation, demonstration, application and integration (see Figure 1).

Figure 1

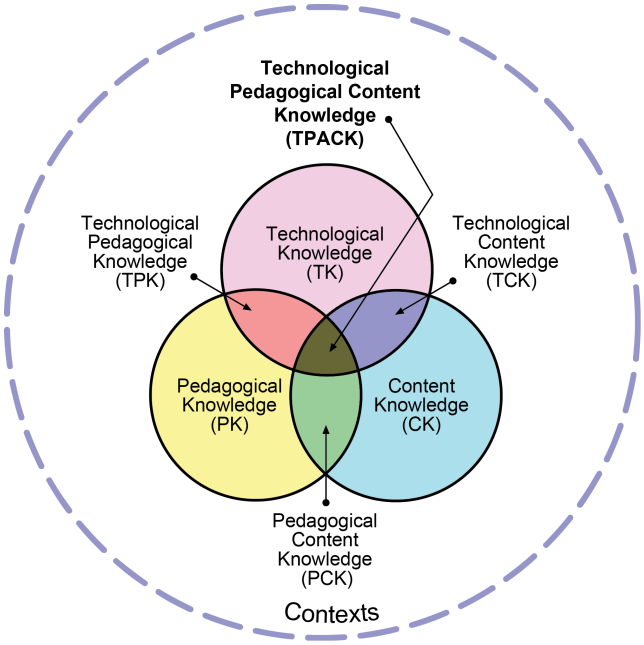
First principles of instruction (Merrill, 2013)



Innovative pedagogical approaches as well as technological advancements facilitate educators to become designers of meaningful learning experiences. Technologies, which are referred to as cognitive tools (Jonassen & Reeves, 1996) will support situated learning when tasks for the application of these technologies are linked with realistic and meaningful contexts. The design of learning activities where learners use such cognitive tools to construct their knowledge is a creative process. This essentially requires an appropriate merging of subject matter content, pedagogical approaches, and technology integration (Mishra & Koehler, 2006) within the learning experience design (see Figure 2).

Figure 2

TPACK framework (Reproduced by permission of the publisher, © 2012 by tpack.org)



Some critical questions to consider when designing meaningful learning experiences are:

- What sort of learning activities will make students actively engage in the learning process?
- What type of learning resources/materials will enrich the learning experience?
- To what extent these activities and materials are authentic, interactive, and motivating?
- How would they cater to diverse learning needs?
- How can it be ensured that they are contextually relevant and culturally appropriate for the learners?
- How best can technology be effectively integrated to enhance the learning process?

Finding answers to these questions pose design challenges to educators which require careful decision-making. The choices made by educators may depend on a variety of factors. Context plays a significant role in influencing these design choices of educators about the learning activities, processes and materials. I will unpack the context first, before diving into the three design challenges: pedagogy, technology, and content.

Contextual issues in designing learning experiences

The teaching-learning process is a complex system of human activity. It involves the creation of dynamic learning environments to support student engagement in diverse learning activities. Critical design considerations of the learning activities such as relevance, diversity, and inclusivity can be well addressed by ensuring authenticity in the learning experiences.

Authenticity

Authentic tasks are inherent in situated learning environments (Herrington, 2006; Herrington et al., 2010). In addition to connecting with real-world contexts, authentic activities can also be integrated across the curriculum, providing appropriate levels of complexity and thus allowing students to select appropriate levels of their involvement (Jonassen, 1991). In fact, authenticity does not happen independently with the learner, the learning task, or the learning environment, but in the dynamic interactions among these various components (Barab et al., 2000). Accordingly, I make my point with some scenario building where I address some contextual issues in designing meaningful learning experiences.

Scenario 1 - Authentic learning

Scenario 1 presents an example of a learning experience designed to activate learners in a professional development programme by situating them in a real-world issue through an authentic scenario-based video and posing a challenge which is consequently linked with relevant learning activities.

Understanding OER | Watch on YouTube

> *Look for alternative resource materials to traditional proprietary materials to be used in staff development/training programmes, and develop a strategy for adopting resources that are cost-free and open for customisation to the local conditions, just as effective in achieving objectives. You have been asked to present a robust and workable solution to the next programme committee meeting to convince the management that it is a viable way forward. So, where would you start to look?*
>
> *Adapted from: CPDMOOCs, OUSL (2018)]*

Can you reflect on a challenging scenario in your own educational context and think about how you could design an authentic learning experience around that situation for your learners?

Addressing disparities and marginality

Disparities and marginality faced by learners in terms of economical, socio-cultural or other contextual issues can be positively addressed by making the learning experiences authentic. Teachers should make necessary adaptations to the learning experience designs, addressing the specific contextual needs such as accessibility, multilingualism, gender responsiveness and cultural representation. The use of technologies to immerse learners in multimodal learning environments with flexible choices can support different contextual needs of learners. For instance, provision of multilingual options using text/audio/video in learning environments to help non-native speakers of English, and the use of assistive technologies for differently abled students to support inclusive learning will cater for learner diversities and contextual variations. Even the use of specific examples, images, and terminology in the learning activities and learning resources are important considerations to address contextual differences. Some of the commonly used assistive

technologies employed to help differently abled students include recognition software, conversion software, and assistive listening software.

Identifying the essential need to develop support systems to equalise the opportunities for students with disabilities in universities and work towards ensuring their rights to access higher education, measures are being taken to promote inclusive education in Sri Lankan universities (Yatigammana et al., 2021).

Adopting a Universal Design for Learning (UDL) approach to teaching and learning will provide all students equal opportunity to succeed (CAST, 2018). By using a variety of teaching methods, flexible learning activities and materials that can be adjusted for everyone's strengths and contextual needs, UDL can minimise barriers to learning and benefit all learners. It is indeed a challenging task, yet achievable, with careful thinking, creative planning and appropriate decision-making. Design challenges faced by educators can be deliberated in relation to pedagogy, technology and content.

Scenario 2 - Assistive technologies

In Scenario 2, Janaka, a student following the completion of the degree of Master of Education in Special Needs Education programme at the Open University of Sri Lanka (OUSL) shared his experiences in using assistive technologies to overcome the challenges faced during his studies.

> *Listen to an audio recording from a visually impaired student at OUSL: (2:11 mins)*
>
> *Listen to Janaka's experiences*

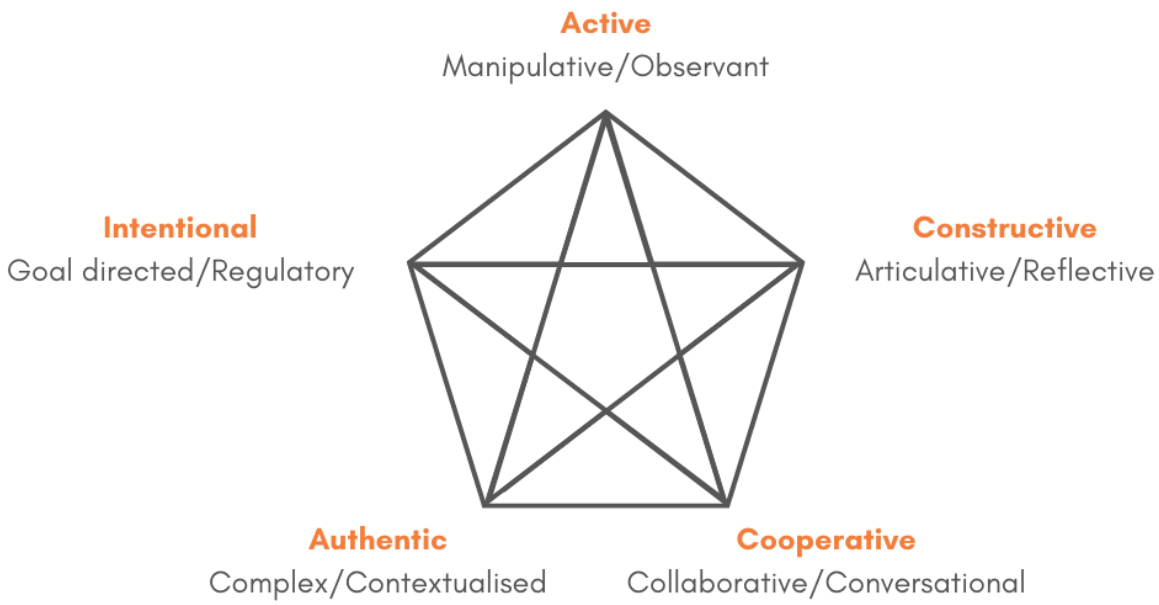
Here, think of various challenges faced by differently-abled students pursuing their higher studies. How can universities support them?

Design challenges: Pedagogy

Meaningful learning is a complex process involving a blend of active, constructive, cooperative, authentic, and intentional learning (Jonassen et al., 1999). These key attributes of learning are critical influences on how individuals learn successfully (see Figure 3).

Figure 3

Attributes of meaningful learning (Jonassen et al., 1999)



To experience meaningful and authentic learning, learners must have appropriate and adequate opportunities not just to access information but to explore, experience, understand, interpret and use the information/knowledge in their real life. This is a constructivist view of learning. A constructivist approach to the teaching-learning process is based on the belief that learning occurs through active engagement of learners in a process of meaning-making by themselves rather than passively receiving information. This perspective promotes a process approach to learning where learners would be immersed in meaningful learning experiences designed to encourage their knowledge construction through inquiry, imagination, action, invention, interaction and reflection. The specific needs of the learners within their cultural, socio-economic and social contexts should be taken into consideration in the design of learning experiences.

Scenario 3 - Student interaction

As an example, catering to the needs of working adult learners studying through the distance mode of learning in an HEI would require specific considerations. Scenario 3 presents an excerpt from a reflective story of practitioners which describes real-life challenges faced by adult learners studying in an ODL HEI.

> *…Our students are teachers or other categories in the field of Education. They sometimes face situational barriers such as poor learning environments and lack of time to attend the day schools and engage with the self-study print materials…they have to cope with the demands of studies, home, and work. This leads to challenges such as the learners' ability to integrate the demands of off-campus study with family, work, and social commitments. They experience feelings of isolation and stress…which may eventually lead to non-completion of the study programme…Students need continuous interactions with their peers…to reduce the sense of isolation, which is a characteristic of ODL…The relatively infrequent face-to-face interactions between the instructors and the students has brought many challenges…therefore, it is essential for these student teachers following the course to have more opportunities for interactions than it is possible in the primarily print-based distant learning…*
>
> *Adapted from: Gonsalkorala et al. (2014, pp. 125-127)*

Can you propose how best a course could be redesigned to support meaningful learning of adult learners in the scenario while addressing the specific learning needs and challenges faced by them?

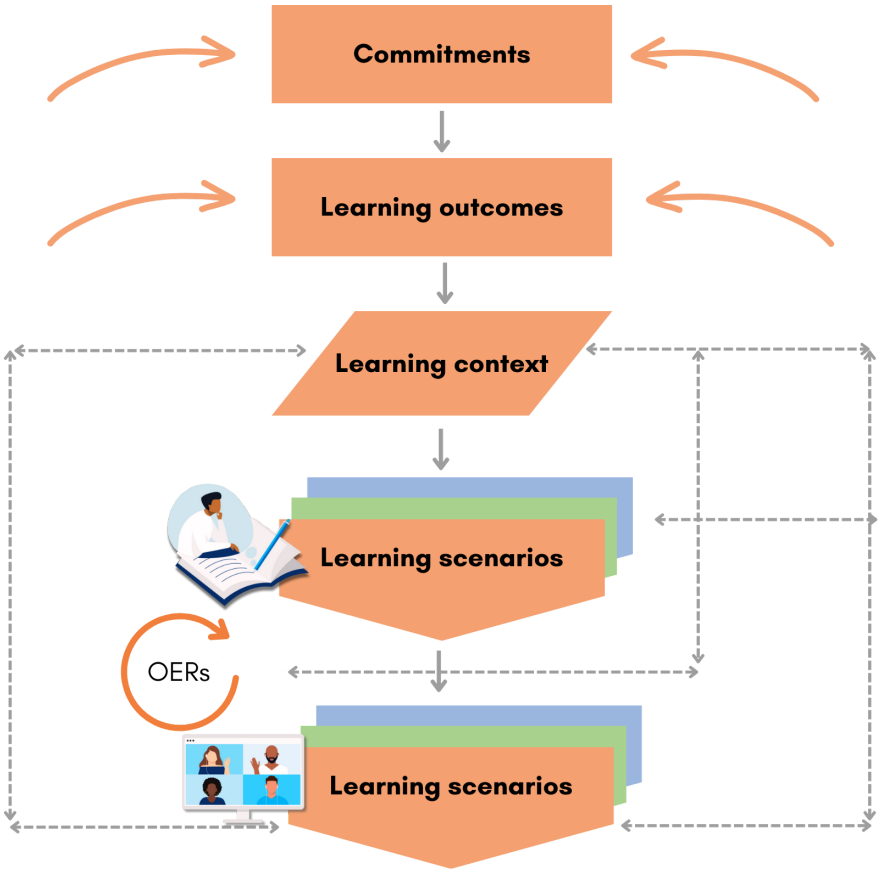
Authentic learning scenarios

Designing and developing meaningful learning environments entails creativity and imagination of educators beyond just having expert knowledge of the subject matter content. Innovative pedagogical approaches based on theories of learning, models and frameworks provide guidance in this regard.

Situated pedagogical designs such as scenario-based learning (Naidu et al., 2017) offer meaningful opportunities for learners to engage with learning in real-life, problem-solving contexts. By situating and immersing learners in authentic learning scenarios, they are challenged to face real-life issues. This process will involve a series of steps (See Figure 4).

Figure 4

Engines of education (Naidu & Karunanayaka, 2014)



The process begins with our commitments to the learners by identifying the key competencies to be developed and the related learning outcomes. Next, most importantly, we need to recognise the specific context in which learning will take place and develop goal-based scenarios. These scenarios will afford the best opportunities for learners to acquire the identified competencies via the learning activities and assessment tasks embedded within them and supported with learning resources. This is an iterative process – much like an "Engine for Education" (Schank & Cleary, 1995). It will lead to the design of effective, efficient and engaging (e3) learning experiences (Merril, 2013).

When learners are engaged in pursuing and solving real-world challenges in authentic learning scenarios via situated learning, they get opportunities to deal with a variety of tasks focused on increasing complexity. Learners are scaffolded to engage in these tasks and learning will happen through cognitive apprenticeship (Collins et al., 1989), where cognitive skills are developed under the guidance of an expert practitioner. Further, we should not forget that learning is a social process. When learners engage in authentic learning experiences collaboratively and cooperatively through social interactions, it will also contribute to meaningful learning (Figure 5). Design and development of

meaningful learning experiences require optimising the affordances not only of the pedagogy but also of the technology.

Figure 4

Engines of education (Naidu & Karunanayaka, 2014)

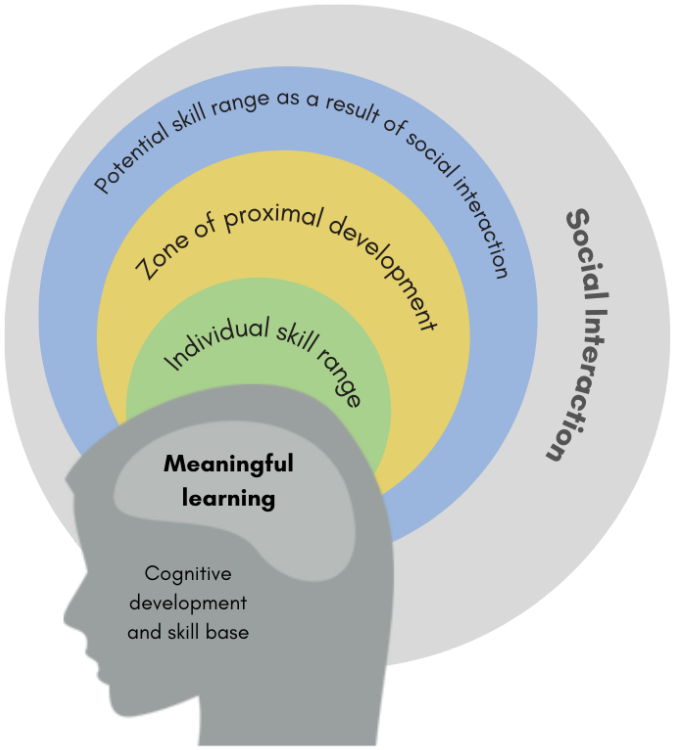


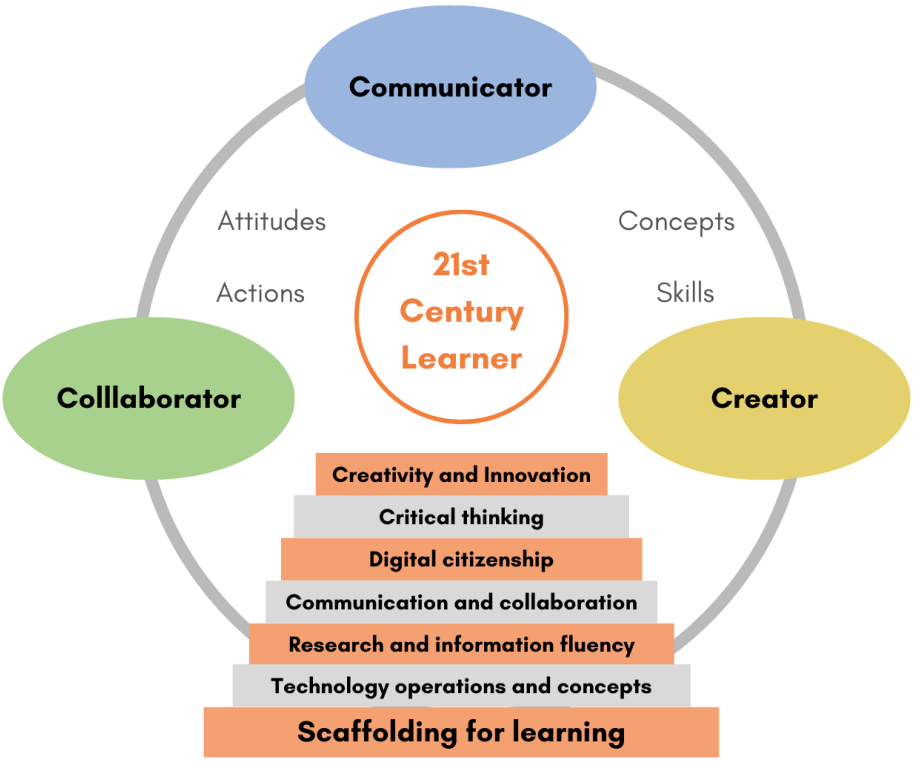
Figure 5: Meaningful learning via situated learning (Roycelynnee8 CC BY-SA)

Design challenges: Technology

Engagement in meaningful learning with technology can support the development of higher order cognitive skills such as critical thinking, analytical thinking, creativity as well as collaborative and communicative skills of learners. Development of these skills will empower them to function as responsible and productive individuals in the 21st Century (Figure 6).

Figure 6

21st century learning (Julie Lindsay and 21C team at Qatar Academy CC BY)



While the integration of technologies enhances the teaching-learning process, meaningful learning will occur when the focus is on learning with technology as cognitive tools instead of using technology as mere delivery tools (Jonassen et al., 2008). Learning experience designs in which technologies are effectively integrated to engage learners in exploring, modelling, designing, communicating and community building will support learning in authentic contexts, and lead to meaningful learning. However, the contextual needs to play in key role in integrating technology into learning.

Scenario 4 - Integrating technology

Scenario 4 presents an excerpt from a reflective story of a group of educators which describes real-life challenges faced by them when designing a technology-integrated course for adult learners in an HEI.

> *"How can we make our learners active participants in a journey of technology integration?" This was the immediate query that arose among our team…when we were entrusted with the mission of designing and developing a professional development course for educators with ICT and OER integration. Our target group is teachers and teacher educators, who are mature-age learners, often observed to be reluctant in using new technologies, and facing difficulties in the transition towards the adoption of technology in teaching and learning. We thought hard, discussed, debated, and agreed that a 'change' is needed. We were determined to move forward, whatever the obstacles that may be encountered by us…Initially we felt, that we too were still trapped within a cell of conventional thinking. So, the starting point definitely required repositioning ourselves as radical thinkers and open-minded professionals to break away from this …Our driving forces were nothing else but confidence, determination, and potentials available within us…*
>
> *Adapted from: Karunanayaka et al. (2014, p. 93)*

Reflecting on your own experiences, can you suggest what technological design strategies would be most appropriate to adopt in a situation as described in the scenario below?

Online learning and the digital divide

The affordances of web technologies help facilitate the effective integration of authentic activities in online learning (Herrington et al., 2010). The online delivery mode, as well as the increasing range of digital tools, provide many opportunities for teachers to create innovative learning experiences. The COVID-19 pandemic compelled educators and students globally to rapidly shift to the online mode of teaching and learning. On the one hand, this compulsion has inspired educators to design various forms of online and digital learning experiences. On the other hand, it has raised concerns about equity and equality. Being mindful about the prevailing digital divide, in terms of access, devices, connectivity and cost, as well as digital literacy, teachers need to plan alternative strategies to enable participation of all learners in technology-enhanced learning processes. Moving from fully online learning to a blended, hybrid or a hyflex mode of learning are alternate options to bridge the gaps of digital divide. For instance, hyflex (hybrid-flexible) courses which offer alternative participation modes accessible to all learners, provide diverse activities yet leading to equivalent learning outcomes (Beatty, 2014). When learning activities and resources are offered with flexible options including in-person, synchronously online, asynchronously online, and other means using low-tech options, students are allowed to decide how to participate in the learning process depending on their contextual conditions.

Scenario 5 - Accessing the internet

Scenario 5 presents a section of an ADB survey report which describes real-life challenges of access to the internet faced by teachers and students in online learning in Sri Lanka's HEI during the COVID-19 pandemic.

> *Mobile data was critical, and all internet service providers in Sri Lanka provided free access to university web servers during COVID-19 until 17 August 2020, boosting online education. But most students still had concerns over affordability and stability of internet access. Mobile broadband was used by 78% of students in state, and 69% in nonstate institutions. About half of faculty respondents reported using mobile data (57% in state, and 49% in nonstate institutions). Almost half of surveyed students responded that mobile data plans were not affordable, or somewhat affordable. Poor internet connection was the top challenge faculty and students faced during online learning. More than 70% of students, 68% of faculty in state institutions, and 76% of faculty in nonstate institutions faced connection issues during online teaching and learning. One faculty member remarked that "students walk several hundred meters to get [a] somewhat decent signal". Respondents reported disruptions in internet access caused by power outages in some areas. Without a stable, high-speed internet connection, student engagement and performance assessments were even more challenging, particularly for faculty.*
>
> *Hayashi et al. (2020, p. 6)*

Do you see any similar issues in your own context, and can you suggest alternative design strategies that can be adopted by educators to minimise the effect of such issues on student learning?

Design challenges: Content

A curriculum is more than the subject matter content. The content of any teaching-learning situation should not be just information packs to be delivered or transmitted to students by the teachers. It should be more about how the information will be learned by the students through meaningful activities. The learning experience design will show how the content will be learned by the students through their engagement in learning activities, in line with the learning outcomes to be achieved. An inclusive curriculum which uses a diverse range of learning resources and contextualised course materials will provide all students with an equal opportunity to achieve the intended learning outcomes.

Design of interactive multimodal environments with multiple representations of content via text, images, audio, video, and animations will support and promote students' learning (Moreno & Mayer, 2007). While the use of multimedia and

multiple modes to represent content in a variety of ways will motivate diverse learning needs and learning styles, contextualisation of the subject matter content is essential to make the learning relevant to the learners.

Instead of linear delivery of content using traditional methods, design of content in a variety of ways by embedding them into learning activities where the critical concepts are linked to real-world contexts will enhance active engagement and increase the confidence of learners. Changing from traditional content-driven practices to innovative context-centric approaches require substantial shifts in mindsets.

Open Educational Resources as a solution

This creative yet challenging task is facilitated with the concept of Open Educational Resources (OER). Due to the flexible permissions offered in OER via open licensing (i.e. Creative Commons licenses), educators are empowered to be innovative in the use of already available learning resources, by adapting or changing them to fit with the contextual needs, or to create new learning materials and share them as "open" content. The creation and curation of learning materials and making them freely and openly accessible to anyone enhances learning opportunities. These actions foster a shared culture among teachers and learners and lead to Open Educational Practices (OEP).

A shared culture – Creative Commons | Watch on YouTube

Scenario 6 - Dreamweaving Open Educational Practices

Scenario 6 presents some success stories of Sri Lankan educators in the adoption of OER and OEP. Explore the success stories shared in this scenario and reflect on success stories in your own context.

> *…This site captures the experiences of a team of educators at the Open University of Sri Lanka pursuing their dreams to promote the integration of open educational resources and open educational practices in teaching and learning. The journeys of the researchers and participant teachers are captured in the form of stories of their lived experiences… Our goal in the work that is presented here has been to help teachers "make their dreams come true" in relation of adopting and developing a culture of sharing in educational settings where resources are often lacking and where there is a need to promote such a culture...To achieve this goal, we engaged with student teachers of the Post Graduate Diploma in Education (PGDE) Programme of the Faculty of Education at the Open University of Sri Lanka (OUSL) to integrate OER in their teaching and then study its impacts...The project has been implemented at nine OUSL centres…representing the nine Provinces of Sri Lanka. This ensured that the benefits of this work did not remain confined to the central campus of the University, and that it filtered down to remote areas where the teaching and learning is actually taking place…*
>
> *Adapted from: Karunanayaka & Naidu (2016)*

Concluding remarks

Education is a fundamental human right. Everyone has the right to learn and achieve their full potential. The development of competencies for life-long learning is a crucial need to be fulfilled by all learners. The design, development and implementation of innovative interventions to support meaningful teaching and learning in higher education is a need of the hour. Teachers and educators have a great responsibility to pay serious attention and take maximum effort to cater to the learning needs of all learners.

Considering the diverse contextual design issues faced by educators in the higher education sector when designing learning experiences, in terms of pedagogy, technology and content, how would you gear yourself up to face these challenges? What strategies might work best for you and your students? What systemic changes may be needed? How do you stimulate shifts in mindsets and practices? And, how do you see yourself as a “change agent” in your context? These are some critical questions to ponder when you design meaningful and innovative learning experiences. Good luck in your endeavours!

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Navigating the learning design landscape: A response to Shironica Karunanayaka's "The challenge of designing learning experiences"

Shanali C. Govender

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Professional Identity | learning designer education | Learning design landscape

Chapter in brief

Shironica Karunanayaka's provocation, "The challenge of designing learning experiences', articulates a selection of challenges and opportunities around the creation of learning activities. She asserts the importance of designing "learning activities with a clear purpose and supported with a strong theoretical view of how learning occurs'. This response invites the reader to consider the section in relation to three questions: What theoretical resources does each chapter bring to your learning design work and how do these theories intersect in your current landscape? How does the context from which this work emerges reflect or diffract aspects of your context? What does each chapter demand of us, as readers, as professionals? And how do we feel about those demands?

In her provocation, "The challenge of designing learning experiences", Shironica Karunanayaka articulates a selection of challenges and opportunities around the creation of learning activities. She asserts the importance of designing "learning activities with a clear purpose and supported with a strong theoretical view of how learning occurs" and highlights a selection of frameworks and theories that support the design of learning activities. She emphasises the importance of an awareness of both context and "disparities and marginality" in learning design. Her provocation foregrounds two fundamental orientations to learning activity design: authentic learning (Herrington et al., 2014) and Universal Design for Learning (CAST, 2018) while identifying three sites for addressing design challenges: pedagogy, technology and content. For each of these, she offers a concept to help the reader think through a possible response.

When I first read Shironica's provocation, I found much that resonated with my own practice. From a primarily practice-oriented perspective, I see significant value in being consciously aware of which theories, models and frameworks inform our work. Furthermore, I find the three areas Shironica identifies: pedagogy, technology and content, to be an essential starting point for structuring the theories, models and frameworks that shape our work.

As part of my work, as a staff development practitioner in the Centre for Innovation in Learning and Teaching at the University of Cape Town, I teach about learning design as part of a postgraduate diploma in educational technologies, and work with academic staff to incorporate appropriate elements of learning design into their teaching practice. This year we leaned heavily into the metaphor of the landscape when talking about learning design: our participants were travellers through this landscape, they could collect skills and knowledge and then choose what and how to create based on who they were, where they were creating and what they had encountered on their travels. When I think about my teaching this year alongside Shironica's provocation, the following three questions emerge:

- What might be found in the landscape of learning and instructional design? What models, theories and frameworks can be "picked up" in this landscape?
- How does our "home" context shape our trajectory through and experiences in this landscape?
- How do we feel as we traverse this landscape?

"Picking up" theories, models and frameworks

The fields of learning design and instructional design have generated a multitude of instructional design and learning design models, focused on prescribing or mapping the design process (Bennett, 2023) and answering the question "what should the learning designer do next?". Scholars have responded to this profusion by analysing and attempting to categorise these models. For example, over five decades ago Andrews and Goodson (1980) focused on analysing the processes and dimensions encoded in instructional design models. More recently, Branch and Dousay (2015) categorise a selection of models as being classroom-oriented, product-oriented, and systems-oriented, and Stephaniak and Xu (2020) offer a systems thinking review of models, pointing to the need for iterative, contextually attuned models. While these models are central to learning design work, they are by no means the only models, frameworks or theories that shape learning design practice. As I have already noted, learning design work is shaped by a complex network of theories from a variety of disciplines – for example, theories that try to answer questions about how students learn, what students should learn, how memory or motivation function, how belonging functions in online learning spaces. While many instructional design models simply ignore the wealth of theory around them, other models weave theories in so seamlessly, that picking out the theory of learning is almost impossible (see for example, Conole's 7C's model (2014) or Salmon's Carpe Diem model (2013)). While these well-known reviews have offered insight into instructional and learning design models, there are fewer attempts to undertake the herculean task of identifying and mapping the diversity of theories, models and frameworks which shape learning design practices and products.

In her provocation, Shironica covers a great deal of valuable ground about what learning designers should know in order to respond to these learning design challenges and makes reference to what learning designers need to do able to do. Shironica has curated a valuable selection of useful and well-established theories, concepts and orientations, and organised them in relation to theories and frameworks that support choices pertaining to content, pedagogic and technology. This list's value is in that it is not exhaustive but rather a meaningful selection, based on Shironica's extensive experience and scholarship. Instead of focusing on a "theory-agnostic" instructional design or learning design model, or a completely "interwoven" model, Shironica offers learning designers a structure to navigate the smorgasbord of theory that could inform our practices, encouraging us to connect the particular theories or frameworks that shape our approach to pedagogy, technology and content.

When we asked for proposals for this section of the book, we received a wonderful diversity of proposals. While some chapters, echoing the field's interest in process-oriented models, focus on the design process itself, other chapters focus on the design of learning activities, materials, and assessments. Regardless of focus, all the chapters draw on multiple theories, models and frameworks, some with roots in other fields, disciplines or spaces such as social semiotics, universal design for learning, authentic learning, culturally responsive learning, equitable learning design, chunking and sequencing, affordances, Theory U etc. While some authors foreground a conceptual focus – indigenous learning, visualisations of data, mathematics, others foreground the complex interplay of activities, materials and assessment for specific groups of people – educators, tech advisors, learning designers. The diversity of models, frameworks and theories that surface in this section reflect a pressing challenge in the field and practice of learning

design – the body of knowledge on which the practice draws is large, comes from different disciplinary spaces and is not strongly structured (for further discussion, see Czerniewicz, 2010). Is the field of learning design moving towards a consensus about key theories, frameworks and models with which most practitioners and scholars would be familiar or is the field still in a proliferation phase? Or, is learning design, by nature an applied field which draws from a wide range of disciplines likely to always be informed by a rich library of intellectual resources?
Given the landscape, we must reflect on how we prepare novice learning designers, educators working with learning design and learning designers, and associated professional staff (for example, video editors and graphic designers) for this theoretical complexity, and how we support them as they figure out which models, theories, and frameworks to pick up on their journey.

Connecting context and field

Learning design work happens across the formal educational sector, from schools to higher education. Learning design work of various kinds is undertaken in training spaces, and in spaces designed for informal or post-formal learning. While learning design and instructional design have deep roots in historically advantaged countries, the Global South has found opportunities to undertake this work in materially different circumstances. Learning designers and others who do learning design work find themselves in contexts that are simultaneously radically different from, but also remarkably similar to, each other. Thus, it is essential to consider the intersection of theoretical options with specific locales and teaching environments.

The context in which a learning designer or those undertaking learning design work strongly shapes the models, theories, and frameworks are picked up on the journey. As we collect these resources, we must be able to filter them through the contexts in which and for which we design. Theories that insist on the social situatedness of learning (see for example communities of practice theory a la Lave and Wenger (1991), Bronfenbrenner's Ecological systems theory (1977, in Shelton, 2018), and work that focuses on the transformative potential of education such as Freire's Pedagogy of the Oppressed (2000) support our understandings of how the society outside the classroom permeates the learning space itself, shaping curricula, pedagogy, assessment and the institutions and structure of learning. In learning design, the success of the learning experience – a student's learning, their attainment in assessment, their pleasure in the learning, their commitment to future study or practice in the field – is not entirely within the control of any one individual, not the student, the lecturer or the learning designer. Instead, it is a collective activity, determined in part, but not wholly, by what and how the learning designer selects from their journey. As Fawns, reporting on his work with O'Shea notes, "Learning cannot be entirely predesigned, because students will not simply do what teachers want or expect" (2018, p. 140). While Fawns is talking about/to teachers, this is equally true for anyone who does learning design work. In addition to the individual agency of students, learning is shaped by a host of factors at varying levels of the ecosystem. Thus, learning designers and others who do learning design work may need to exercise their voices to create the conditions that make learning possible, or to mitigate the obstacles that make it more challenging. Based on contexts and capacities, they might need to contribute to policies, advocate for support and argue for structural change. They need to do so in order to improve the work they do as learning designers, and to create the most conducive environment for their actions.

Articulating the self

Becoming a learning designer is about more than doing learning design work. It's also about emotional experiences in relation to a landscape of practice and the resources in that landscape, and it is about developing the human resources to engage with this work.

Recently, I've had a number of conversations that have challenged some of my assumptions about learning design work. Working with a colleague who is blind has prompted me to reflect on many of the design activities, which seem to be, at best, challenging and, at times, entirely inaccessible. I, as do many sighted humans, enjoy visuals, and find them aids to recall and often short-hand representations of complex arguments. Working closely with someone who is

unsighted has led me to question how to create learning experiences for someone whose fundamental frame of reference and way of learning was inaccessible to me. In another instance, I was in a workshop for which I had created slides, when a colleague commented, "Shanali, that slide is unreadable to me". The slide was a list of pedagogical strategies – but instead of presenting it as a list, I had created thought bubbles and popped each term into a bubble. The thought bubbles were assorted colours, with good text-background colour contrast. I was confused – "Why?" I asked. "The way my brain works," they explained, "the colours are hopelessly overwhelming! I struggle to just read the text with all the extra visual elements." While I was sitting there processing, no doubt looking like a goldfish, he kindly and patiently explained that recent life experiences have led to the realisation that this response could well be linked to a kind of autism. To finally hammer home the challenges of sensory and neurodiversity, a friend, who I deeply admire, recently reminded me, "Shanali, I have aphantasia. All that time people spend on visuals for slides - I can't re-imagine them afterwards anyway. I need the text."
My response to each of these instances was, at least initially, a veritable stew of negative emotions. At first, the voice in my head is frustrated and defensive:

> *I've carefully selected the best activity to learn something or how to do something. This way of learning this thing works, at least in my head, for "most" people. Should I deprive the rest of the class of this delightful experience to allow all students to have the same experience? Or should I design an alternative experience for this student? Where will I find the time to design multiple possible learning pathways, resources and lessons?*

The frustration is quickly followed by disappointment with myself, laced through with shame:

> *I should know better. I should do better. Everyone has the right to learn in the ways that suit them. It's my job to make the pathways and make or find the resources that people need to learn.*

Each of these instances has left me feeling rather overwhelmed, both affectively and cognitively by what feels like the enormity of the task at hand. The more that I recognise that each of the people I interact with is an individual with very specific capacities, needs, and aspirations – some visible and some entirely indetectable to my eyes – the more I appreciate how difficult it might be to design and teach in ways that meet the needs of each staff member and student even part of the time.

I see this "overwhelm" reflected around me in my colleagues and students who do learning design work. The bar for good learning design work can be set wonderfully high by the theories and frameworks which guide our practice. I see colleagues frustrated when the beautiful designs and innovative suggestions they make, guided by the theories with which they work, are not taken up by the academics they work with, or not received by students in the ways learning designers expect. But, if I consider the specific context in which I work, in a context characterised by extreme material challenges and complex human relationships, the gap between what we would ideally do and what we are able to do can pose challenges for educators, learning designers and students alike.

Navigating the coming section

The chapters in this section address a number of interesting questions in the field (for example, how do we organise learning design work, how do we support student learning, how do we do assessment better?) and each chapter addresses these with a particular selection of theoretical and conceptual resources, and critically, from a particular material or physical context. In so doing, each of the subsequent chapters offers some insight into a part of the global learning design landscape. As we approach engaging with the complexity of the final section of Learning Design Voices, I invite you to consider three questions:

1. What theoretical resources does each chapter bring to your learning design work and how do these theories intersect in your current landscape?
2. How does the context from which this work emerges reflect or diffract aspects of your context?
3. What does each chapter demand of us, as readers, as professionals? And how do we feel about those demands?

By so doing, my hope is that we, practitioners and researchers alike, become more aware of the diversities in our learning design landscapes, better able to choose our trajectories, resources and companions, in a way that produces not only high-quality learning designs, but also greater satisfaction for all doing the work of learning design.

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Adaptable ABC: Learning design for all
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Adaptable ABC: Learning design for all

Clare Gormley, Rob Lowney, & Suzanne Stone

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Higher Education | Learning Design | Universal Design For Learning | UDL | Curriculum Design | abc Learning Design | Student Partnership | Part-Time Staff

Chapter in brief

ABC Learning Design (ABC LD) was devised to offer educators an accessible and re-usable mechanism to plan blended and online learning experiences. ABC LD is fundamentally a framework and a curriculum development workshop to enable collaborative learning design. In approximately 90 minutes teaching teams work together to create a visual 'storyboard' of the various learning activities and assessments required to meet module or programme learning outcomes. This chapter was co-authored by teaching support professional staff who are deeply involved with the use, promotion, and adaptation of the ABC LD framework at Dublin City University (DCU), Ireland. They first share their individual reflections on how their philosophy of learning has evolved. The three authors will then describe how that thinking has influenced their institution's adaptations of ABC LD by: harmonising Universal Design for Learning (UDL) and ABC, enabling meaningful student partnership in the design process, and empowering sometimes marginalised or isolated academics in course design decisions. Finally, the chapter collates local and international ABC resources that can be used – and indeed further adapted – by those who may think along similar lines.

Introduction

This chapter, co-authored by two learning technologists and an academic developer, captures our reflections on voices who we believe are either silenced or downplayed within "traditional" learning design processes. Despite Ireland being a relatively developed country, inequities still exist and there are people whose value and potential contribution to society is being ignored. This is no less true of higher education (HE), where a dominant discourse sometimes takes precedence in subtle but powerful ways. This discourse may emanate from bureaucracy, rigid systems or processes,

and familiarity with the status quo – and it usually leads to reinforcing traditional approaches in which a certain kind of learning is continually designed in a certain kind of way.

Under current HE structures, it seems that the power to influence the design of learning is seldom available to those outside of traditional curriculum design processes. The needs and aspirations of those with disabilities and additional requirements are too frequently an afterthought. Students are still rarely given the opportunity to make a significant contribution to the design of their own and others' learning experiences. Academic staff, particularly those who are new or part-time, may find they have limited, if any, opportunities to have a say in curriculum or learning design. All of this strikes us as unfair, unbalanced and unnecessary.

All three of us work at the same Irish university, Dublin City University (DCU), within a centralised teaching and learning unit with a remit to support teaching staff. DCU is a research-intensive university on the outskirts of Dublin city with a mission to transform lives and societies. Relatively young as a university, DCU was founded in 1980 and has grown to 18 500 students with five faculties. Recognised for its diverse intake of students, one in five students in Ireland going to university via an Access Route (an admission scheme for students from socially disadvantaged backgrounds) are studying at DCU (DCU News, 2021). The number of students registering with the Disability Service continues to grow year on year. The University has a vibrant LGBTQ+ community and an increasing population of black students and students of colour (DCU Students Union, 2021). In 2016, DCU was the first Irish university designated a "University of Sanctuary", recognising a commitment to welcome students seeking asylum and refugees. As the student body has grown and become more diverse, so too has the academic staff population with more new staff joining, many from other countries and many who are teaching part-time.

Working in the DCU Teaching Enhancement Unit (TEU), all three of us have a common interest in ABC Learning Design (ABC LD), as we believe that this learning design method offers an opportunity to remove or at least reduce barriers to inclusion within our increasingly diverse university community. ABC LD was devised to offer educators a usable process to plan blended and online learning experiences to meet the needs of students and society today (Young & Perović, 2016). Based on Diana Laurillard's Conversational Framework (Laurillard, 2012), ABC LD is fundamentally a framework and workshop to enable collaborative learning design.

Perhaps the strongest selling point of ABC is the structure and clarity the timeline of an ABC workshop offers. It offers an approachable but tightly timed mechanism for staff to discuss and agree on a range of potential learning activities, technologies and assessments. The workshop starts by asking attendees to articulate the essence of a course in Tweet form. From there, the process invites consideration of six key learning types and the exploration of a range of possible learning activities. It culminates in an output where participants storyboard (i.e. map out) an intended learning journey through a module or course, indicating key assessment points. In the original in-person version, no technical materials are required; instead printed materials, pens and stickers are employed.

Notably, the language of the process is highly accessible and does not require knowledge of learning theory or potentially obscure concepts. This makes participation much less threatening and more inviting to those on the margins. Essentially, its egalitarian ethos ensures that anyone can contribute to the discussion and the ultimate design in a meaningful way. Increasingly diverse students, librarians, technical staff, established and emerging researchers, full- and part-time academic staff – all can sit around the table, select activities, storyboard ideas and influence a proposed student learning experience if they have the opportunity to get involved.

Over the years, we have leveraged this well known approach and adapted it to be as inclusive as possible within our context. In our roles as learning design facilitators, we are trying to listen to the quieter voices, raise the volume and articulate a philosophy of learning design that will not only amplify these frequently overlooked audiences - but will ultimately lead to student learning experiences that are better and fairer for all. In this chapter, we will firstly share our personal reflections on how our philosophy of learning design has evolved. We will then describe how that thinking has influenced our institution's adaptations of ABC LD by: harmonising Universal Design for Learning (UDL) and ABC; bringing students to the table; embracing the student voice; and empowering the isolated academic. Finally, we will

collate local and international ABC resources (Appendix A) that can be used – and indeed further adapted – by anyone who might think along similar lines.

Reflections

In the following section, each of us reflects on how ABC surfaced key concepts or challenges for each author. We believe that our use, promotion, and adaptation of the ABC framework is a tacit reflection of our values as educators. The adaptations we made and our encouragement of different audiences to engage with ABC were, in effect, tangible manifestations of our teaching philosophies in practice. But more importantly, the framework offers a means of putting institutional policy into practice in a visible, useful, and accessible way. We believe that ABC offers a practical mechanism to raise awareness of the principles of UDL and inclusivity, support students as partners in learning, and bring sometimes marginalised staff members into the course design process. Our reasoning and reflections are described below.

Adding inclusivity to the conversation: Harmonising UDL and ABC (Suzanne Stone)

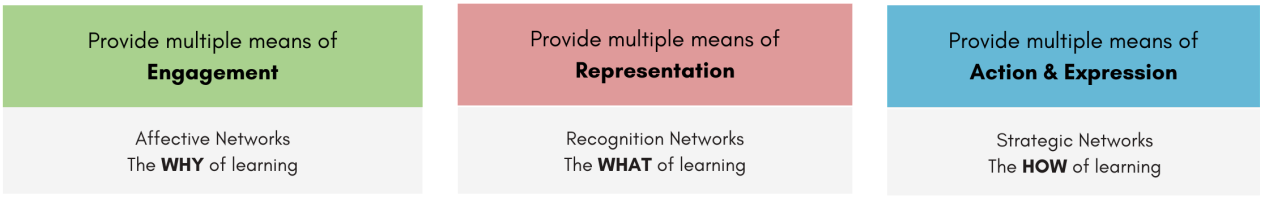
As educators, we are occasionally asked to reflect on our educational values, either for self-reflexive purposes or through processes such as fellowship applications. Having arrived in the education sector tangentially via an early career in the media, my first opportunity to reflect on my educational values was as a student on a Master's in Education programme just over a decade ago. The three words I settled on were: inclusivity, creativity and collaboration. My understanding of these terms as an educator has deepened over the last decade, but these three words still capture my approach to education and remain the key influences on my work as a learning technologist today.

In this reflection, I will focus on the value of inclusivity in relation to ABC LD. My understanding of inclusive education has been heavily influenced by colleagues at DCU. I can trace my introduction to inclusive education to my first job in HE at the Educational Disadvantage Centre. The Centre's remit is the inclusion of students experiencing educational disadvantage and my role involved developing resources for student teachers and establishing an after-school mentoring programme for pupils in areas of social disadvantage. My approach to this work was influenced by the founder of the Centre, Dr Ann Louise Gilligan, who held a strong commitment to inclusion and social justice. My understanding of the value of inclusive education has been further advanced through collaboration with colleagues in the DCU School of Inclusive & Special Education over several years (Farrell et al., 2021; Logan & Stone, 2016; Stone & Logan, 2018) and through work with staff and students in developing awareness around accessibility and inclusion (O'Reilly & Stone, 2021).

The UDL framework has also been a key influence on my understanding of inclusive education. Drawing on research in the fields of education, cognitive psychology and neuroscience, the UDL framework offers a structure for educators to remove barriers to learning when designing teaching, learning and assessment for all students. The framework presents three key principles to guide curriculum design: Multiple Means of Engagement; Multiple Means of Representation; and Multiple Means of Action and Expression (Figure 1). Within these three key principles, nine guidelines are offered, and comprehensive checkpoints support the design of learning activities (CAST, 2018).

Figure 1

Overview of UDL key principles for curriculum design (CAST, 2018)



While the UDL framework is widely adopted in the education sector, more recently some criticism has emerged. Murphy (2021) suggests that there is limited research in relation to how the framework is applied in practice in educational settings. Such critique is a natural evolution given the widespread adoption of the framework and offers an opportunity for practitioners to reflect upon and improve our use. In fact, research is already emerging in relation to the framework in practice (Kimberly et al., 2021). At DCU, the team draws on the UDL framework to guide the design of professional learning, foster conversations around inclusive educational practices and accessibility and support others in their journey towards inclusive education (Buckley et al., 2018; Stone & Lowney, 2020). One example is our Universal Design for Learning Toolkit for the Moodle virtual learning environment. Research on the application of this toolkit is ongoing and we hope to add to the evidence base for UDL in practice in the near future.

Defining and reflecting on educational values in itself is a challenging process, but translating values into practice is where the work really begins. The struggle for those of us working as learning technologists and academic developers is to reach those across the university who are unaware of the principles of UDL and to support staff to understand and apply the principles in practice. The DCU Strategic Plan (2017–2022), specifically references UDL, providing a rationale for embedding the principles in all our professional development, including ABC.

Implications for ABC

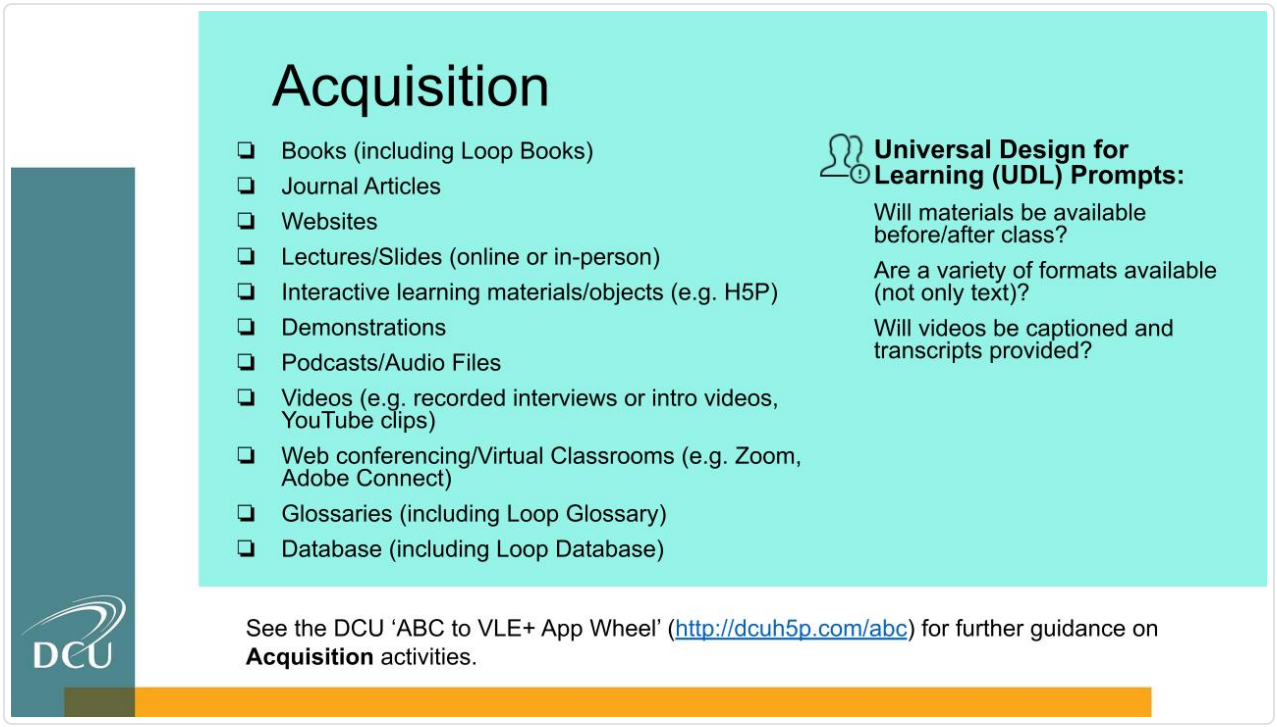
The ABC LD process offers a practical opportunity to advance an inclusive education philosophy as staff collaborate on curriculum design and redesign across modules and programmes. The process also provides an opportunity to raise awareness of the UDL framework by embedding its principles within ABC. A certain natural "harmony" exists between UDL and ABC, as both frameworks involve increasing variability for learners. ABC draws on Laurillard's (2012) Conversational Framework to encourage use of a range of learning activities across six identified Learning Types: Acquisition, Discussion, Collaboration, Investigation, Practice and Production. UDL supports variability through three key principles which can be summarised as follows:

- Choice in why to learn and engage with learning (multiple means of engagement).
- Choice in what to learn (multiple means of representation).
- Choice in how to learn and express learning (multiple means of action and expression).

In addition to variability and choice for learners, UDL also speaks to the responsibility of educators in relation to inclusive educational practices. Given that UDL principles are explicitly highlighted in the university strategy as a guideline for inclusive practice, any opportunity to remind staff of these responsibilities is to be welcomed. The local DCU version of the classic ABC Learning Types cards were adapted to include what we describe as UDL "prompts". These cards and prompts, which are reviewed by participants at the storyboarding stage, serve to remind those involved in curriculum design of the need to remove barriers to learning for all learners. The prompts also make the principles of UDL more visible, placing them at the centre of learning design rather than being a bolt-on or afterthought, as is often the case. By way of example, Figure 2 presents the UDL prompts for the Acquisition learning type. Tailored prompts have been developed for each of the six types. A list of potential learning activities is presented on the left of the card, while relevant UDL prompts appear to the right.

Figure 2

Acquisition card with an adapted list of possible learning activities and tailored UDL prompts (Clare Gormley and Mark Glynn, CC BY-NC-SA). See the full set of localised Learning Types cards.



In drawing UDL into the centre of the ABC storyboarding process, the principles of accessibility and inclusion are made explicit to those engaged in learning (re)design. This approach represents a practical example of values in practice. The inclusion of the UDL prompts reflects my own personal educational value of inclusivity, the values of the TEU team and the commitment of the university towards inclusive education.

Bringing students to the table: Learning (co-)design (Rob Lowney)

As a learning technologist, my primary goal is to help educators in our university enhance their practice through the effective use of appropriate digital technologies. What led me to this role? I strongly believe in the capacity of technology to connect people. In education, technology can help support better communication between educators and students, enable better dialogue and help students amplify their voices. Why is this important to me? As an undergraduate student myself, I was involved in student journalism and the student union. I was (and still am) a passionate believer in student voice, in students advocating for their own needs and in students being part of decision-making in education. This belief has stayed with me as I became an education professional and has grown stronger over time.

If learning design is a decision-making process to design learning experiences for students (Conole, 2012), it is no major leap to say that students themselves should be part of that process. There has been a growing trend in recent years in HE towards "student partnership", which is commonly defined as:

> *A collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision-making, implementation, investigation, or analysis (Cook-Sather et al., 2014, pp. 6–7)*

The growing trend implies that it has not always been the case that student voices were part of shaping education.

In our own context in Ireland, the National Student Engagement Programme (NStEP) was established in 2016 to support and empower students to become more active in decision-making processes in their institutions (Higher Education Authority Working Group, 2016). Their Steps to Partnership framework offers guidance to institutions and students as to where and how they can partner with one another. Aligning with the language of the UDL framework to reduce

barriers to participating in education, the philosophy of partnership and this partnership framework offer opportunities for students to participate in teaching and learning decisions that affect them.

The framework lists four "domains of student partnership" (NStEP, 2021, p. 6):

- Governance and management
- Teaching and learning
- Quality assurance and enhancement
- Student representation and organisation

Some partnership practices are well established in some of these domains. Forms of student representation are plentiful in most HE institutions, some of which are rooted in the large-scale student protests of the late 1960s. Elected student officers often sit on important institutional committees. In the Irish context, the primary piece of legislation underpinning our public universities, the Universities Act, 1997, explicitly states that elected student representatives should sit on governing authorities. Within our own university, a student partnership framework supports internal quality review

The domain of teaching and learning is the one that interests me the most, as it is primarily the space I inhabit as a learning technologist and it is the dominant space our students inhabit. While some students in our institutions may be involved in governance or quality processes as representatives, all of them are involved in learning. Partnership in teaching and learning can be very broad and various pockets of partnership in this domain can be seen in HE. I am, for example, involved in an initiative to support student partnership in assessment. A literature review (Ní Bheoláin et al., 2020) and findings from pilot initiatives showed partnership can improve students' sense of involvement and their performance in learning.

Learning design would appear to be an area within the teaching and learning domain in which academic staff and students could partner more often. Traditional curriculum design often keeps students at the edge, with educators primarily making design decisions. Moving towards a model of both parties making decisions around what the intended learning experience should be in a curriculum or module can be beneficial because it allows for different perspectives to inform decision-making.

This is easier said than done, however. Having students as co-creators of curriculum (Lubicz-Nawrocka, 2018) requires academic staff to rethink their roles and to acknowledge and address power dynamics between them and the students; and students must be supported in becoming familiar with pedagogical processes (Bovill, 2014; Bergmark & Westman, 2015).

Implications for ABC

The ABC LD framework could prove to be a useful vehicle to support student partnership in learning design and tackle the challenges of co-creation. Although built on solid theoretical foundations, one does not need to be a pedagogue to engage with it. The various stages and tools of the framework are intended to facilitate those with no prior experience of learning design or theory, which likely includes students. The highly structured nature provides opportunities for participants to get involved, share opinions and make decisions at different stages. For example, the Learning Types cards provide suggestions for different learning activities that can be incorporated into the programme or module. This gives participants something to work with; they are not presented with a blank canvas and expected to voice their opinions and suggestions immediately. Doing so runs the risk of dominant voices consuming the space. Instead, all participants are scaffolded through the decision-making process using the cards and prompts. Similarly, the "tweet" activity can be a way for students and staff to connect and work together through a light, fun task, which is part of a wider design process. These provide opportunities for students to contribute equally, which is core to the concept of student partnership.

Students can be whole participants in the ABC LD process, contributing as equal partners with academic staff. At DCU, several of the ABC workshops we facilitated had students participate in this way. Student expertise complemented that

of the academics and thus enriched the decision-making process. One student participant remarked:

> *I was made to feel welcome and that my opinion was valid … it was a fantastic insight into how to implement ideas and strategies into developing the course design … it was engaging and enjoyable, and I didn't realise that time had passed so quickly.*

University College London has trialled different ways of partnering with students in ABC LD: as full participants, designing a course for external audiences or reverse designing a course (Perović & Young, 2019).

I do not wish to simplify things, however. Merely inviting students to take part in an ABC workshop could be seen as a "tick box exercise" rather than meaningful partnership. Academics should consider how students can be partners in the entire learning design (and development) process, including pre- and post-ABC discussions and decisions. For example, the ABC action plan is generally completed toward the end of a workshop, detailing next steps. In the spirit of partnership, students as well as academics could be assigned actions. It is also worthwhile to explore student partnership in the longer term, with students involved in creating course materials through approaches such as those taken by Carleton University. As with any other student partnership initiative, there are practical factors to consider, such as when to schedule the work and in what mode in order to best accommodate students. Should past, current or future students be involved? Should students be paid? (Bovill, 2014).

Facilitation is key to every ABC workshop; a facilitator should ensure all voices have an opportunity to participate meaningfully and equally. This is even more pertinent when students are at the table. Cultivating a safe environment in which they are comfortable voicing their opinions will prove a fertile breeding ground for rich learning (co-)designs.

Not invited to the party?: Empowering the isolated academic in learning design (Clare Gormley)

I have been an academic developer at DCU since 2014. My role is to support staff who wish to develop their teaching practice in some way with the goal of ultimately enhancing the student learning experience. In my own case, this involves activities such as facilitating learning design workshops, running practice-sharing events and peer observations across the university and supporting staff in researching their teaching and learning practice. It is interesting and highly collaborative work which has hugely benefited from a strong team ethos and generous sharing of expertise.

However, it is this very collaborative culture which now strikes me as an under-appreciated privilege. For several years, I operated as a freelance instructional designer, working largely solo with occasional meetings with a project lead and occasionally other colleagues. This was well before web conferencing had become a mainstream feature of professional life and it meant that much of the work was done quietly on my own. While this scenario initially suited, it wasn't long before the attractions of somewhat solitary remote working diminished and I missed the camaraderie and opportunities for spontaneous, implicit learning (Eraut, 2000) from colleagues – getting the inside track on new technologies and terminologies, hearing a quick piece of advice that helps you save time, receiving a reference to a paper or website that exactly addresses the issue I was looking to explore, and so on. This, and much more, is the unspoken stuff of collaboration and conversation that seems so small, but can make an enormous difference to professional learning and growth.

A good deal has already been written on the challenges faced by academics who are tasked with performing their work largely alone. Gourlay (2011) talks about the "myth" of communities of practice, arguing that early career researchers are typically left to their own devices to navigate new and challenging roles:

> *This experience of physical and professional isolation and a lack of team ethos and collaboration arose several times in the data, with several comments about being alone in rooms all day, colleagues working from home, lack of shared diaries and accountability. For many of the research participants, this was described in powerful contrast to their previous experience in the professional setting. (Gourlay, 2011, p. 73)*

This is not just a problem for new staff. As a recent literature review on peer observation of teaching highlighted, "teaching at university is often conducted behind closed doors and can as such be an isolating experience" (Lincoln et al., 2021, p.9). Indeed, because of the constraints of modularisation, many academic staff "write" or design modules alone, with little input or discussion with others. The systems and structures of academia are typically not set up to support collaboration and ongoing discussion about learning design. This has led to problems with over-assessment of students (Tomas & Jessop, 2019) and a lack of connected thinking in programme design, much of which could be attributed to an ethos of working alone.

Add to this the specific challenges faced by part-time lecturers who have in the past been largely ignored and/or marginalised in professional development opportunities.

> *It has been recognised that the use of part-time educators in higher education is on the increase and that they are not always adequately supported with professional development opportunities (Ní Shé et al., 2019, p.19).*

Because part-time or sessional staff are generally juggling more than one job at the same time, the likelihood of being able to participate in in-person sessions has been slim. These sessions are usually on campus and within the 9-to-5 working day, such that external participation may not be an option. Additionally, because many of these staff are on part-time contracts, they are not always paid to participate, so in some cases attendance would actually cost the individuals involved in terms of lost earnings.

Implications for ABC

For all of these reasons, the core characteristic of ABC LD – the fact that it brings participants of all types together in a collaborative space for learning design – holds powerful appeal. The approach has the potential to stimulate the sparking of ideas, debates and new thinking that are the hallmarks of creative design. The value of collaboration with others was one of the most frequently cited benefits of ABC in a major transnational survey (ABC Learning Design, 2020). According to the evaluation report, 74% of respondents (n = 254) said the method enabled them to discuss course design with colleagues to a great or very great extent.

However, up until relatively recently, the reality was that the original in-person version could not be easily accessed by those who were not full-time, permanent, campus-based staff. ABC sessions were run on campus, meaning that staff working outside the university would rarely be able to join. There were also times when staff based on another (geographically distant) campus may have had to spend considerable time commuting.

When the pandemic forced the movement of so much activity online, the approach had to change radically and all the "traditional" elements of ABC needed to be reconsidered. We strongly felt that collaboration with others should be protected in the re-imagined online approach. In the spirit of UDL, we hoped that moving the entire process online would have the potential to optimise inclusivity and remove (at least some) barriers to the participation of marginalised staff. Our revised online ABC workshop approach can be summarised in this infographic. All the resources associated with it are openly available in the DCU Online ABC Toolkit.

To date, our online version of ABC has had some interesting and positive results, namely:

It has opened doors for colleagues of all disciplines to have discussions about online learning design and the use of new technologies at a time when such conversations are sorely needed. The online format and use of breakout sessions seemed to foster discussion and the use of polls enabled shyer voices to contribute to the conversation. The following comments were received in post-workshop feedback:

> *[It was] good to create a space to meet with other colleagues and to discuss some of the issues relevant for all of us. This is in particular with our modules going online.*
>
> *I think that the small groups worked. Having multiple opinions definitely helped.*

> *Loved the discussion in breakout room after the polls.*

It has allowed part-time staff to participate more easily, helping to promote a sense of belonging to the academic community as this feedback comment illustrates:

> *I really enjoyed it and have had great feedback from the team on it. All found it really valuable and felt inspired to tackle the work needed for this semester. Part-time lecturers enjoyed the chance to discuss approaches with the team and I think full-time lecturers found something new to reinvigorate them!*

It has allowed geographically dispersed staff to participate when distance (and public health restrictions) were a barrier.

The immediate reaction to the online sessions has generally been very positive. However, recognising that time is needed to evidence longer-term effects, more in-depth evaluation of our online version of ABC is currently underway.

It is also important to acknowledge that despite so many positives, there are clearly some difficulties that an ABC workshop in any guise can never overcome. Some collaborations and conversations are less successful than others and staff might not "click" with colleagues they are grouped with. Short sprints of collaborative design will not resolve all the problems of siloed thinking. Furthermore, simply offering such workshops online does not ensure that part-time participants will be able to attend or will be paid for their efforts. It is, however, a promising start, as there are inclusive benefits, and the potential for using and/or adapting ABC for various contexts and scenarios is worth exploring. A summary of adapted ABC resources and when to use them is listed in the Appendix.

Conclusion

The idea of one's teaching philosophy strongly influencing one's teaching practice is not a new concept in the educational realm. Jääskelä et al. (2017) describe how strong the influence of educator's beliefs and values may be in learning, pedagogy and use of technology in HE. There has been much less attention paid to how learning designers' beliefs – particularly those designers with a remit to support others' teaching practice – might affect the design process. In this chapter, we have tried to show how our philosophies – advancing the principles of UDL, promoting students as partners and enabling academic colleagues of all types to collaborate – can complement ABC in practice to support inclusive learning for all.

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Appendix A: Adapted ABC resources

There are multiple toolkits, resources, and case histories to support the use of ABC LD on the ABC Learning Design website. The following table links to multiple permutations of ABC that can be picked and mixed for a range of different scenarios:

Scenario	Relevant ABC resource	Facilitator notes and suggestions
I've just heard about ABC and I would like to know more.	ABC encourages educators to consider six learning types. To start, it is recommended that you watch this short video introducing the six learning types of ABC.	For more examples, listen to this TEU podcast introducing and explaining ABC (plus some other well known Learning Design models). When time allows, explore the huge range of toolkits, case studies and other resources at the central ABC website (abc-ld.org).
Great. I'd like to learn how to apply it now.	To learn how to apply ABC yourself, take this self-paced course on ABC developed by Moodle Academy. It includes quizzes, videos, webinars and a Google Jamboard storyboard template for you to start creating a proposed course design.	Allow 2–3 hours to take this course and start work on a storyboard.
All of my colleagues are based physically on the same site. I would like to run a team-based ABC workshop in a physical space - where can I find the resources I need to get started? And do I need to print everything?	The original 'classic' ABC resources were recently updated as part of the ABC to VLE Erasmus+ project. The downloadable classic ABC to VLE Toolkit Resource Pack contains the digital resources you will need to run this type of workshop. There is also a version of these materials localised for the DCU context.	If running a traditional ABC workshop face-to-face, you will need a physical space (a room with a sufficient number of tables and chairs) and a toolkit that contains a variety of digital and printable resources that you need to run a session. With the classic ABC, a variety of printed materials are required and these can be laminated to facilitate re-use, if necessary. However if printing is not available or print materials are challenging to access, these materials can be replaced by the use of whiteboards/chalkboards and the use of smartphones.
My colleagues are geographically dispersed and can't attend a physical location. So I need to run the workshop online - where do I start?	If running an ABC workshop online, you could use a web conferencing platform (ideally) and a toolkit that offers a series of activities for participants to engage with. DCU have created an open DCU Online ABC Toolkit Other crowdsourced approaches to online ABC can be explored on the ABC project hub.)	Top Online Facilitation Tips: • Ensure that (in so far as possible!) participants are invited into the process • Ensure that participants consider their learning outcomes in advance • Try to keep to max of 12 participants per session with ideally 3 facilitators (one per breakout room) • Pitch this as a design workshop - it's not training! • Potentially discuss and share experiences in the future.
We operate in a very low bandwidth context so can't use a web conferencing platform. Is there any way of doing low bandwidth asynchronous ABC design?	You could potentially use the workshop materials as a basis for asynchronous discussions e.g. Employ a simple combination of email/shared documents so people can engage in the various stages of the workshop their own time over email.	While there is undoubtedly a valuable energy with simultaneous participation in the live/synchronous session, this may not always be an option. Trial and error may be needed to find an approach that works for you.
English is not our first language.	ABC has been translated into multiple languages. Explore the list of translated and adapted versions.	If your language is not here, consider localising it yourself. The ABC community would welcome it.

Scenario	Relevant ABC resource	Facilitator notes and suggestions
I work alone! Does ABC only apply to teams? Can I use it for something I am working on by myself?	While originally designed for use by teams, it is also possible to use ABC LD on your own. You could start with the self-paced course. Alternatively, or in combination with this, you could use the Learning Designer tool, developed by UCL Institute of Education.	If you find yourself on your own using ABC, consider joining a local ABC LD community and ask around for opportunities to sit in on workshops.
I would like to include UDL prompts for users when facilitating an ABC workshop.	The DCU localised version of the ABC learning activity cards include Universal Design for Learning prompts to remind those engaged in learning design to address issues relating to accessibility and inclusion.	You may need to introduce the UDL framework and principles very briefly to participants unfamiliar with the framework. A brief introductory video may help.
I want to partner with students in learning design.	Think about the extent to which you want to partner students in learning design. The 'ladder of student participation' (see p.49) offers some suggestions. Explore AdvanceHE's nine partnership values and think about how you can infuse these in your ABC LD work - doing so will help make the partnership a success!	When partnering with students in learning design, put yourself in their shoes and think of logistical issues (e.g. time, location, etc.) that might impact on their active participation.

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Clare Gormley is an academic developer with DCU Teaching Enhancement Unit who has worked in digital education since 1996. She is a Senior Fellow of Advance HE (SFHEA) and a Fellow of the Staff and Educational Development Association (FSEDA). Clare has an MSc in Applied eLearning and has worked with faculty from multiple disciplines to collaboratively design online and blended learning experiences. An advocate of ABC Learning Design, she co-led the influential Erasmus+ ABC to VLE project at DCU. She has also published in a range of peer-reviewed journals on professional learning in higher education and is currently undertaking an EdD in Digital Learning.

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Suzanne works as a Learning Technologist at Dublin City University (DCU) supporting staff to integrate digital technologies in their teaching and learning. Suzanne has used the ABC learning design process for several years, with expertise in both face-to-face and online delivery modes. Accessibility and inclusion inform Suzanne's work, and a key influence is the Universal Design for Learning (UDL) framework. Recent projects include the development of a UDL toolkit for Moodle; and the inaugural Accessibility Awareness Week at DCU. Suzanne is currently engaged in research on digital wellbeing for staff in higher education as part of a Doctorate in Education programme.

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15

Using Laurillard’s learning types as a lens for course design in a chemical engineering undergraduate course

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Educational Technology | Higher Education | Learning Design | Learning Types | Conversational Framework | Chemical Engineering

Chapter in brief

The COVID-19 pandemic created a series of conditions that required the redesign of a Chemical Engineering course at a university of technology. Faced with constrained access to digital infrastructure, limited digital literacies and historically poor preparedness for engineering as a field of study, I sought to create a learning design that mitigated both the long-standing challenges of the context and the more immediate constraints posed by emergency remote teaching. This chapter discusses the application of Diana Laurillard's six learning types in the context of emergency remote learning in a second-year chemical engineering course. The learning types, Acquisition, Inquiry, Practice, Discussion, Collaboration, and Production, are connected to analogue and digital learning activities. Laurillard's framework is used to design a varied and responsive learning environment that includes digital tools such as YouTube, Zoom, WhatsApp, and others. The chapter reflects on the challenges faced during remote teaching, emphasising the importance of connection and community. Strategies like the "Buddy System" and building teacher presence through various tools are discussed. The study concludes with insights into the transformative learning experience, advocating for a continued shift towards innovative and flexible teaching approaches in the post-pandemic era.

Introduction

The COVID-19 pandemic posed challenges for universities of technology (UoT). In the South African context, UoTs tend to offer programmes and courses that require specialist learning environments and tools while simultaneously attracting and admitting students from historically disadvantaged communities with lower income levels and poor preparedness for post-secondary education. During the early months of the COVID-19 pandemic, government-imposed lockdowns restricted free movement, halted access to public spaces and closed all parts of the economy except essential activities. Students were initially required to evacuate university residences and were only allowed to return to residences and classrooms later in 2020, in reduced numbers. Faced with the constraint of lockdowns and the later extended period of restricted indoor gathering, most post-secondary institutions pivoted to emergency online or remote learning and teaching (RTL). In South Africa, as in other unequal and resource-poor environments, these attempts to continue teaching online had to take into consideration access to devices, access to and cost of internet access and students limited digital literacy for learning purposes.

This chapter describes how within the undergraduate Chemical Engineering programme at Cape Peninsula University of Technology (CPUT) – a university of technology, we adopted a multimodal approach to RTL. The chapter unpacks the learning approach and learning design that made use of Laurillard's six learning types (1999).

Teaching and learning at CPUT: Contextualising the case

CPUT is the only UoT in the Western Cape province of South Africa. Many of the students admitted to CPUT are from historically disadvantaged communities and backgrounds where they are not exposed to or have limited access to information and communication technology (ICT) facilities and internet connectivity. Navigating the constraints of the pandemic while seeking to provide a more active, student-centred course design was a challenging context.

Teaching Chemical Engineering at CPUT prior to the pandemic

This study focuses on a compulsory whole year chemical engineering course, Chemical Engineering Thermodynamics, usually attended by about 250 second year students. Chemistry and Mathematics are prerequisites for this course. This course is foundational to other chemical engineering subjects as students are introduced to concepts that translate fundamental knowledge (learnt in chemistry, physics and mathematics) to applications. The course provides foundational knowledge to solve chemical engineering problems in chemical processes and plant operations.

Prior to the pandemic, the course was divided into a series of independent units or modules of study taught, primarily in person, over 13 to 15 weeks. Students attended lectures, tutorials and laboratory or workshop sessions in person. Notes, lecture slides and other audio-visual aids as well as quizzes and other formative assessments are delivered using Blackboard, the university's learning management system (LMS). Assessment consisted of both continuous and summative components. During term, students completed tutorials for a small portion of their grade, and class tests. This continuous assessment component was combined with their final examination (summative assessments) and undertaken in an examination block at the end of the course. The course assessment process was internally and externally moderated. Additionally, students could access lecturers in person, during office or consultation hours or by appointment.

As is the case in other similar contexts (see for example, Mutch, 2003; Simpson, 2015), my students' engagement is strongly shaped by assessment practices and, in particular, weight-bearing summative assessment. Most of my students are, understandably if problematically, primarily concerned with doing well in the assessments in order to achieve their highest possible grade. The practice of learning primarily to pass an assessment is labelled "surface learning" (Biggs & Tang, 2007). Surface learning is understood to be compelled by or connected to circumstantial factors in a student's life that do not necessarily link directly to the requirements of the university (Biggs & Tang, 2007). In contrast to surface learning, in deep learning, students are inquisitive about the subject matter and engage

meaningfully with it (Dolmans et al., 2016). Students do not just recollect facts but understand concepts and are able to link new concepts to prior knowledge (Howie & Bagnall, 2013). Deep learning often results in student satisfaction and confidence while teachers evoke active rather than passive interaction with students (Biggs & Tang, 2007). Thus, even in the pre-COVID-19 context, the practice of surface learning or assessment-driven learning was dominant and needed attention during the learning design process.

As mentioned, CPUT admits students from many disadvantaged groups, whose backgrounds and educational experiences do not prepare them well for studying at higher levels. Navigating the transition to learning not only in the UoT context, but also in a blended context, can be daunting for some students whose learning experiences have been dominated by face-to-face classrooms and teacher-dominated pedagogies in secondary schooling. Careful attention will need to be paid to support systems, including tutorials, lecturer consultation, peer learning and social media platforms. Many first years at CPUT have limited knowledge and experience of ICT and educational technologies. If they live off campus, they are likely to have limited access to devices and the internet. In addition to enabling access where possible, it is necessary to actively introduce students to the use of computer hardware, software, emails, internet and social network sites.

Additionally, the language of learning and teaching in the institution poses a barrier for some students. Many students' home languages are local African languages while some international students are most confident using Portuguese- or French as their language of learning and teaching. The institution also teaches communication skills to strengthen students' expression of themselves in English both orally and in writing.

The COVID-19 disruption

CPUT followed the South African government directive during the lockdown, cancelling all face-to-face operations and closing official university residences. When, after the initial hard lockdown, the Department for Higher Education and Training (DHET) gave directives for the continuation of teaching through RTL, CPUT had to devise a teaching and learning response that considered the individual situations and collective context of the students. The initial approach was to have most (~90%) teaching and learning activities online while students would only come to campus to carry out practical activities and final summative assessments if required.

As is the case with many UoTs, CPUT students often face economic and associated material constraints, thus, the CPUT response needed to consider the limited access to ICT facilities and internet connectivity our students experienced in their homes and private spaces. The CPUT executive management made agreements with all mobile network operators, as negotiated by Universities South Africa and DHET, to provide students with a free allocation of 10GB of mobile data if they were registered with any of the country's four main mobile network providers (Vermeulen, 2020). Additionally, the major mobile operators announced zero-rating for a selection of educational sites, including institutions' LMS, providing free access to course materials for students (Jantjies, 2020).

At the onset of the pandemic, while affordances were considered in the choice of tools and technologies, choices were primarily dictated by the cost of data and availability of ICT facilities and infrastructure, such as network capacity or LMS access. At CPUT, lecturers were expected to have their lecture content on CPUT's LMS, which was zero-rated, to entirely replace face-to-face teaching. Before the pandemic, the LMS had primarily been used for administrative purposes and as a repository for teaching and learning materials.

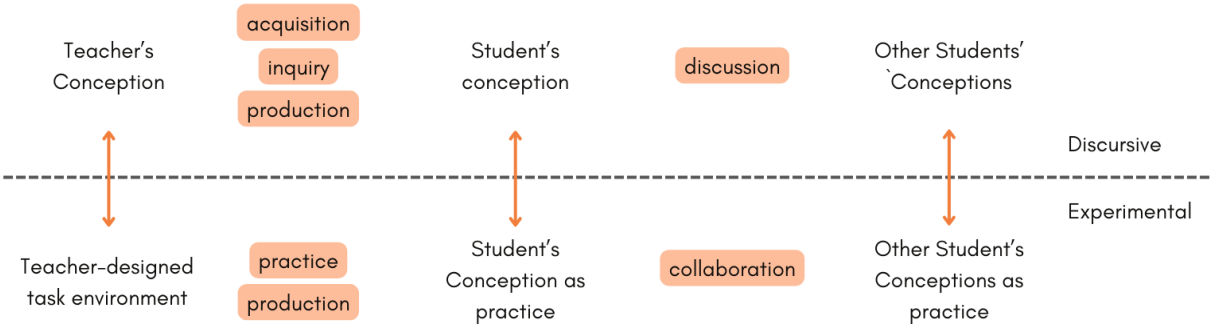
While the LMS offers multiple affordances for teaching and learning at CPUT, most educators migrated to the online space by simply "digitising" their conventional face-to-face teaching materials. In some cases, synchronous and asynchronous multimodal delivery of content was implemented and staff attempted to enable synchronous and asynchronous interaction with learning pathways. Unfortunately, given the limited resourcing and rapid nature of the shift online, little attention was paid to learning design or instructional design practices. Meyer (2014) notes: "emphasis placed on interaction without being clear about an educational goal or learning objective may have inadvertently created some of the problems of poor student engagement" (2014, p. 40). It is possible that this has been the case at CPUT.

Designing with Laurillard's six types of learning

Laurillard's conversational framework (1999) draws on key elements of the learning process – associative, cognitive, experiential, social constructivist, conceptual, constructionist and collaborative learning (Laurillard, 2012, p. 84) to offer a framework for understanding formal learning. The conversational framework brings together instructionism, social learning, constructionism and collaborative learning to offer a "representation of what it takes to learn" (Laurillard, 2009, p. 11). By offering four cycles to represent the complexity of teacher-learner interactions in formal learning environments, Laurillard extracts six learning types that emerge across educational contexts, describing this "rich mix of activities" as "fuelling the impulse to build a more effective knowledge structure, and more skilled ways of using it" (2012, p. 95). It was the six learning types: acquisition, inquiry, practice, production, discussion and collaboration which emerged from these cycles that I found most useful in designing learning activities. Figure 1 from Feist's representation (2022) displays how Laurillard locates these learning types within the conversational framework.

Figure 1

Learning types (Feist, 2022, p. 35)



In Figure 1, in the discursive band of activities, Laurillard connects the teacher's conception with the student's conception through the learning types of acquisition, inquiry and production; students connect their conceptions with the conceptions of other students through the discussion learning type. Below the line in Figure 1, in the experimental band, Laurillard connects the teacher-design task environment to the student's conception as practice through the learning types of practice and production. The student's conception as practice connects to other students' conceptions as practice through the collaboration learning type.

The learning design that emerged during the remote learning phase drew strongly on the six learning types outlined by Laurillard. Each learning type is reinforced by different learning theories and finds expression in different kinds of learning activities either in face-to-face or online contexts. Laurillard (see Table 1) connects each learning type with the kinds of analogue and digital learning activities that best enable that type of learning.

Table 1

Types of learning and the different types of analogue and digital learning activities that serve them (Laurillard, 2012, p. 96)

Learning through	Analogue learning activities	Digital learning activities
Acquisition	• Reading books or papers; • Listening to teacher presentations face-to-face, lectures; • Watching demonstrations, master classes.	• Reading multimedia, websites, digital documents and resources; • Listening to podcasts or webcasts; • Watching animations or videos.

Learning through	Analogue learning activities	Digital learning activities
Inquiry	• Using text-based study guides; • Analysing the ideas and information in a range of materials and resources; • Using conventional methods to collect and analyse data; • Comparing texts, searching and evaluating information and ideas.	• Using online advice and guidance; • Analysing the ideas and information in a range of digital resources; • Using digital tools to collect and analyse data; • Comparing digital texts, using digital tools for searching and evaluating information and ideas.
Practice	• Practising exercises; • Doing practice-based projects, labs, field trips, and face-to-face role-play activities.	• Using models, simulations, microworlds, virtual labs and field trips, and online role-play activities.
Production	• Producing articulations using statements, essays, reports, accounts, designs, performances, artefacts, animations, models, • Videos.	• Producing and storing digital documents, representations of designs, performances, artefacts, animations, models, resources, slideshows, photos, videos, blogs, e-portfolios.
Discussion	• Tutorials, seminars, email discussions, discussion groups, online discussion forums, class discussions, blog comments.	• Online tutorials, seminars, email discussions, discussion groups, discussion forums, web-conferencing tools, synchronous and asynchronous.
Collaboration	• Small group project, discussing others' outputs, building joint output.	• Small group project, using online forums, wikis, chat rooms, etc. for discussing others' outputs, building a joint digital output.

The term "learning technologies" is commonly used to refer to digital technologies or media used specifically for learning. Laurillard proposes five categories of learning technologies which support educators in making decisions about the adoption of specific learning technologies. Feist (2022, p. 40) summarises Laurillard's categories as follows and offers examples of each:

- Narrative: YouTube, PowerPoint, Canva
- Interactive: Websites, Wikipedia, E-books
- Communicative: Zoom, WhatsApp, Google Classroom, Microsoft Teams, Mentimeter, Kahoot
- Adaptive: Simulations, Branching scenarios, Minecraft
- Productive: Adobe Spark, Camtasia, Google Applications, Jamboard.

In some cases, these tools may be designed for purpose, such as an LMS or quizzing tools. In other cases, educators may make use of widespread tools such as word processing tools, presentation tools, video conferencing tools and even social media to achieve educational objectives.

Given that I was working in a primarily online context, the context pushed us towards the version of activities that are described in the digital learning activities column in Table 1 above. In the section below, I discuss how particular learning types, learning activities and categories of tools were connected to create a particular learning design that sought to respond to a particular moment in time in my context as a chemical engineering lecturer. It is worth noting that not all learning activities fit neatly into one learning type, but instead activities may be made up of a combination of multiple learning types. Therefore, there are some activities or strategies discussed across learning types.

Acquisition

Acquisition refers to listening to the teacher, watching a demonstration or video recording and reading notes, a book, journal articles or websites. Acquisition activities afford the learner access to the teacher's conceptual world. It is typically didactic (Laurillard, 2012) and students take a relatively passive role, not actively generating ideas or engaging in practice, but being exposed to the understanding of and reviewing the practices of experts (Feist, 2022). This learning type found expression in the course with YouTube videos, screencasts, presentations using PowerPoint slides and web resources. Figure 2 provides an example of the use of PowerPoint slides, combined with the whiteboard function in video conferencing software during a live, online presentation to support acquisition of information (Oyekola, 2020).

Figure 2

Screenshots of my class recordings: (a) Making a calculation (b) Presenting my slides via PowerPoint

An over-emphasis on acquisition-oriented activities tends to align with learning theories which position students as more passive learners, absorbing knowledge, rather than actively constructing their own understandings. While acquisition is a common learning type in most undergraduate engineering degrees, the task of acquiring knowledge is balanced by needing to make active use of that information. Learning in this field may include

> *repetition, positive feedback, and the freedom to develop the skill without fear of failure. There is also a socialising aspect to this approach, and an opportunity to reinforce the kind of social behaviour desired in engineers, in addition to professional skills (Cropley & Sitnikova, 2005, p. 7).*

After delivering the subject content to students, in the form of love or recorded lectures, notes and resources, students undertake formative assessments in the form of online quizzes. I needed to strike a balance between acquisition of knowledge and more active learning approaches which are key to engineering. To do so, I focused on creating opportunities for the other learning types which position students as more active learners. Further, the theoretical knowledge acquired in the course that I teach, is applied in another subject (Chemical Engineering Laboratory) where the inquiry process is foregrounded as experiments are conducted. This creates an opportunity for more active forms of learning and practice in the curriculum of the programme, if not of the individual course.

Inquiry

Inquiry, in some ways akin to a scholarly research process, invites learners to identify questions, find appropriate resources and evaluate their findings. The learner is more in control while the lecturer plays the role of guiding and coaching. The overarching pedagogical strategy for this learning type is the undertaking of research independently from information shared by the educator. The inquiry learning type can be adopted concurrently with other learning types, commonly acquisition and collaboration, and can find expression in a wide range of activities including reading, discussions and reporting, using physical and web resources to conduct project-based learning activities. Inquiry can be associated with constructivist understandings of learning. As the student engages in inquiry, their conceptualisations of the world are changed, creating their understandings of the world. During the pandemic in this course, opportunities for inquiry were severely constrained.

Discussion

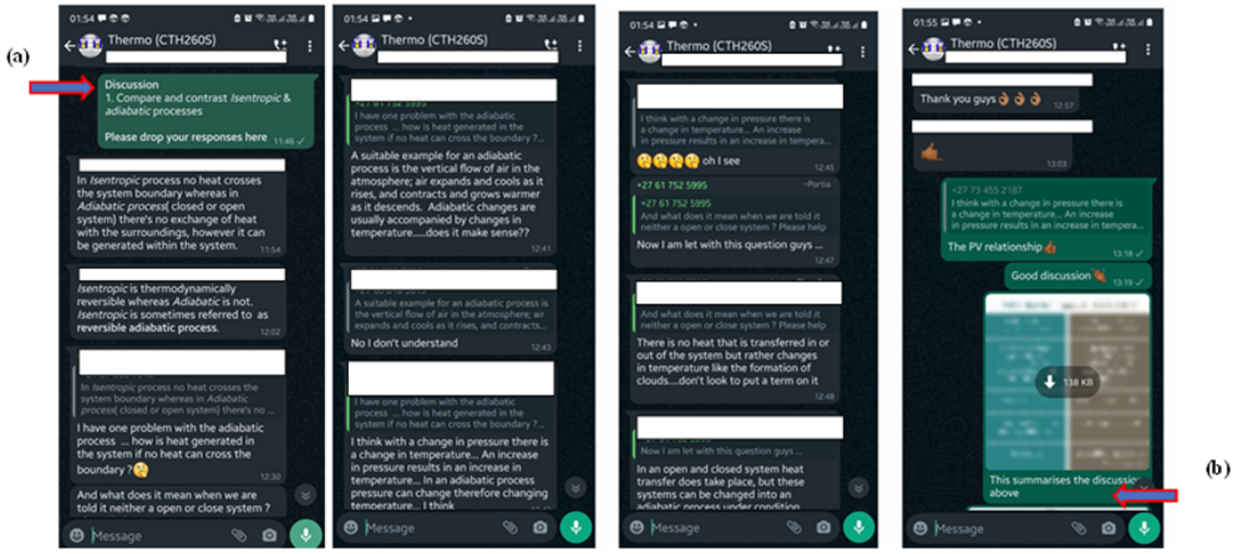
The discussion learning type requires a learner “to articulate an idea, and to negotiate, in the continual iteration of discussion, the terms of the linguistic representation of an argument or idea” (Laurillard, 2008, p. 9). While the lecturer may be involved, Laurillard emphasises the importance of discussion primarily between peers. Continuous discussion

results in progressive knowledge creation and understanding. This approach is underscored by social constructivism which promotes learning as a social process and the dependence of all cognitive functions on interactions with others.

Asynchronous online discussion forums on the LMS and WhatsApp are useful spaces to engage in discussion. As shown in Figure 3, the discussion was initiated and summarised by the lecturer. The discussion started with a simple prompt in the class WhatsApp group: Compare and contrast isentropic and adiabatic processes. Please drop your responses here. The students were expressive and engaging. As the discussion ensued, expressions from certain students changed from what does it mean? to “no I don’t understand” to “oh I see” and “thank you guys”. Typically, in the face-to-face mode of instruction, discussions are held during class and tutorial sessions; only few students participate. The anonymity or distance afforded by social media platforms, seemed to encourage more students to express themselves. Hence, this approach supported the students’ engagement as they were empowered to become independent and self-directed learners (Manyukhina & Wyse, 2018).

Figure 3

Screenshots of class discussion in the WhatsApp group after a lecture



Through the continuous exchange of meaning and varied types of interactions among participants authentic learning is ensured (Alvarez & Olivera-Smith, 2013; Suanpang, 2012). This further fosters a sense of social connection among the students (Balaji & Chakrabarti, 2010)

Practice

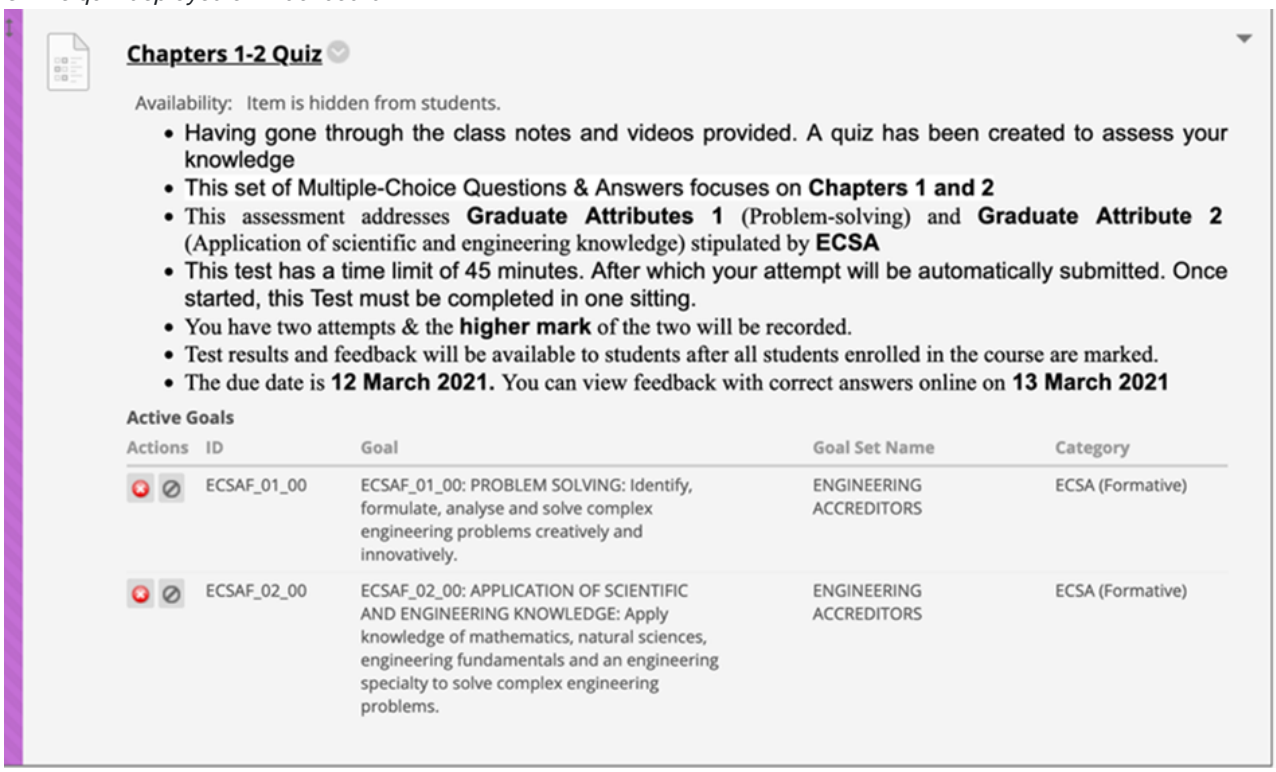
In the case of the practice learning type, the lecturer creates a learning environment where the learner produces an action, interprets it, receives feedback, reflects on the feedback and tries again. Online quizzes were generated on the LMS to achieve this (Oyekola, 2020). The learner received feedback, provided by the lecturer or through peer or automated feedback and has an opportunity for incremental improvement. Learning outcomes in alignment with the graduate attributes prescribed by the Engineering Council of South Africa (ECSA) were set out at the beginning of the semester and were assessed through some of the quizzes. Further, quizzes were set for each chapter taught in the subject (Figure 4).

Typically, knowledge acquired in each chapter is essential for the subsequent one. The regular testing of students’ acquisition of knowledge allows students to assess their own understanding by “measuring the proximity of their behaviour (answering questions, writing reports and essays, performing laboratory experiments, etc.) to the expected outcome” (Emami, 2009, p. 3). This is critical because of the sequencing and scaffolding of the chapters. Ensuring that students attempt each quiz immediately after a chapter is completed affords the opportunity to identify gaps in

students' knowledge. Hence, remediation can be provided more appropriately such as re-emphasising concepts students found difficult to grasp in class and encouraging private sessions with tutors and teaching assistants.

Figure 4

Online quiz deployed on Blackboard



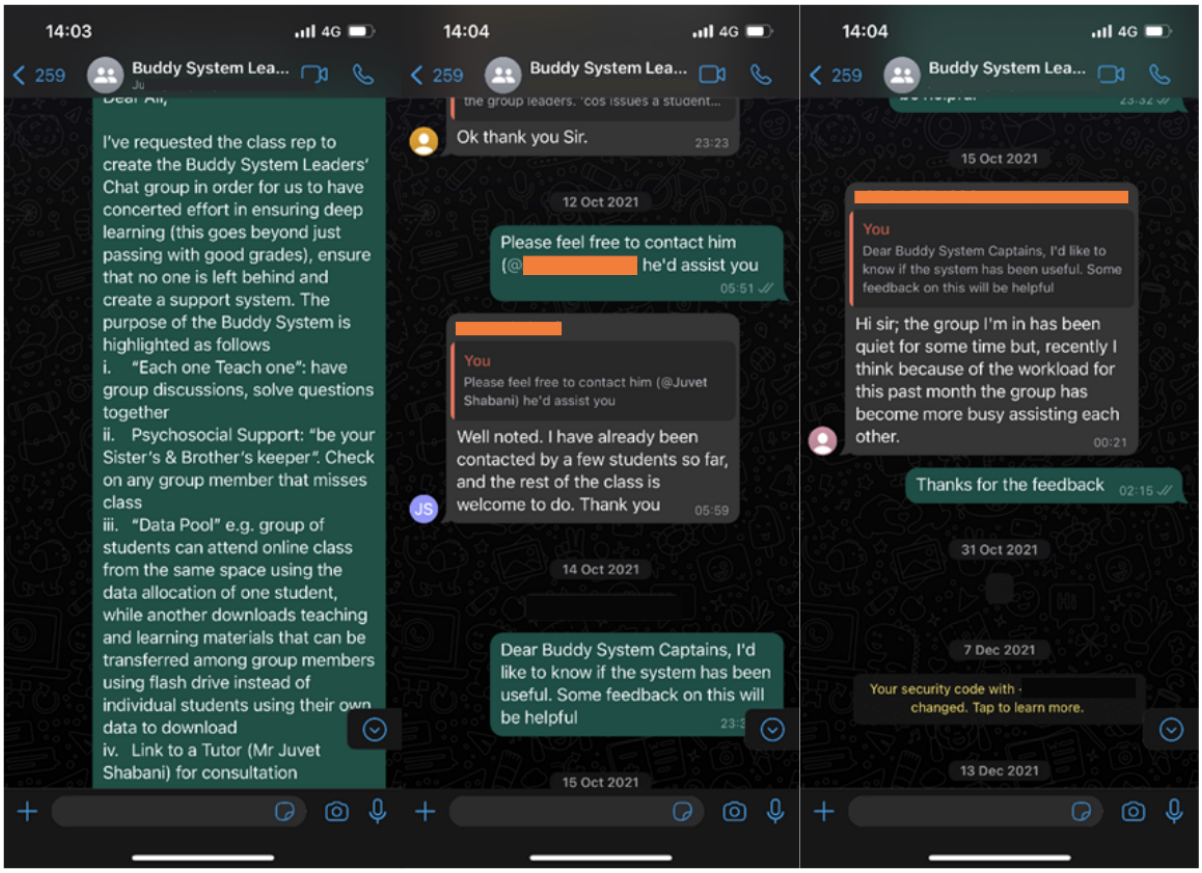
Collaboration

Students are placed in groups to conduct group projects to facilitate collaborative dialogue. A cyclical movement between the learner's concept and practice is facilitated. As with the discussion process, this approach is underscored by social constructivism which promotes learning as a social process and the dependence of all cognitive functions on interactions with others (Oyekola, 2020). This was actualised in two ways: (1) using the Buddy System and (2) through the group projects (which will be discussed later in the production section).

The Buddy System presented a more informal, semi-structured approach for collaboration throughout the course while the group project was a formal summative component of the course. Although the Buddy System is a form of collaboration, it goes beyond this learning type into the essence of forming a community within a course. The class was divided into groups of 10 students and a leader was appointed per group and given access to an associated WhatsApp group. The leaders were tasked with the responsibilities of coordinating their groups to facilitate improved motivation, enhanced productivity, enhanced engagement, improved teamwork, and more effective management (Figure 5) (Oyekola, 2020). In many ways, the Buddy System facilitated several of the other learning types, especially inquiry and discussion.

Figure 5

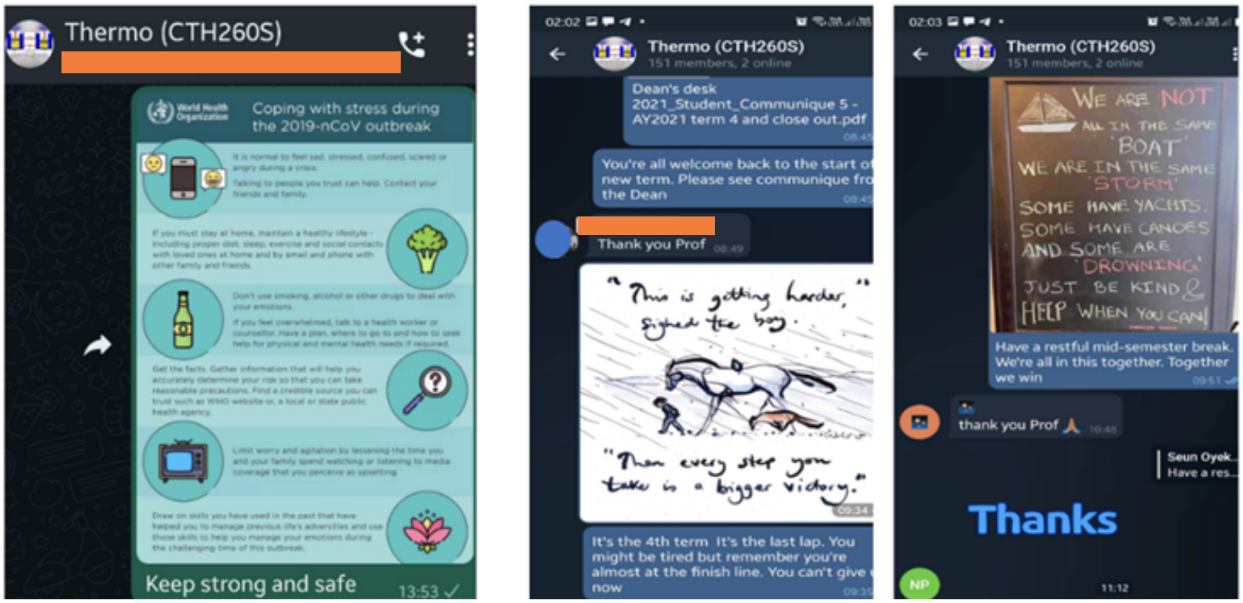
Screenshots of WhatsApp group discussion with the Buddy System leaders



As a lecturer, I was not directly a part of the Buddy groups, instead, there was an additional WhatsApp group for the lecturer and group leaders (Figure 6).

Figure 6

Psychosocial support from the lecturer on WhatsApp and Telegram



The Buddy System had three aims - to enable collaborative learning, psychosocial support and data pooling.

"Each one, teach one": The Buddy System created opportunities for learning through discussion and collective problem-solving.

The "Buddy System is grounded in constructivist understandings of learning where collaborative construction of knowledge is mediated by making students work in groups. Following the constructivist theory, "the role of teachers is not to dispense knowledge but to serve as a creative mediator and facilitator to provide learners with opportunities and incentives to construct their own perception of reality" (Emami, 2009, p. 3).

Psychosocial support: The Buddy System enabled greater psychosocial support within groups.

The pandemic was a particularly isolating time for most people. For students, living at a distance from families and among people with whom they did not have close social networks, the pandemic was particularly psychologically harmful. Many scholars in different contexts globally have written about the impact of the pandemic on feelings of connection and belonging (see for example, Phillips et al., 2022, Padmanabhanunni & Pretorius, 2023).

Data pooling: The Buddy System enabled the sharing of data and devices.

In their private residences, some of which are in rural areas or urban areas with poor infrastructure development, students would have had very limited access to the internet. However, as students were permitted to return to campus in small, controlled numbers, many would have returned to their term-time accommodation. For students in official campus accommodation, access to the internet would have been provided by campus wifi. However, many of our students would have returned to private, term-time accommodation such as apartments and privately-run student hostels. In these cases, while the internet is available, it remains an expensive item. In cases where small groups of students had physical access to each other in their term-time residences, they could, and did, attend online classes from the same space, using the data allocation of one student while another student downloaded learning and teaching materials. Materials could then be shared among group members using flash drives, thus reducing data costs. While these are by no means high-tech solutions to the problems, students were able to continue learning despite constraints such as limited data or unsuitable devices. Furthermore, this interdependence created a sense of camaraderie among students, creating a sense of belonging for students who were experiencing the lockdown within proximity to one another during a time characterised by extreme loneliness and isolation.

It is evident that these efforts appear to have had at least some effect. For example, one student noted that they were quite close with their group and that the space was used for motivational messages to support one another.

Production

Students are expected to articulate their learning activities by producing something for the teacher to evaluate. On completing the group projects, students are expected to present their findings both verbally using presentation tools and in written formats. This is the converging point of the previous learning types. Cognitivism and constructivism learning theories come to the fore herein. In this case, the learning activity type was actualised in a project integrated with the subject of Thermodynamics. ECSA requires engineering students to produce artefacts or polished products throughout their course of study (Moothi, 2023). Conventionally, in the project and laboratory subjects integrated with thermodynamics, as in other engineering courses, students create design artefacts ranging from sketches and drawings to prototypes. Subject integration as employed herein mirrors real-world problems (i.e. authentic learning), emphasising comprehensive understanding, work-preparedness and the connection of theory to practice (Herrington et al., 2010).

Key design choices

Laurillard's learning types offer educators a framework for focusing their teaching practice and design on students' activities rather than their own; this is useful for novices or less experienced educators. Thinking through the six learning types can encourage a shift away from well-established or even entrenched teaching practices such as extensive lecturing which can limit students' learning activities to more passive formats.

Upon reflection, it was clear that there are limits to designing with Laurillard's learning types especially with creating connection and community. While learning types are a powerful tool for creating varied and responsive designs, the framework does not explicitly offer guidance on the creation and guidance of connection and community. In my context, both connection and community in the classroom are difficult to establish and maintain and this was exacerbated during the RTL process. In this section, I reflect on three key design choices which Laurillard's learning types do not address.

Knowing your context

Learning design frameworks often place substantial importance on grounding design work in an understanding of students and lecturers who will experience the design. In conventional process models such as ADDIE and ASSURE, this takes the form of an "analyse" stage (Bajracharya, 2019). In more design thinking oriented models, understanding the "users" of a design might be captured under the concept of empathy (Khan et al., 2022). While definitions of empathy vary, for the purposes of this paper, I understand empathy to be a "complex set of reflexive psychological characteristics associated with social intelligence, emotional literacy, mental state", which allows "us to see and sense the viewpoints of others" (Elfilti & Gelmaz, 2023, p.2). Given the rapid contextual changes, and the already vulnerable situation of many of our students, I felt it prudent to engage with both students and staff to better understand the context I was now designing for.

At the end of the second semester in October 2020, I approached both students and lecturers in the Chemical Engineering department to explore their understanding of the challenges faced by undergraduate students during RTL. I surveyed both staff and students on their experiences of RTL across various courses in the department. This section presents key outcomes from the survey with staff and students, highlighting the outcomes of the course design.

Some students expressed a strong preference for face-to-face learning, saying: "Physical interactions are better than online learning" and more expressively: "Remote learning is depression itself". Another student described online classes as "so stressful; all modules have basically become self-study which has made it nearly impossible to cope". Many of their comments pointed to a sense of missing connection characterised by strong affective elements.

Ten lecturers, a substantial group in my department, reported noticing a heightened sense of anxiety among their students. A lecturer noted that:

> *Adopting RTL during COVID-19 created sudden shock for both the students and the lecturers. To adapt to the shift requires time, most especially to the students. Teaching approach (instructor directed, interactive and/or collaborative session) where students ask questions via e-mail and or WhatsApp was implemented, knowing that students are drivers of their own learning. The effectiveness of this approach can only be substantiated upon collection of more data, due to variations in the students' cognitive capacity, considering the background of the students. RTL can be the future if well implemented.*

As I moved through the RTL, I actively sought to create opportunities for connection and community with and between my students.

Building community online

Building community in face-to-face classes is often something that lecturers leave at least partially to chance. In this context, a sense of community develops over time, actively, as students engage with their peers, tutors and the lecturer and passively as they observe engagements between the lecturer or tutors and other students. Opportunities to strengthen this potential community surface during formal lectures, tutorials and in individual interactions. The onset of the pandemic and the accompanying restrictions overturned the largely tacit and ad hoc processes of face-to-face community building. Furthermore, the pandemic entirely disrupted the ways in which the classroom community has historically gathered, requiring a deliberate and considered strategy for developing community. I undertook a number of strategies to build community online, which I will discuss briefly below.

The Buddy System, which I have discussed already, is a strategy I used to build not only a suitable context for learning, but also, critically, community among students. As Ngubane et al. point out (2022), working in groups is a graduate requirement for engineers and, as is widely discussed in the literature (see for example, Laurillard, 2012) a key practice for cultivating critical thinking and psychosocial support.

Prior to the pandemic, tutorial sessions were conducted for the entire class as one big group. Although in these large groups, there is a tendency for some students to be lost in the crowd, there were also opportunities for serendipitous individual conversations and interactions. Such informal, serendipitous connections seem to be less likely in online learning environments (Kop, 2013) and require deliberate design. Many students are more comfortable expressing themselves in smaller groups such as WhatsApp groups. During the pandemic, given the isolation from their peers, it became even more essential to create a classroom environment where students could connect with each other and feel comfortable to ask questions or seek support as needed. The psychosocial and community support were central to the design of my course and went beyond the cognitive aspects of the learning types.

Building connection through teacher presence

While most learners indicated their need for a lecturer's presence, many lecturers did not make provision for this. In the feedback on the earlier part of RTL, a student pointed to a sense of disconnection from their lecturers during this time describing learning as "basically becoming self-study which has made it nearly impossible to cope". While lecturers understood students to be the "drivers of their own learning", students experienced this as a lack of lecturer presence. The initial recommendations at the time advocated for the use of tools that were maximally accessible to students with limited data and that allowed for flexible access across the day. This led to asynchronous approaches to teaching and learning. Most lecturers used, as per recommendations, asynchronous teaching tools within the LMS augmented by WhatsApp for interaction. Only three lecturers indicated that they had actively sought to create an online equivalent to the face-to-face teacher's presence.

Anderson et al.'s (2001) work on the notion of "teaching presence" defined it as "the design, facilitation, and direction of cognitive and social processes for the purpose of realising personally meaningful and educationally worthwhile learning outcomes" (2001, p. 5). I worked on strengthening teaching presence in several ways. I have already discussed the Buddy System which provided a distributed form of teaching presence through the group leaders without my direct involvement in the groups. In addition, I used several direct strategies, including introducing myself at the beginning of the term, offering lecture summaries, instructor-authored resources, weekly announcements and prompt feedback through the LMS. By creating my own videos, students were able to hear and see me regularly, creating a sense of direct teacher presence that was personal and embodied.

To find out how they were handling the situation, I often checked in with students on WhatsApp and Telegram (Figure 6 and 7). My go-to phrase was "we are all in this together." Students indicated a clear appreciation for a strong teacher presence:

> *I genuinely appreciate Dr Oyekola. I feel he really cares and listens to us. There are very few lecturers in our department who have been empathetic throughout this time and he is one of them. It makes me want to join his classes and do the work.*

Teacher presence is clearly necessary for students' sense of confidence and their sense of being cared for (Ebersole, 2021), and given the demands of the moment, were key aspects of working responsively with my students.

Tools choices for learning types

The learning design literature offers several concepts, tools and frameworks for choosing the technologies and tools that constitute the digital environment of the course (Bower, 2008). These have shifted over time with the earlier frameworks tending to prescribe the use of specific tools for specific purposes and others focusing on, for example, the capacity to "scaffold progressive inquiry", the provision of tools for "structuring and coordinating activity" and supporting community building or focusing on pragmatic factors such as "student rating" or "cost" (Bower, 2008, p. 4).

More recently, with renewed concerns about the barriers experienced by black students, students from low-income backgrounds and students with disabilities, accessibility, useability and inclusive design are receiving greater attention with tool selection and tool design (Phillips & Colton, 2021).

For this paper, I focus on the technologies and tools that are student-facing and omit those that are used in the production of materials or course administration activities that are not student-facing. I primarily chose tools and technologies that students were conversant with such as WhatsApp, Telegram and YouTube; I supplemented these with the most accessible versions of tools fit for purpose such as Zoom for video conferencing.

Synchronous lectures and feedback sessions were held on Zoom. We did not make full use of the allocated face-to-face time (six periods, equivalent to four and a half hours per week) to avoid online learning fatigue. The maximum time used for synchronous engagement was 80 minutes per week and the rest of the time was allocated to asynchronous activities.

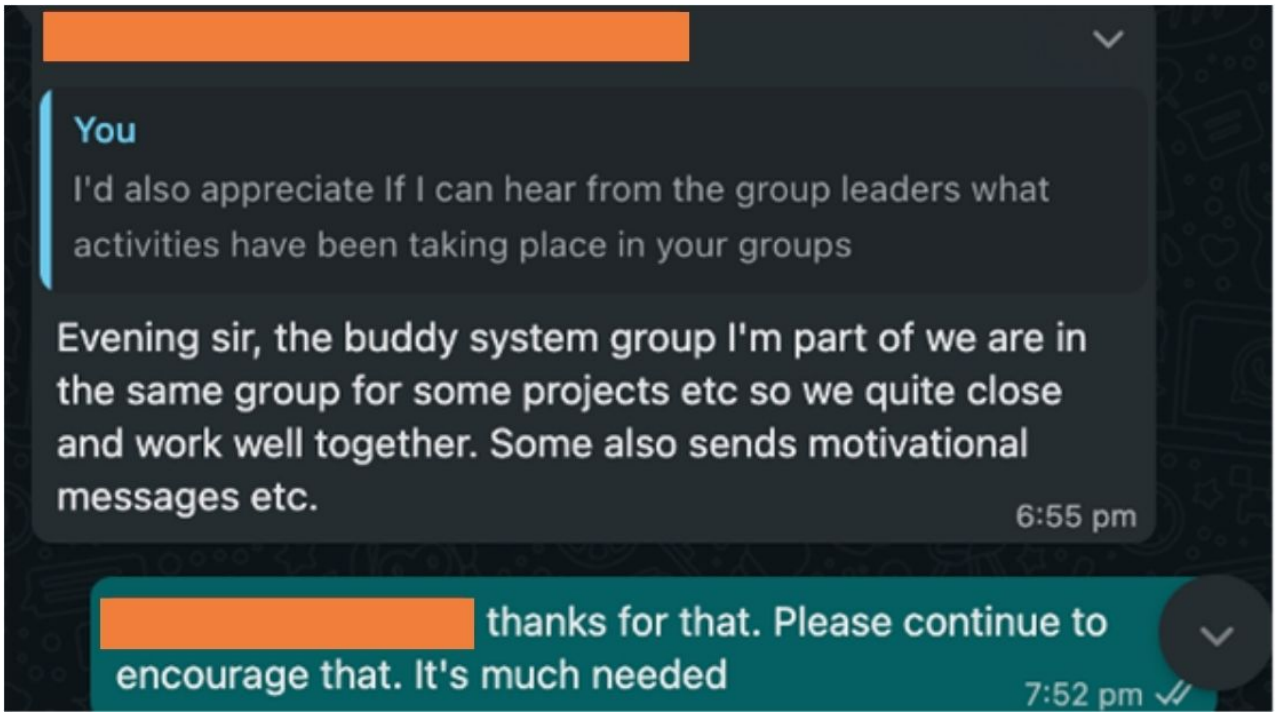
Initially, discussions were held and announcements were posted on WhatsApp. We later migrated to Telegram since it accommodated a larger group, permitted the sharing of any type of media and allowed file sizes of up to 1.5 GB. Students joined the group at different intervals and unlike WhatsApp, students could view past posts at any time they joined the Telegram group.

All the tools were embedded or linked to the LMS to maximise access and allow for class scheduling and emails. Short YouTube videos were downloaded and uploaded on the LMS. Quizzes were set up on the LMS to assess students on the completion of each chapter. This encouraged the students to study immediately and afforded them timely feedback.

Aside from using existing videos, I created a YouTube channel where I uploaded videos of me teaching key concepts (Figure 7).

Figure 7

Screenshot of personal YouTube channel



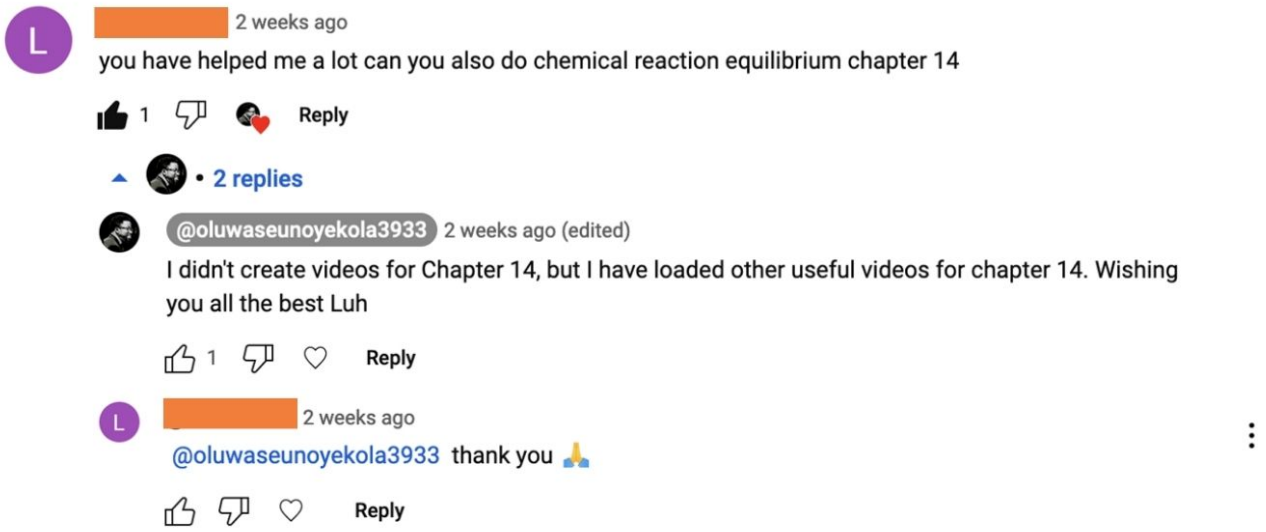
Rambe and Ng'ambi (2011) stated that:

> *real life experience blends both formal and informal knowledge. Unlike LMS collaborative tools such as discussion boards and chats, which learners often conceive as provided by the institution and open to educator manipulation and regulation, learners usually perceive Facebook as a technology in their control (p. 62).*

This can also be said of YouTube. Students were able to post comments and queries without the fear of censorship. Students can also use pseudonyms which they cannot do on the LMS. Contents on LMS are typically removed by the University's information technology unit at the end of each session to create space for subject contents in the subsequent session. There is no such limitation with YouTube. While the videos were created during the pandemic period, learners still currently have access to the videos and can continue to ask questions on the channel, (Figure 8), effectively creating an ongoing community resource.

Figure 8

Screenshot of interaction with a student on my personal YouTube channel two years post-publishing



Conclusion

In my context, the COVID-19 pandemic drove substantive changes to teaching and learning - specifically, the shift towards online learning in chemical engineering education. Unfortunately, the urgency of the situation left minimal time for well-planned learning design. The presented case study delves into the emergent design that resulted in the rapid transition from predominantly face-to-face instruction to the online platform. This shift required adopting interventions, necessitating a closer analysis of the challenges and the strategies employed. Adopting Laurillard's framework offered a structured approach to learning design, albeit with ad hoc implementation and some limitations. The experience made clear how important it is for academics and learning designers to close the gaps in remote learning. The development of various artefacts and activities that cater for multiple learning types for a diverse group of students within the constraints dictated by the context also came to the fore. Further, it provided the opportunity to be proactive by envisaging possible concerns before deploying the tools and resources, while also regularly evaluating the usefulness of tools and resources.

This transformative journey experience facilitated a thorough understanding of the multifaceted roles of an educationist as a teacher, researcher and designer in creating authentic teaching and learning experiences. The incorporation of innovative learning design approaches is evidence that transformative learning is possible in the face of unexpected

challenges. The knowledge obtained from this study contributes to the ongoing conversation about effective teaching and learning strategies in the digital era as we continue to navigate the changing terrain of remote learning and teaching.

The case suggests that, in the conventional mode of content delivery, we may have spent too much time with students in the acquisition learning type. This orientation to a didactic mode is more teacher-centred and encourages dependence on the lecturer. The proverb “necessity is the mother of invention” seems to have driven innovative learning and teaching because of the imposed constraints. In the current “normal” context we should proactively impose some constraints, for example, less time on didactic teaching and more on coaching and on the curriculum. The curriculum needs careful and regular revision and redesign. Learners and teachers need a paradigm shift: the incorporation of flexibility and student agency into learning and teaching is inevitable in the current landscape.

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16

Weathering the storm by using the Rapid Development Prototype model in online course design

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Instructional Design Models | Prototyping | Rapid Development Prototype Model

Chapter in brief

In 2020, higher education institutions (HEIs) globally were faced with a new storm and none were adequately prepared to sail it. As Travis Meadows puts it: "Peace is not found in a calmer storm, it's found in a better boat", so too did HEIs have to look for better "boats" to weather the storm of the COVID-19 pandemic. To rapidly adjust from the traditional face-to-face modes of delivery to online learning, many HEIs had to adopt a model of rapid online course development. The shift to online learning fundamentally altered the environment in which institutions offering distance forms of higher education function — having a knock-on effect on their practices. This chapter provides a brief overview of the Rapid Development Prototype model and the experience of using it in online course design at a Namibian higher learning institution — the University of Namibia. Through the rapid model, instructional designers were better able to deliver the current needs of students at a rapid process to minimise interruptions to their learning.

Introduction

When faced with this new storm of the COVID-19 pandemic, higher education institutions (HEIs) globally had to look for a better "boat"' to weather it, none of them were adequately prepared to sail it (Dlamini & Ndzinisa, 2020; Ndzinisa & Dlamini, 2022; Trotter et al., 2022; van Heerden, 2021). As the saying goes "*Peace is not found in a calmer storm, it's found in a better boat*" (Travis Meadows). Globally, the pivot to online learning during the COVID-19 pandemic reduced the time available for learning designers to produce high-quality online materials and conduct rigorous quality assurance processes (Hodges et al., 2020, Petherbridge et al., 2022). In Namibia, the shift from traditional face-to-face

delivery modes to online learning demanded that the University of Namibia (UNAM) adopt more flexible and rapid approaches to online course development. This shift altered the environment in which UNAM, which also offers distance modes of study, functioned.

The Centre for Innovation in Learning and Teaching (CILT) at UNAM is responsible for supporting distance learning students and for developing print and online materials for the distance and online students at the university. The shift to fully online education in lieu of face-to-face classes had substantive effects on distance education initiatives. Prompted by the shifts to online and cost considerations, the university has since done away with the use of print materials. These substantial changes have required a series of changes in the learning design practice at UNAM. This chapter provides a narrative account of my personal and professional experience as a learning designer who had to transition from the provision of print and digital materials for distance and online courses to materials for online learning, and the changes to the learning design processes to the rapid Development Prototype (RDP) model, the focus of this chapter.

Background of UNAM

UNAM was established in 1992 and it is one of the leading HEIs in Namibia. As part of its mandate, UNAM also serves distance learning students with CILT being primarily responsible for supporting distance learning students, and for developing print and online learning and teaching materials for distance and online students at the university.

Before the COVID-19 pandemic, UNAM embarked on a curriculum transformation process toward a competency-based curriculum which would be more responsive to the needs of the future labour market. During this transformation, eight faculties were merged into four which housed sixteen schools. For the three learning designers at CILT (including myself) who are responsible for creating distance versions of face-to-face courses, this meant that we would have to develop new courses for all approved programmes – a mammoth task in itself! This curriculum transformation was necessary for the survival of the institution and optimum usage of resources and income generation which given the ever-reducing government subsidy had to be operated as a business. However, since the pandemic, the implementation was partially halted and we have had to go back to the drawing board.

Like other African countries, Namibia experiences challenges in terms of internet access and connectivity (Kumar & Strazdins, 2021), particularly in rural and remotely located areas. This specifically impacts students from poor backgrounds. During emergency remote teaching (ERT), unstable electricity provision coupled with unequal and limited access to internet infrastructure posed a great challenge as access to these were the heartbeat of ERT and without this lifeline, students could not access the educational materials online. The issue of equity (Petherbridge, et al., 2022) was once again brought into the spotlight. Lack of access to suitable devices including smartphones, tablets and laptops was an additional obstacle to equitable access to online learning materials.

Staff also experienced difficulties in the transition to ERT. They did not always make use of the technological systems and software provided by CILT and when they did, our existing systems could not always cope with the new demands. Faculty often felt stranded during the course conversion process leading to their increased attendance at our online training sessions. Despite having received the necessary pedagogical training and technical support from CILT, faculty seemed to require additional guidance in fundamental areas such as constructive alignment. CILT used these training sessions as an opportunity to get valuable feedback from our participants. This feedback was then used to improve on our practice including learning materials design. During such training interventions, we also identified new courses or short courses to be rapidly developed for continuous professional development interventions or income-generating training initiatives.

Furthermore, existing mental and physical health disorders were exacerbated affecting staff and students alike. The CILT staff experienced burnout due to the educational demands of multiple online courses and overlapping deadlines as did other learning designers globally (Morgan, 2019). The frequent classes and meetings over Zoom led to burnout in staff and students. Sadly, we also lost some seasoned faculty.

My learning design journey

My history as a learning designer began in my childhood — I have always seen myself as an educator, pretending to be the teacher when I played with my siblings and cousins. This passion transitioned into adulthood. I acquired my formal qualification in education and later my postgraduate degree. My area of interest mainly pertains to educational technology particularly within the open distance and e-learning (ODeL) sector. As a teacher, I developed classroom materials and as a consultant, we developed the curricula for basic education and the technical vocational education and training sector in Namibia. Then I decided to pursue a career as a learning designer. The passion that I had for teaching and materials development was useful since I already had the pedagogical and technical skills required of a learning designer. Being at the forefront of online and print-based materials development meant that I had to possess an understanding of and be able to use various educational tools for learning and teaching. My digital competence level also had to be at a desired level since I was responsible for training other faculty members on how to use various tools. For example, I needed to be skilled using the learning management system, Moodle. I also had to possess a certain "professional aura" and had to possess a positive attitude towards the use of technology. These soft skills proved useful since I had to deal with various people and had to be able to cope with any seen or unforeseen circumstances within learning design and the coordination thereof.

Being a learning designer at CILT has been quite interesting since it allowed me to explore new educational tools firsthand, explore my creative skills and abilities in materials development and interact with various people at different levels of our institution. Before the pandemic, CILT mostly spent its financial resources on the printing of study guides for our distance learning students, some of whom were remotely located or in rural areas with no internet access. CILT was also a pioneer in the national context in piloting and implementing online courses and programmes and providing training to faculty on tools and software such as Moodle, Zoom, and Panopto to name but a few. However, since the pandemic, the university has had to revise its learning and teaching strategy in line with the ERT strategy and guidelines which had to be promptly implemented to minimise the disruption that occurred during the learning and teaching, regardless of their mode of study. CILT's investment into print-based materials also proved useful during the pandemic since our distance education students could now use print-based materials.

Outlining the UNAM approach to learning design

Although the focus of this chapter is on RDP, it is important to understand that RDP builds on other instructional design models such as ADDIE, Successive Approximation Model (SAM) (Allen & Sites, 2021) and ASSURE (Heinrich & Molenda, 1999). This section will provide a quick overview of some of these instructional design models and the need to consider more rapid models. It should also be noted that instructional design is not limited to the models mentioned within this chapter and I encourage readers of this chapter to explore other instructional design models (Allen & Sites, 2021; Culatta, 2023.; Dousay, & Branch, 2022; Edmonds et al., 1994; Hodges et al., 2020; Instructional Design Central, n.d.; Petherbridge et al., 2022).

Prior to the COVID-19 pandemic, CILT's learning design approach was mostly based on the ADDIE design model (Branson et al., 1975), a model used widely in Namibia but also globally. ADDIE model is a five step, linear instructional design model. ADDIE is not effective for rapid course development as it is neither agile nor explicitly iterative, leading to design problems detected once each step is concluded. This creates both financial implications and delays in the delivery of the final, quality-assured product. When I joined CILT, the instructional designers (now called learning designers) used the ADDIE model.

In the design and develop phases of ADDIE, learning designers draw on a variety of concepts to make design and subsequently developmental choices. One of these concepts is constructive alignment, a concept widely used in higher education to evaluate the alignment between learning outcomes, learning activities and assessment (Biggs, 1996). I realised that constructive alignment was not thoroughly applied nor adhered to during the quality assurance of newly developed learning materials, particularly the print-based study guides that were issued before the COVID-19 pandemic. The absence of constructive alignment sometimes compromised the quality of the final product, particularly the print-

based study guide. Additionally, this lack of alignment was often only detected in the quality assurance stage which happened after printing. Correcting such poor design through reprints proved costly. Peer reviews prior to printing would have saved time, reduced costs and limited unnecessary effort. Another popular instructional design model is the SAM model, a rapid prototyping model developed by Michael Allen (Allen & Sites, 2021). This model gained popularity in the field in response to the constraint of linearity in the ADDIE model. The SAM model enables rapid revision of content without the lock-step approach of the ADDIE model. SAM enables instructional designers to test their courses early and be agile to revisions based on user feedback.

There are various other instructional design models and often learning designers choose to use a combination of these models in their learning design approach. Regardless of the model of learning design used, there must always be an element of analysis (including constructive alignment), monitoring, evaluation and enhancement which are encompassed within the development process.

Materials development at UNAM

Before the COVID-19 pandemic, our method of materials development was a lockstep, time-consuming process. The development process commenced with a needs analysis, identification of materials to be developed, sourcing and contracting of the subject matter experts (SMEs) which can either be internal or external from UNAM, the materials development process using the ADDIE model and then the quality assurance, approval and publishing process. The process can take six to twelve months for the completion of the development depending on the number of credits for the course and the administration and approval of the contracts for learning materials development which caused frustration for the development team, the institution as a whole and students who desperately needed these materials to successfully pursue their studies at UNAM. Prior to the pandemic, our focus as CILT was predominantly on print-based materials as opposed to the development of online courses since this was the primary market (the distance learning students) that CILT catered to. Due to the highly sequential nature of ADDIE, this model no longer worked under the pressured time constraints of ERT, thus a pivot was needed to design for online.

Towards a Rapid Development Prototype (RDP) approach

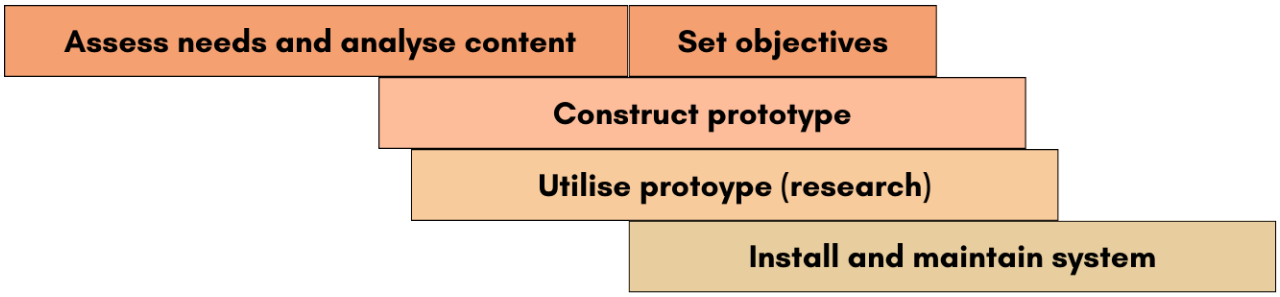
In this section, I discuss the version of the RDP model that we used, how we supported the implementation of RDP and the need to maintain constructive alignment.

Adapting the RDP model

A core model influencing our practice is Tripp and Bichelmeyer's (1990) Rapid Prototyping Model which was originally used for software development (Figure 1). Tripp and Bichelmeyer (1990) state that this instructional model enables the developers to focus on critical aspects of course design in a shorter period without compromising on the quality of the learning material compared to other traditional instructional design models such as ADDIE or ASSURE. In addition, the model enables the learning designer to use this model as a cognitive tool whilst being the practitioner of knowledge and the co-inquirer (Rathbun, 2017). The model is highly iterative and frequent evaluation forms a critical component of the entire development process. This evaluation enables the developer to detect and address problems in the early stages of the development phase (Rathbun, 2017). Once the development phase has been concluded, then a prototype is produced. This prototype serves as a focal point for critique, idea generation and idea testing (Rathbun, 2017).

Figure 1

Rapid Prototyping Model



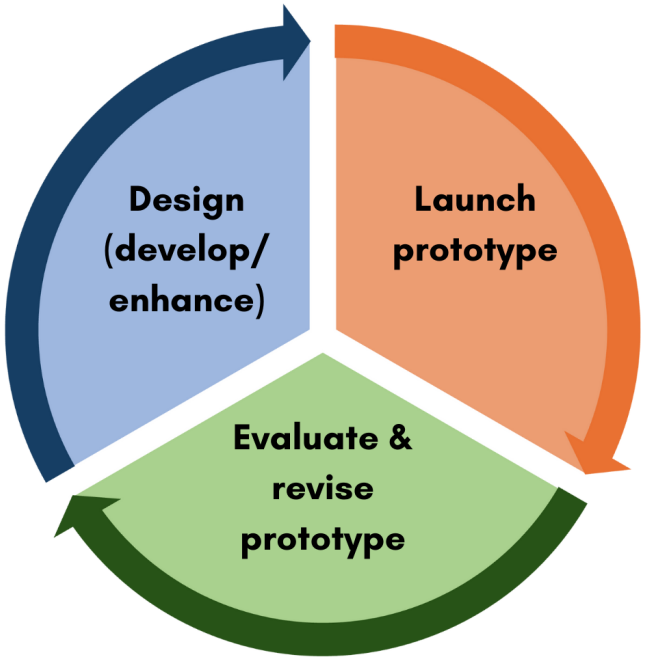
Moreso, with the model, the design process starts with a student and content needs analysis and a statement of the tentative objectives (Tripp & Bichelmeyer, 1990). Information is provided through course evaluations where students get the opportunity to evaluate the quality (content, assessment, tools, level of interaction and support and the competence level of their faculty) of their online courses. In addition to the needs analysis,

> *the design and research run parallel, and a full understanding of needs, content, and objectives is a result of the design process and not an input into it…research is important during the design phase since it enables the developers to identify the complexities of the subject matter, prerequisite knowledge that might be needed to understand the content, and the presentation modes that will be suited to deliver this content (Tripp & Bichelmeyer, 1990, p. 37).*

However, from an instructional point of view, the Rapid Development Prototype model is also fit for CILT's context and was adapted to suit the needs of UNAM. Figure 2 outlines the three phases (Design, launch, evaluate and revise) that make up the adapted RDP model for UNAM.

Figure 2

Adapted RDP Model



In both models (Figures 1 and 2), the element of needs analysis and evaluation is core to the process. In the revised model (Figure 2), the needs analysis is addressed during the design phase. This needs analysis will determine whether development or enhancement will be done using the already approved course outlines for the courses or programmes to be developed. We are fortunate that the learning design process typically does not need to start with the identification of learning outcomes since most of our work was focused on repurposing existing materials for online

use. However, this would differ if it was a new short course or programme. A core adaptation of this model was the iterative production of prototypes of smaller units of content for earlier release and review than the traditional process. This earlier release meant that we could decrease the process from six months to three months, however, we also had to consider various factors that could affect the timely release of online learning materials like the availability of SMEs, the internal and external quality assurance processes that had to take place and the stakeholders that were involved. It should be noted that despite the flexibility of the RDP model, there is still a rigorous quality assurance process that takes place. For example, the online learning materials are quality assured by the content editor, language editor and instructional designer before approval for publishing or online release. These materials can be released per unit or module and we do not necessarily need to wait until the full online study guide has been developed before it is released.

Supporting the implementation of RDP

As the CILT team, we also had to ensure that we assisted faculty in transforming their traditional, face-to-face materials into online materials in a very short time. This is how CILT opted to use the RDP model for the development of its online materials. I must admit that we did not completely depart from using the ADDIE model nor were we confident on how to implement the RDP model successfully. This was indeed a challenge for UNAM and unchartered territory for CILT. However, through our peer tutoring within the department and having to develop an RDP resource site for the Commonwealth of Learning, we quickly grasped the concepts and foundational underpinnings to effectively apply the process in our online learning materials design. Henceforth, there was no turning back to using only ADDIE in our materials development approach and instead, it was a combination of approaches.

With ERT, learning designers were now required to oversee more online-based materials being developed as opposed to print-based materials. This is still the case post-pandemic. We now had to monitor the quality of teaching and learning materials for faculties with each learning designer assigned to a faculty with various schools residing under that faculty. This was in addition to providing learning support and professional development workshops university-wide and contributing to the research output of the university. We also had to brush up on our technology skills and keep abreast of the latest developments in teaching, learning and materials development. Sometimes it proved challenging to juggle all these balls simultaneously as a learning designer.

In addition, learning designers were also the first point of call when course materials had to be repurposed for use because the course outline, content and activities which had already been developed before the pandemic were not fit for purpose during ERT. As learning designers, we had to work closely with the faculty and schools to ensure that their learning and teaching materials complied with the online learning and teaching pedagogies and brought in enhancements like multimedia (Petherbridge et al., 2022). Since this was a crisis-response situation that we faced as an institution, it was not always possible to determine the constructive alignment of existing repurposed content. The absence (or suspicion thereof) of constructive alignment posed a challenge particularly from an instructional point of view since you cannot immediately assess the quality of learning and teaching materials especially not at face value. RDP also assisted learning designers in getting the volume of information needed by the students quickly despite some concerns regarding the quality of the materials (Petherbridge et al., 2022).

Regardless of whether it is online or print-based materials development interventions, learning designers have to coordinate and manage these projects and associated timelines effectively, sometimes going beyond the call of duty if it requires us to do so. During lockdown, most of our “working hours” went beyond the normal eight hours per day and sometimes even extended into the evening and overlapped with our family time. In terms of the future prospects for learning designers, I think there is no limit to our potential, we are in the right space (online) at the right time! This sense of potential is well supported in the literature (Barbour et al., 2020; Bates, 2021; Campbell et al., 2022). As learning designers, we need the support of our institutions, especially in terms of access to conducive, creative environments and access to technology and software that will allow us to freely practise our craft while still conforming to institutional learning and teaching policies and guidelines. We should also recognise that mental burnout and cognitive fatigue pose a serious challenge to learning designers who are required on a daily basis to apply their pedagogical and

technical expertise in various contexts and fields of expertise to satisfy the needs and expectations of our diverse stakeholders.

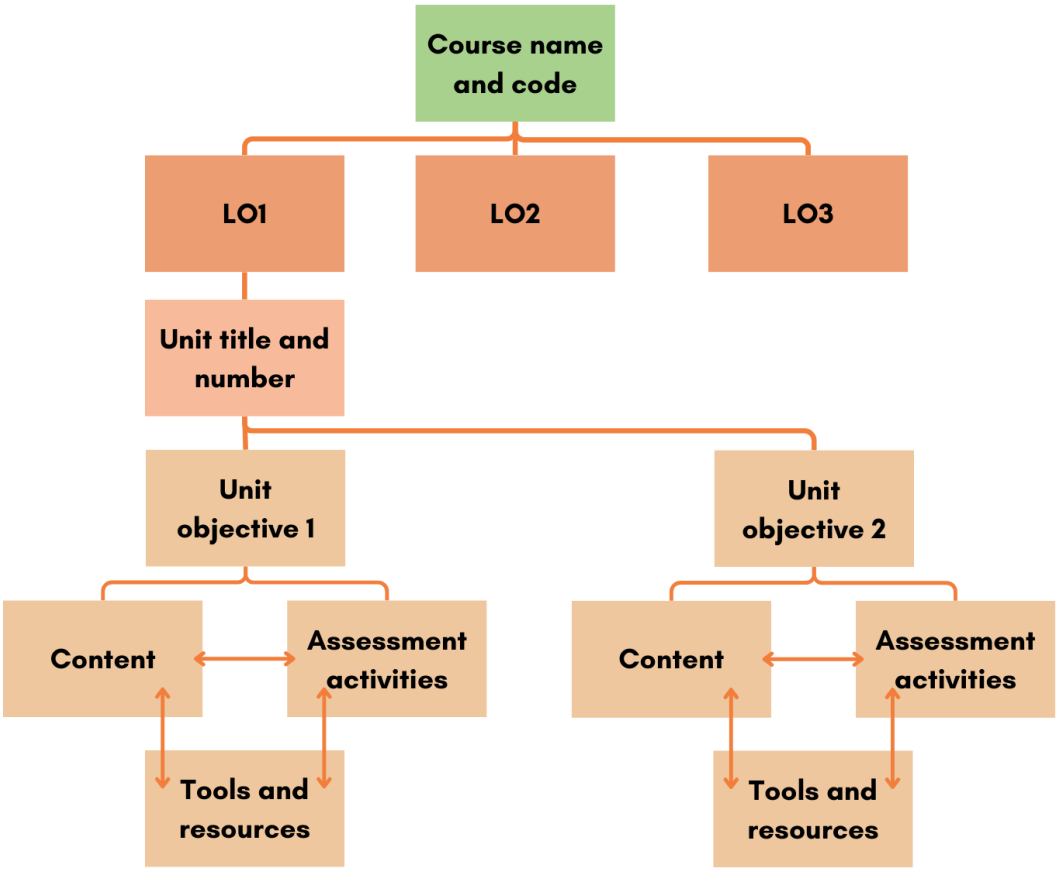
Maintaining constructive alignment in RDP

Since the intense days of ERT, CILT's learning design approach has been simplified and is now more user-friendly. UNAM's SMEs can use the design approach template (Figure 3) to aid in their online learning materials design while ensuring that the learning outcomes, content and assessment activities are constructively aligned. Learning designers can then guide SMEs to determine if all the learning outcomes have been addressed and if the assessment methods, tools and chosen media are appropriate.

With the transition to RDP, the learning outcomes and content were already available for the print-based materials, however, we had to transpose these materials to online learning. This meant that we merely had to enhance the already existing materials, confirm alignment, enhance the content by incorporating multimedia elements and interactive activities and also rework some of the assessment activities by using the various Moodle tools that were available. Thereafter, the materials could be released online and enhancements could still be incorporated without having to retract the learning materials from Moodle. The enhancements can then be the additional or supplementary learning materials that can be provided to the students.

Figure 3

UNAM's simplified online course development template



This template has worked for us, however, some learning designers would opt for using a backward design approach (Hodges et al., 2020) where you map out assessments, learning activities and then your content, and in this way also confirm constructive alignment. Nevertheless, as experts in our field of learning design, we should decide the approach

that best suits the needs of our institutions. There will never be a one-size-fits-all approach to learning design, particularly within this volatile space in which learning design is currently situated.

Positive outcomes of RDP

As an institution, we now save time and can allocate scarce learning and teaching resources where we need it the most using the RDP model. The RDP model is an iterative process that allows learning designers to detect loopholes or defects early in the design phase. By allowing for the prototype to be piloted, tested and then enhanced, RDP promotes a continuous evaluation and quality assurance of the product to be delivered. As learning designers, we also noticed that by using the RDP model for online course design, we are still able to go back to the course and bring in content enhancements depending on the target market. A good example is the RDP training that we provided to other national and international HEIs where we were able to customise the existing RDP resource website content to suit the needs of the stakeholder. Through RDP training, we boosted our open educational resources output and contributed positively to the RDP community of practice.

Shorter development time

In the past, the development of learning materials (online and print) took four months (eight credit courses), six months (12 credit courses), seven months (16 credit courses) and ten months (32 credit courses). It now takes half the development time, from two to five months, using the RDP model and enhancements can be done to the content throughout the process even if the course was published online already. With RDP, there was not always a need to conduct a needs analysis with existing print-based materials that had to be converted to online learning materials nor did we have to use the lockstep, time-consuming ADDIE model. In addition, the same SMEs that developed the print-based materials will also be used to convert the materials for online learning which in turn would also save us time in trying to identify and train SMEs in course development. More so, having the materials online meant that the learning designer could have a bird's eye view of the various stages (development, content-editing and language editing) and could immediately address quality concerns when it is detected.

Not only does the new RDP model save time in the development process, it also ensures that scarce resources are identified and allocated where it would make the most impact and be used sustainably. Again, using the RDP approach to learning materials development means that the learning designers can complete more courses during the year. RDP enables learning designers and SMEs to determine whether the learning outcomes, activities and assessments have been constructively aligned during the design phase of the course. If any gaps are identified during this stage, it is easy for the development team to bring in the necessary enhancements.

Rapid materials update

With learning materials development, the shelf life and relevance of the material are also of utmost importance. In the past, all print-based materials developed by CILT had a shelf life of five years before the materials were reviewed which risked the materials becoming outdated. With the RDP model, it is easy to ensure that materials remain current and relevant since content enhancements can be introduced at any stage after the materials are published online.

The challenges transitioning to RDP model

There are two major challenges to the successful transition to RDP at UNAM: (1) the conceptualisation of the learning designer role and the implications of this for relationships with faculty and, (2) limited resources to support online transitions.

The learning designer role and relationships

Learning designers had to become innovative thinkers, resilient practitioners, and robust researchers on a never-ending quest of searching for economically viable learning and teaching resources. At the same time, we have to ensure a

conducive learning environment for the students who now had to deal with their learning experiences in an isolated, online environment. We had to carefully plan and design our teaching and learning interventions in conjunction with faculty members and instead of using the traditional ADDIE method of course design, we now had to opt for a model that could meet the current demand in the shortest possible time.

In our new role at this time, in addition to supporting faculty with learning design work, we also had to offer end-user technological support. Faculty may regard learning designers as merely technology support personnel instead of recognising that learning designers have a broader role relating to designing teaching and learning. This perception of learning designers as technology support staff resulted in faculty referring student queries about online learning directly to learning designers rather than offering support to their students themselves and taking responsibility and accountability for their courses.

The rapid shift to online learning and teaching and the adoption of RDP resulted in some faculty feeling vulnerable and creating tensions between faculty and learning designers. This could sometimes have been due to miscommunication or professional bias especially since learning designers are mostly employed in a professional or administrative role at HEIs. Transitions to online learning in general faced resistance and some of these became resistance to RDP. Being in an online space meant that your fellow academics can now easily access your course materials and sometimes professional critique in an academic sphere poses challenges. More so, your web presence could also be monitored as well as IT competence or quality of learning materials by looking at your online course content, layout and enhancements. For example, the use of multimedia amongst others.

Xie and Rice (2021) describe similar tensions between faculty and learning designers in their context suggesting the relationship between learning designers and faculty should be clarified, professional discrimination should not be tolerated and that the critical roles and expertise of learning designers should be recognised. In addition to our improved learning design-faculty relationship, the element of appropriate and on-demand support is also of critical importance, particularly during high-pressure periods such as ERT.

According to research (Hodges et al., 2021; Petherbridge et al., 2022; Xie & Rice, 2021), the specific types of support needed by faculty during ERT included one-on-one consultations/ training interventions, technical support to faculty and students, sourcing viable and relevant learning and teaching materials to repurpose traditional mode courses into online courses, offering demand-driven training and improving the digital literacies of faculty and students through the use of appropriate learning and teaching technologies. Future professional learning may focus more on technologies that successfully integrate pedagogies rather than simply showing how the tool works (Xie & Rice, 2021).

Resourcing the transition to online

The transition to online presented various resourcing challenges and barriers. This included resources such as laptops, some of which were old and could not cope with the demand of software that had to be installed to cope with the demands of ERT, the availability and stability of an internet connection and associated high data costs. Additionally, staff lacked motivation to deal with these challenges; some lecturers contracted COVID-19 and were not physically capable of delivering on time, while others might have suffered the loss of a loved one and their productivity was affected. Furthermore, the delivery of online materials was sometimes delayed, for a variety of reasons such as dependencies on SMEs and other factors linked to the devastation brought about by the pandemic.

In addition to reconceptualising our thinking around online learning during a pandemic, we also had to find ways to bring in third and fourth streams of income as the university was faced with ever-decreasing funding from the government. For us, this meant developing income-generating short courses to start becoming self-sufficient and self-sustaining with all the considerations of learning and teaching policies and recognition of prior learning.

Further considerations

We would encourage fellow learning designers and HEIs to consider the RDP model to cater to on-demand materials development and delivery since it is less time-consuming and can offer an immediate solution to on-demand online materials development especially during a crisis. We do not know what future challenges HEIs will face; however, we have learned to be resilient and agile in our thinking and practices going forward. The traditional way of online materials design will not suffice in this demand-driven world that we are currently in and higher education will forever be evolving too.

However, there are further considerations if we want to ensure we are successful in our design process. It is imperative that we involve the student as part of the learning materials development process and to improve the constructive alignment. Additionally, online learning materials should be sustainable — easy to adapt, cost-effective and should remain current and relevant to suit the needs of the student. Planning, time management and digital competence should also be aspects that are already catered for during the online course design phase regardless of the instructional design model being used. We should also use training evaluations and data analytics to improve upon our RDP practice and approach to online learning materials design. No intervention can be successful without a change of attitude coupled to it. Therefore, having a positive mindset towards online learning is imperative to the success of online learning and this positive mindset change should be inculcated university-wide at all levels (both administratively and academically).

Now that the role and importance of the learning designers have been more clearly defined and understood, it is critical to establish relevant support systems for learning designers at all levels in educational institutions. Lastly, as Adrienne Clarkson said: “When you get on the boat that’s saving you, don’t pull up the ladder behind you”. Therefore we share our experiences of RDP with the broader learning design and higher education communities.

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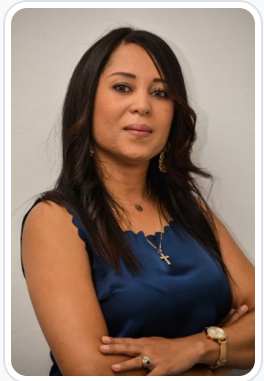

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17

Development of a blended course for continued teaching and learning during the COVID-19 pandemic: Experience and lessons

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Learning Management Systems | Higher Education | Learning Design | bloom's taxonomy | transformative pedagogy | five stages model

Chapter in brief

In this chapter, we share our collaborative practices of developing a Master in Information Systems course at Makerere University in Uganda at the height of the COVID-19 pandemic. The course development process involved a team of course developers and aimed to support teaching and learning during the COVID-19 pandemic while promoting transformative pedagogy. The chapter provides an analysis of the course development approach used, the value of evaluation of blended courses as part of the development process, a proposed checklist of key aspects to consider when developing a blended course as well as lessons learned in the first-time journey to developing a blended course. We hope that this practice-based account can motivate and guide less-experienced but enthusiastic course teams in developing blended courses infused with transformative pedagogy, especially in countries like Uganda where e-learning adoption is still in its infancy, and transmissive pedagogy is largely the preferred approach to teaching and learning.

Introduction

At the onset of the COVID-19 pandemic, all learning activities at Makerere University, Uganda were moved online following a directive from the National Council for Higher Education (NCHE, 2020), the national regulator for higher education. The NCHE directive required all academic programmes to be redesigned for online learning. Rather than join capacity-building programmes tailored to lecturers with either limited or no prior knowledge of e-learning, the first

author, Rehema Baguma, who had already obtained a postgraduate diploma in Education Technology at the University of Cape Town, thought it better to "upskill on the job". As a lecturer in the Master of Information Systems, Rehama was responsible for human factors in information systems (IS) design and management for IS professionals. Further, Rehema was a co-principal investigator on a new project to Enhance Quality and Internationalisation of Study Programmes through Mobile Transformative Pedagogy (EQIP), under which courses in the MIS programme were to be made transformative and blended. The EQIP project was six months into implementation when the COVID-19 pandemic broke out. The second author, Proscovia Namubiru Ssentamu, a teacher educator, higher education curriculum and quality assurance specialist, came onboard to ensure that due diligence was followed during course development and that the course met the minimum standards as per the NCHE (2019).

In this chapter, we share our reflections on the first-time undertaking to develop a blended graduate course to support continued teaching and learning during the COVID-19 lockdown and as part of a drive to promote transformative pedagogy. In this course, all teaching and learning activities, and formative assessment were online while the summative assessment was kept face-to-face. E-learning gained momentum when education institutions in most parts of the world were locked down to manage the spread of the COVID-19 disease. The course development process was guided by Bloom's revised taxonomy (Anderson & Krathwol, 2001) to ensure learning at both lower order and higher order cognition levels, and Gilly Salmon's Five Stage Model of e-learning (Salmon, 2011) to guide the definition of appropriate tutor and student activities at different stages of the learning process. Iterative internal feedback and expert feedback guided by a checklist were included in the course design process.

Contextual background

The initiative to promote transformative pedagogy was launched as part of the EQIP project, a partnership between Makerere University in Uganda, the University of Agder in Norway and the University of Rwanda. The goal of EQIP is to increase the employability of graduates through joint review and delivery of curricula, student and staff exchange, internationalisation of study programmes and joint student supervision. The mutual student exchange involves students engaging in authentic learning activities face-to-face where possible and online at partner universities. One of the programmes was the Master of Information Systems on which the first author is a lecturer.

Although public and private universities in Uganda have been using learning management systems (LMS) since the 2000s to support the delivery of blended learning, the uptake of e-learning among lecturers and students was low prior to the pandemic (Baguma et al., 2019). As part of the COVID-19 lockdown, all institutions of higher learning (IHL) across Uganda were required to move to Open Distance and e-learning (ODeL) following the guidelines for adoption of an emergency ODeL by the higher education institutions during the COVID-19 lockdown issued by the NCHE (NCHE, 2020). Until that point, e-learning implementation had not been institutionalised and most lecturers did not have experience and skills in e-learning. In response, Makerere University and other institutions designed capacity-building programmes, mainly online webinars for staff covering both theoretical approaches to e-learning and the use of educational technologies, including the LMS. Even though the majority of the EQIP project team had a background in educational technology at degree or postgraduate diploma level, none had experience in developing and delivering blended or online courses.

Institutional and project pressures led to the digitisation of courses despite limited experience of, or lack of experience in, blended and online learning among the course developers. However, good practice indicates the need for a broader e-learning strategy, structure and support. According to Graham et al. (2013), an e-learning strategy and structure focuses on technological, pedagogical and administrative frameworks that facilitate the online learning environment including governance, models, scheduling and evaluation. E-learning support is the institutional facilitation of the implementation and maintenance of its e-learning design, incorporating technical support, pedagogical support and faculty incentives (Graham et al., 2013). This level of support needed to be explored further.

Designing the Management for Information Systems Professionals course

According to the Master of Information Systems curriculum for Makerere University (n.d.), one of the terminal objectives of the Management for Information Systems Professionals (MISP) course is to introduce students to the management process in order to develop a critical awareness of current management issues relevant to IS professionals. The course further enables examining the managerial decision-making process and techniques and their relevance to the management role of an IS professional. It allows for cumulative knowledge building on the understanding of managerial processes and functions to show how organisations can be analysed, interpreted and modelled as systems. It also provides an awareness and appreciation of the desirable attitudes and skills of a 21st century IS manager, reviewing current research trends and issues in management, relevant to IS professionals and managers.

The course development process started with the development of a course guide (see Appendix A for the final version). We designed activity-based learning in each topic through an introductory learning activity to activate students' prior knowledge and experience. This was followed by a pre-task, a presentation from the lecturer or tutor, a reflection activity and a competence-based assessment to ensure that the learning outcomes were aligned to job-oriented assessment tasks. We also provided additional resources related to the topic for students to explore further. The course guide covered the following:

- Duration: Guides students on the estimated time they are expected to spend on each topic. This is to help them in planning.
- Topics: Provides a rundown of what is to be learnt.
- Intended learning outcomes: What the students should achieve – knowledge, skills and attitudes or change of behaviour for each topic.
- Learning activities: Meaningful and relevant learning tasks that students must be engaged with for each topic.
- Learning resources: Materials to be used in the learning process such as textbook chapters, research articles, web links, presentation slides, research slides and other resources/sources of information to enrich learning.
- Assessment: Tasks such as multiple-choice quiz, essay, report, project, artefacts that guide students and course tutors to check whether learning has taken place.
- References: The additional sources of course content and learning activities.

The structure and relationship among learning activities, learning resources and assessment were guided by a commitment to a transformative pedagogy (UNESCO, 2017), shaped by a combination of Bloom's revised taxonomy (Anderson & Krathwol, 2001), and Salmon's Five Stage Model (2011). Bloom's revised taxonomy was used to ensure achievement of learning at both lower order and higher order levels of cognition as well as transformational aspects, while Salmon's Five Stage Model was used to guide the definition of typical activities of a course tutor in the online learning process. This course guide was also shaped by both internal and expert review processes, which are discussed later.

Transformative pedagogy

The course aimed to support continued teaching and learning but was also part of a drive to promote transformative pedagogy. Transformative pedagogy has been defined as

> *an innovative pedagogical approach that empowers learners to critically examine their contexts, beliefs, values, knowledge and attitudes with the goal of developing spaces for self-reflection, appreciation of diversity and critical thinking. A transformative pedagogy is realised when learning goes beyond the mind and connects hearts and actions, transforming knowledge, attitudes and skills (UNESCO, 2017, p. 4).*

This broad definition implies that transformative pedagogy targets holistic learning emphasising the cognitive, affective and psychomotor domains as well as appreciating the process of learning, unlearning and relearning. As an inquiry-based learning approach, transformative pedagogy is grounded in a constructivist approach to learning which advocates that each student follows their own path to building and organising personal knowledge. Inquiry-based learning states that knowledge is built from experience and processes especially context-based and socially-based experiences (UNESCO, 2017). Using transformative pedagogies, students are empowered not only to challenge their perspectives but learn through experience-based, participatory, collaborative and active engagement in the learning process. The learning process is not linear but spiral, based on continuous reflection, discovery and learning-in-action.

Common practices that foster transformative learning include open spaces for dialogic learning and immersion in authentic learning experiences (Omiunota, 2009). Increasingly, IHL are required to prepare students for 21st century jobs and technologies that do not yet exist and to solve problems that we do not even know are problems yet (Fadel, 2008). There is an increasing need for graduates who are critical thinkers, problem solvers, creative innovators, collaborators with advanced Information and Communication Technology (ICT) literacies as well as graduates who demonstrate agile leadership skills, are lifelong or self-directed students, ethical professionals and socially responsible global citizens. Transformative pedagogy is one of the approaches afforded to IHL to prepare such graduates (Meyers, 2010; UNESCO, 2017; Zhang et al., 2022).

The potential of transformative e-learning pedagogy

Online courses can be well suited to transformative pedagogy because the online environment offers affordances that can challenge conventional understandings of power and authority in the college classroom (Palmer & Bowman, 2014). Students often feel a greater willingness to disclose information about themselves online probably because of the anonymity afforded by cyberspace (McAuliffe & Lovell, 1999, as cited in Palmer & Bowman, 2014). Research on fostering transformative learning in the online learning environment points to many successful strategies:

1. creating a safe environment;
2. encouraging students to think about their experiences, beliefs and biases;
3. using teaching strategies that promote student engagement and participation;
4. posing real-world problems that address societal inequalities; and
5. helping students implement action-oriented solutions (Meyers, 2010, p. 219).

Subran (2013) noted that many educators face the challenge of developing higher order cognitive skills among students to make them more disposed to problem-solving by raising complex questions, developing consistent arguments and expressing their opinions from critical perspectives. One way these attributes can be developed is for educators to expose students to tasks that will motivate them to pursue inquiries from different perspectives (analysis-ability). Students should also develop skills to assess the sources of their information (evaluation-ability), reflect on their findings (analysis-ability), exchange ideas and adopt personal positions based on rational thinking (creation of new meanings, knowledge or solutions which is a problem-solving skill).

Use of Bloom's revised taxonomy in the course digitisation process

Bloom's revised taxonomy (Anderson & Krathwol, 2001) specifies six knowledge levels classified from lower order cognition (remember, understand and apply) to higher order cognition (analyse, evaluate and create). We applied Bloom's taxonomy in the formulation of learning objectives and outcomes, learning tasks and activities, and assessment to make MISP transformative. Lower order cognition (remember, understand and apply) requires an instructional strategy that includes a lecture or presentation with examples. According to Anderson and Krathwol (2001), before we can understand a concept, we must remember it and before we can apply the concept, we must understand it. For higher order thinking, before we analyse a concept, we must be able to apply it and before we can

evaluate its impact, we must have analysed it; before we can create something using it, we must be able to evaluate it. Higher order cognition (analyse, evaluate and create) is best assessed through case studies, presentations, comparing data or the creation of a product (Quinnipiac University, n.d.). Further, we used the knowledge, assessment and verb wheel of Bloom's revised taxonomy (Quinnipiac University, n.d.) to phrase intended learning outcomes, determine appropriate learning activities, learning resources and the nature of assessment for each topic.

To explore each topic, we designed lower order cognition tasks to build a foundation for the higher order cognitive tasks. This includes being able to recall basic facts and concepts (remember), being able to explain ideas and concepts (understand) and being able to use information obtained in new situations (apply). This is followed by higher order cognition tasks which also cater for transformative pedagogy as both higher order cognition and transformative pedagogy aim at developing problem-solving and critical thinking skills, and creative innovators among students. As noted by Brookhart (2010), higher-order cognition is a problem-solving process for students to be able to identify and solve problems in their academic work and in life after school. For Brookhart (2010), higher order cognitive (thinking) skills are those that enable students to make sense of and use the knowledge they have learned in new contexts. Further, students engage in reasoning and reflective thinking that is focused on deciding what to believe or do (critical thinking) and use either one or both skills when they want to reach a specific outcome or goal, but do not automatically recognise the proper path or solution to use in reaching it (problem-solving). This is a match for transformative pedagogy that combines elements of social-constructivist and critical pedagogy to empower students to critically examine their beliefs, values and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives and a sense of critical consciousness and agency (Omiunota, 2009). Training programmes that target the development of higher order thinking skills among students respond to the United Nations' Sustainable Development Goals particularly Goal 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations, n.d.).

Use of Salmon's Five Stage Model in the course digitisation process

Salmon's Five Stage Model was used to design a scaffolded online learning experience for students. It aided the determination of typical activities of the tutor in the online course. As illustrated in Table 1, the typical tutor activities, according to Salmon (2011), provided a guide for the definition of the activities of the tutor for the MISP course.

Table 1

Tutor activities for the MISP course based on Gilly Salmon's (2011) five stages of e-learning

Typical activities of the tutor (Salmon, 2011)	Tutor activities for the MISP course
Stage 1: Access and motivation	
Ensure the online group is set up with a welcome message	The course is hosted on the University LMS, Makerere University E-learning Environment (MUELE), which is accessible to all students through their university email accounts. The course begins with a welcome message.
Ensure students know how to access the online group	The LMS has a video tutorial for those new to using Moodle LMS. On logging into the LMS, the semester courses for the student are displayed. The first page of the LMS has contacts of the support team in the Directorate of ICT Support Services that manages the LMS. Also, the unit has a technical support ticket system for logging trackable support requests, with an email address. and phone number. N.B. In a previous year, the student class representative had prior knowledge of the LMS and offered to help peers with limited prior knowledge.
Stage 2: Online socialisation	

Typical activities of the tutor (Salmon, 2011)	Tutor activities for the MISP course
Introductions with, perhaps, an online icebreaker	There is an introduction from the lecturer with a picture and course guide. There is also a request for students to introduce themselves covering aspects such as name, place of work and post (if employed), course expectations and personal interests.
Welcome students	Each student introduction is acknowledged by the lecturer and those who arrive late are to be invited to introduce themselves.
Gain agreement on group rules/netiquette	Group rules or netiquette guidelines are provided by educators and students are encouraged to read them and abide by them.
Engage individuals that break rules (either privately or through the discussion group)	Breaches of rules will be addressed and students will be required to follow the rules or subsequently face disciplinary action.
Encourage quieter students to join in	One of the netiquettes is that inactive students will be called on and reminded to contribute or participate.
Stage 3: Information exchange	
Provide summaries of online discussions (summarising and synthesising content of multiple responses)	Summaries of key points from discussions are provided at the end of the discussion by chosen or volunteer students or the lecturer (indicated in the instructions for forums).
Provide highly structured activities at the start of the group life	The Moodle LMS has a simple layout that makes it easy to use even for new users. A course guide showing the structure of the course is provided by the lecturer on the LMS.
Encourage participation.	Less active members are called on and asked to contribute (as per the netiquette guidelines).
Ask questions.	Discussions are moderated by the lecturer who poses follow up questions where necessary, for deeper learning.
Encourage students to post short messages	For each task, students are guided about the size and format of messages to post.
Allocate online students	Some students are selected or asked to volunteer from time to time to play roles such as summarising the results of a discussion, looking up and sharing certain learning resources, sharing their views on an issue under discussion, etc.
Close thread(s) as of and when appropriate	Dates for the start and end of discussion forums are set in the LMS and communicated.
Encourage the online group to develop its own life and history through metaphors, jokes, rituals etc.	As part of the netiquette guidelines, members are encouraged to be natural, creative and where necessary light in the discussions
Stage 4: Knowledge co-construction	
Provide more open activities	Students are given research and project activities both individually and in groups.
Facilitate the learning process	The lecture keeps monitoring the learning process and probing for any challenges, updating learning resources, providing additional information, providing additional learning resources, identifying less active participants and calling them out to contribute etc.
Pose questions for the group to consider	During discussions, follow-up questions are given from time to time.
Encourage group members to question theory and practice	Students are encouraged and guided to share their personal views and opinions about course materials shared, respond to presentations from peers and comment on views of peers. In the forums, the lecturer challenges students' views and helps them think independently.
Encourage the group to develop its own life and history	Members are encouraged to be natural, creative and where necessary light in the discussions
Stage 5: development	

Typical activities of the tutor (Salmon, 2011)	Tutor activities for the MISP course
Encourage group members to lead discussions	Students are encouraged to introduce new perspectives to discussions.
Encourage group members to transfer their skills to other areas of their work	Students are given analysis, evaluation and knowledge creation tasks for them to develop analytical, problem-solving and transferable skills.
Encourage reflection on different learning processes (individual and group)	Students are given reflection tasks at individual and group level, to develop a reflective mindset.

The different stages of the Five Stage Model also address aspects of transformative pedagogy particularly in Stage 3 (information exchange) and Stage 4 (knowledge co-construction). Transformational learning activities under Stage 3 include: summarising and synthesising content of multiple responses which builds analytical skills, encouraging student participation in class activities and allocation of roles to different students in the learning process which builds teamwork and leadership skills. Transformational activities under Stage 4 include: providing more open activities, posing questions for groups to consider, inviting group members to question theory and practice, encouraging students to engage with new perspectives through discussions. These activities build critical thinking skills, encouraging students to transfer their skills to other areas of their work which nurtures problem-solving skills, and prompting reflection on the different learning processes which develops critical thinking skills. Some transformative aspects of Salmon's model overlap with those covered in Bloom's revised taxonomy especially in Stage 4, hence the two models complemented each other in making the course transformational.

Building the course on the learning management system

The course space on the LMS is divided into two main sections: general information and course modules.

The general information includes an introduction and welcome message from the lecturer or tutor with a picture, contact information and a course guide. We also provide space for students to introduce themselves to familiarise themselves with the system and with peers. We provide information about key events such as national holidays and upcoming assignments. Other sections include start and end dates of learning tasks and group rules/netiquette to create order and harmony in communication among class members in order to make the learning environment safe, one of the common practices for fostering transformative learning (Meyers, 2010).

In the course modules section, each topic begins with an introductory activity to activate students' prior knowledge and experiences. This is followed by a presentation from the lecturer or a problem-based task in groups or individually. Additionally, reflective activities are embedded in learning activities for students to express themselves on what stood out for them in each topic, what they still want to learn more about and what they feel confident doing. Through reflective activities, students' knowledge and experiences are captured and shared. Further, resources for each topic for further reading are provided.

To enrich the learning with authentic learning cases, guest presenters with specialist knowledge and experience in IS management are invited to share their industry experience. Throughout the learning process, the tutor keeps monitoring the learning process, noting challenges, updating learning resources and providing clarification among others. Additionally, students are encouraged and guided to share their personal views, opinions, new perspectives and any other concerns through forums provided under each topic.

Course design evaluation feedback

The course review involved three peer review sessions and feedback from an e-learning expert from the School of ODeL at Makerere University.

Internal peer review feedback

The internal peer reviews involved bi-weekly joint review meetings during which course leaders of the four Master of Information Systems courses covered by the EQIP project shared their progress and the group jointly identified the strengths and weaknesses or gaps in each. The strengths were always recommended for adoption by other members while the team agreed on recommendations for the weak points.

From the peer review process, several key strengths and areas for development were noted. The positive points identified from the MISP course were: structuring of the course in the LMS into general information and course modules/topics, use of relevant videos as part of the learning resources, use of guest lectures to provide authentic learning experiences and formative assessment(s) per topic. The areas identified for development were: not including intended learning outcomes per topic and not indicating the schedule for learning activities and assessments in the course guide. Following this feedback, intended learning outcomes were included per topic and the schedule for learning activities and assessments was added to the course guide.

Blended learning expert feedback

Evaluation by the blended learning expert covered course organisation, instructional design and delivery, opportunities provided for students' engagement and availability of student support and resources within the LMS.

The evaluation framework used was based on the revised Bloom's taxonomy, the Five Stage Model and key checklists used for the evaluation of blended learning courses such as the Blended Course Learnability Evaluation Checklist by the Commonwealth of Learning (Commonwealth of Learning, 2018). The checklist (Appendix B) contained 11 evaluation categories. Each category had varying quality elements that guided the evaluation. The categories include:

1. General course information, orientation, overview and introduction
2. Student support
3. Navigation
4. Course level and unit level learning outcomes
5. Course content and materials
6. Instructional design and student engagement
7. Course structure
8. Technology and media
9. Assessment
10. Integration of face-to-face and online activities
11. Quality assurance and evaluation

Of the 11 e-learning quality requirements, the course fully met only five: category three (course level and unit level learning outcomes), category six (course structure), category seven (technology/media), category ten (integrate face-to-face and online activities) and category eleven (quality assurance and evaluation). The remainder had several gaps to address in making the course meet the minimum standards of a blended learning course.

The evaluation highlighted key strengths in the course design. For example, in relation to category three, the course fulfilled all the requirements under this category and was aligned to the relevant level of the course and Bloom's taxonomy. For category ten, the course met all the requirements including fusing online and face-to-face activities namely indication of the date and format of summative assessment on the course schedule, discussion forums, and a class WhatsApp group.

In the lessons learned section below, we discuss how the models we used enabled quality course design, and how the models we chose needed adaptation to support the design process in certain key areas including assessment and teaching presences, peer review and expert assessment.

Having an e-learning expert evaluate the course using the checklist allowed us to identify which elements needed attention before the course was offered. The evaluation highlighted significant needs for course design and revision in

relation to, for example:

- Assessment (category nine) such as a lack of clear assessment instructions and an absence of rubrics; and
- Instructional design and student engagement (category five) such as the absence of a teaching voice while addressing students by writing intended learning outcomes in a way that distances students: “students will … “ instead of addressing students directly: “By the end of this course or topic, you will …”.

As a result of this experience and the detailed feedback from the blended learning expert, an action-oriented checklist for designing an e-learning course was generated to guide future e-learning course development efforts in the EQIP project, in other units of the university and beyond. The checklist covers a list of aspects under each of the 11 categories to include when developing a blended course. Overall, having a blended learning expert provided us with external perspective and feedback on our course design which otherwise we would have missed.

Lessons learned

Several lessons were learned during the course development and implementation process.

A course guide helps to visualise the course design

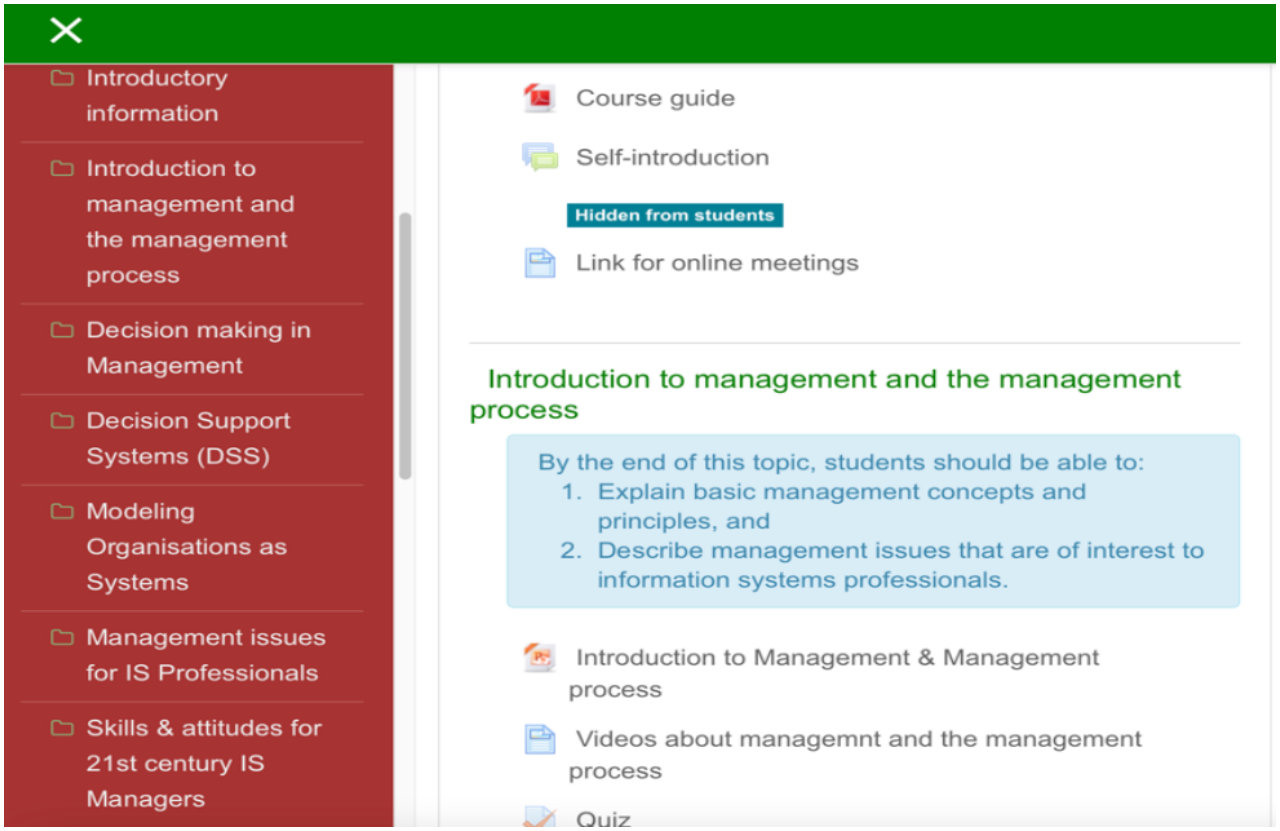
We found the course guide (Appendix A) helpful in visualising the course design and later systematically guiding the building of the course in the LMS. A course guide offers an organised way to think about important aspects and easily bring out the gaps and misalignment. The guide includes the key course design elements which enhance standardisation across courses. However, in future we suggest expanding the course guide to make it more comprehensive to cover all teaching and learning aspects of the course to the minutest detail to make it a one stop document for the design and delivery of the course. Examples of extra details can include official holidays, schedule of assessments, schedule of guest lectures and course breaks.

Get feedback and compare notes with peers in the course development process

For teams new to developing blended courses, working in teams and regular peer reviews are very helpful for peer learning and improvement. This teamwork enabled course designers to share synergies and cover each other’s capacity gaps. Through bi-weekly joint review meetings, we (the team developing blended courses under the EQIP project) identified the strengths and weaknesses/gaps in each other’s work. The strengths in each course were recommended for adoption by other members while members shared ideas on how to address the gaps. An example of such strengths was adopting strategic placement of intended learning outcomes below each topic in the LMS and including relevant video content in the learning resources. The figure below shows the intended learning outcomes of topic one and videos about management and the management process among the learning resources of topic one.

Figure 1

Intended learning outcomes below the topic



Iterative design provides a good framework for the development of blended courses

Designing online courses is not linear. It requires several reviews and improvements from the review feedback. The iterative design approach provides a good framework for the course development process. Also, using the blended learning expert to evaluate the course provides valuable feedback for improvement and flexibility in course delivery, and facilitates continuous improvement of the course. This is in line with design based research (DBR) which engages in iterative design to develop knowledge that improves educational practices (Armstrong et al., 2020). The hallmark of DBR is its iterative approach to designing interventions. From each iteration, the intervention is refined and reworked making the result take precedence over the process which is what we aimed at in our online course development process.

Using established instructional design and e-learning design frameworks helps the course meet basic standards of a blended course

Using Bloom's revised taxonomy and the Five Stage Model in the development of the blended course helped the course meet the basic standards of a blended learning course early in the development process. Examples of the basic standards met early in the development process are structuring the course into general information and course modules or topics and the use of guest lectures to provide authentic learning experiences. However, the Five Stage Model has a particular focus. It does not refer to course level and unit level intended learning outcomes that pertain to course content. Therefore, it is necessary to combine the Five Stage Model with Bloom's taxonomy.

Bloom's revised taxonomy and the Five Stage Model support transformational teaching and learning

Whereas Bloom's revised taxonomy is focused on fundamental principles of teaching and learning, Salmon's Five Stage Model is tailored to the structure of e-learning and transformative pedagogy puts emphasis on the development of 21st

skills and attitudes, Bloom's higher level of cognition and transformational pedagogy share aspirations such as developing problem-solving, critical thinking and creativity skills among students. Also, the Five Stage Model's information exchange and knowledge co-construction stages nurture transformational behaviour. Information exchange tasks, such as summarising and synthesising content of multiple responses, build a reflective mindset. Knowledge co-construction tasks, such as providing more open activities, posing questions for groups to consider and inviting group members to question theory and practice, encourage students to introduce new perspectives and discussions, and build critical thinking and problem-solving skills.

Conclusion

This chapter has described the process of developing a MISP course for blended delivery and promotion of transformative pedagogy during the COVID-19 pandemic. We found value in an iterative process, underpinned by an early course design evaluation and supported by key instructional design and e-learning frameworks. We provide a checklist of key aspects to consider when developing a blended course and share lessons learned in our first journey to developing a blended learning course. Given the complexity and level of demand in the context, we believe that following a checklist, which incorporates key elements of learning design, can make course development more accessible to lecturers without a learning design background.

We hope this practice-based account motivates and guides less experienced designers and developers of blended courses to embrace blended learning in practice. Future work will consider evaluation of the blended course with students to generate more feedback for refinement of the design and checklist for the development of blended courses, and development of another blended course based on the checklist to establish the practicability of the checklist.

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Appendix A: Course guide for MISP course

Time (weeks & hours)	Topic (what to be learnt)	Intended learning outcome(s)	Learning activities	Learning resources	Assessment
Week 1 & 2 (9 hours)	1. Introduction to management and the management process	By the end of this topic, you will be able to: • Describe basic management concepts and principles and management issues of interest to IS managers.	Watch two videos on introduction to management. Study the PowerPoint presentation. Read the given two book chapters on introduction to management and management issues for IS professionals.	Two videos on introduction to management PowerPoint presentationRelevant book chapters	Class-based reflective discussion.Self-graded quiz (7-10 questions)
Week 3 & 4 (12 hours)	2. Managerial decision-making techniques and their relevance to IS management	By the end of this topic, you should be able to: • Explain common managerial decision-making techniques. • Match appropriate managerial decision-making techniques to IS management problems. • Use managerial decision-making techniques (individual or combined) to solve IS management problems; and • Develop novel/creative ways to address/solve localised IS management problems.	Watch videos about managerial decision-making in general and in IS management. Study case studies of the managerial decision-making process and techniques in IS. Study the PowerPoint presentation. Read the relevant book chapters and research articles.	Videos Case studiesPowerPoint presentationRelevant book chapter and research articles.	A group discussion on decision-making processes and techniques for IS management problems/managers. A synthesis and problem-solving assignment in the IS management domain.
Week 5 (8 hours)	3. Decision support systems (DSS)	By the end of this topic, you should be able to: • Describe DSS. • Explain characteristics of DSS. • Classify different types of DSS and their applications. • Describe the supporting roles DSS give to managers; and • Design DSS solutions for IS managerial problems.	Read the given book chapter and research articles. Study case studies of use of DSS in IS managerial decision-making. Study the PowerPoint presentation.	Relevant book chapter and research articles.Case studies.A PowerPoint presentation;	A group discussion An evaluative and solution design exercise and presentation in groups.

Time (weeks & hours)	Topic (what to be learnt)	Intended learning outcome(s)	Learning activities	Learning resources	Assessment
Week 6 (8 hours)	4. Modeling organisations as systems	By the end of this topic, you should be able to: • Demonstrate an understanding of the techniques for analysing organisations in a systematic manner. • Justify why it is necessary to model organisations as systems; and • Use proven techniques for modelling organisations as systems to remodel organisational systems.	Case studies of modelling organisations as systems in general and for the IS function. Study the PowerPoint presentation. Read the relevant book chapter and research articles.	Case studies Book chapter and research articles. A PowerPoint presentation.	A practical assignment on modelling organisational systems using use cases and entity relationship diagrams.
Week 7 (8 hours)	5. Current management issues relevant to IS professionals	By the end of this topic, you should be able to: • Demonstrate awareness and understanding of common management issues IS professionals and managers face with possible solutions. • Diagnose institutional settings culpable to different management issues IS professionals and managers face and prescribe (with justification) potential solutions.	Read the relevant book chapter and research articles. Study case studies of management issues relevant to IS professionals Study the PowerPoint presentation.	Relevant book chapter and research articles. Case studies PowerPoint presentation	A mini research paper (extended essay) on current management issues faced by IS managers.
Week 8 (8 hours)	6. Skills & attitudes for 21st century IS managers	By the end of this topic, you should be able to: • Demonstrate awareness and appreciation of the desirable attitudes and skills for a 21st century IS manager. • Match different desirable attitudes and skills for a 21st century IS manager to different IS management roles and settings; and • Demonstrate how practically IS managers can acquire and sustain the desirable attitudes and skills.	Read the relevant book chapter and research articles. Case studies on attitudes and skills for a 21st century IS manager. Study the PowerPoint presentation.	Relevant book chapter/research articles Case studies A PowerPoint presentation	A practical exercise on recruiting an IS manager with attitudes and skills for a 21st century IS manager.

Time (weeks & hours)	Topic (what to be learnt)	Intended learning outcome(s)	Learning activities	Learning resources	Assessment
Week 9 (14 hours)	7. Current research trends and issues in management relevant to IS professionals.	By the end of this topic, you should be able to: • Competently establish and describe current research trends and issues in management relevant to IS professionals and their relevancy to IS management. • Match the research trends and issues in management relevant to IS professionals to different IS management settings; and • Develop conceptual models to address/exploit the positive trends and address gaps.	Study research articles in the area Class presentations	Curated research articles plus students' recommendations Position papers of peers	A position paper as part of the e-portfolio Peer assessment

Appendix B: Action-oriented checklist for designing a blended learning course

Use this list as a checklist for key aspects of designing and hosting a course in a learning management system (LMS). Ensure the course has the following:

Category 1 – General course information, orientation, overview and introduction

1. Course code and course title, instructor introduction through an online link, text or video, a photo and contact information.
2. A forum for students' self-introduction to get to know each other.
3. When and where face-to-face meetings will take place to help students plan.
4. What proportion(s) of the course is online and face-to-face.
5. A calendar of course unit dates, deadlines and exam schedule.
6. Course level (i.e, introductory or upper level, prerequisites required).
7. A study guide in printable form to help students know the nature of the course, content and how it is structured.
8. An online orientation week to allow students familiarise with the online environment and course requirements.
9. Course schedule in a printer-friendly format for students to know which activities will take place and when.
10. Provide the aim of the course on the first page of the course.
11. State clearly on the course page or a link the netiquette guidelines for online discussions, email and other forms of communication.
12. State clearly the course grading policy/structure.
13. Provide guidance on how social media and other communication tools like emails, forums, blogs will be used in the course.

Category 2 – Student support

1. A link to course and or institutional policies the student is expected to comply with, if any.
2. Information on how technical support can be received.
3. How the institution or the program's academic support systems can be accessed (e.g. library services).
4. A list of hardware and software requirements for the course, if necessary.
5. A social discussion forum (or café) for non-course related discussion.

Category 4 – Course level and unit level learning outcomes

1. State clearly what the student will be able to do upon completion of a program, a course and a unit or topic to help students with self-evaluation.
2. Learning outcomes should be measurable and aligned to the relevant level of the course and Bloom's taxonomy.
3. Learning outcomes will determine the topics, activities, resources, assessment strategy, estimated time to spend on each activity and the extent of tutor intervention.

Category 5 – Course content and materials

1. These are content or materials provided to enable the achievement of learning outcomes e.g. mini-lectures, books, articles, videos, audios and pictures.
2. Properly write and reference the materials.
3. Take into consideration copyright issues.
4. Include each unit's brief indicative content at the beginning of the unit.
5. Chunk course content for more manageable learning.
6. Mention in each unit which other units in the course are linked to enable students to integrate knowledge.
7. The course design should promote interaction, peer coaching and peer review.
8. Where colour and graphics are used, they should be used consistently to enhance the learning experience.
9. Course content in the resources provided should be accurate, up-to-date and relevant to the labour/market.
10. The references should be reliable, relevant and up-to-date.
11. Learning resources should contribute to the achievement of the stated learning outcomes.
12. To avoid plagiarism, the materials should properly cite and reference relevant sources.
13. Minimise errors in the materials as much as possible regarding typos, format, style and content.

Category 6 – Instructional design and student engagement

1. The kind of activities given and their sequencing is an important aspect of ensuring that learning takes place.
2. Align appropriate learning activities/instructional materials to course intended learning outcomes.
3. Use active learning strategies that engage the student and promote the achievement of learning outcomes and learning styles.
4. Ensure the facilitator's presence is felt online especially through prose.
5. Use the teaching voice throughout bearing in mind or addressing the individual student not the entire group (e.g. using "you will …" instead of "students will …").
6. Integrate learning activities with specific learning resources/materials linked to learning outcomes.
7. Where students are referred to a book, article, website, avail the title or article or link, the author and page number(s), where available.
8. Give clear guidelines for each task or assignment for students to give responses as required.
9. Attempt to create learning communities using strategies such as group projects/assignments/activities when appropriate.
10. Distinguish online, in-class or offline activities.
11. Make available access to external programmes/software where required.
12. Minimise external links or documents to access.
13. Guide students on the estimated time to spend on each unit's activities to help them in planning.
14. Guide and refer students to other resources/sources of information to enrich learning.

Category 7 – Course structure

1. The presentation must be logical, sequential, meaningful and appropriate to motivate students to take the course and to learn and achieve the intended learning outcomes.
2. The course structure should be flexible, allowing easy updating of units, activities, assignments and learning materials.
3. The course should use an appropriate variety of formats for course resources throughout (e.g. PDF, PPT, Doc, mp3, mp4, etc.) so that students can easily access them using their everyday devices.
4. The course structure should enable a good mix of learning resources and faculty support.

Category 8 – Technology/media

1. Use accessible technologies and these should support completion of activities.
2. students should be able to access resources for offline use (e.g. downloadable files).
3. The technology should enable students to communicate and collaborate.
4. The course site should be operational on mobile devices and multiple browsers.

Category 9 – Assessment

1. Include ways to progressively check whether students are achieving learning outcomes as they take the course (formative assessment) and whether the learning outcomes were achieved when the course comes to an end (summative assessment).
2. Assessment can be through assignments, self-reflection, quizzes, tests, exams, reports of participating in discussions etc.
3. Closely align assessment with learning outcomes.
4. Assessments should provide students with ample opportunities to practice and apply concepts and skills in realistic and relevant ways that reinforce learning outcomes.
5. Explicitly communicate assessment expectations including deliverables and guidelines.
6. Give clear instructions on how to submit assignments/activities and when to submit.
7. Ensure assessment strategies/tools selected are appropriate to the students' work being assessed.
8. Sequence and vary student assessment on an ongoing basis throughout the course.
9. Provide rubrics (specific and descriptive criteria) for the evaluation of students' work.
10. Give an assessment at the end of each unit to enable students to test whether the unit's learning outcomes were achieved.

Category 10 – Integration of face-to-face and online activities

1. Fuse online and face-to-face activities as learning takes place so that what happens online links and builds on what happens face-to-face and vice versa.
2. Include face-to-face and online activities proportionately in the assessment plan.
3. Constitute both online and face-to-face peer learning community.

Category 11 – Quality assurance and evaluation

1. Use a blended learning expert to evaluate the course with the same rigour as a face-to-face course, as part of the quality assurance process.
2. The evaluation should be based on standard blended learning quality assurance benchmarks to ascertain the quality of the course and provide recommendations for improvement before delivery.

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18

E-Learning tools for contrasting contexts

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eLearning SAMR Model Online Pedagogy

Chapter in brief

The historical background in South Africa has played a significant role in creating large gaps in the integration of technology in higher education institutions. Students from historically disadvantaged communities often remain marginalised with limited opportunities for online learning. In this chapter we unpack the different contexts within the country, describe their living circumstances and how this impacts on their exposure to online learning. We provide suitable intervention strategies that can be used to demonstrate how lessons can be adapted to achieve outcomes by adapting pedagogies and e-learning tools. The basis of these proposed interventions are governed by the SAMR technology integration model, ideas around humanising pedagogies and the reflective practice of our student feedback from different contexts.

Introduction

In South Africa, the digital divide (Davids, 2020) has become more visible during the recent COVID-19 pandemic (Dube 2020; Myers, 2020). Even though many online learning platforms offered their online material for free in an attempt to provide flexible, accessible online learning opportunities, previously disadvantaged students remain marginalised (Paterson, 2021; UNESCO, 2020). According to Le Grange (2020) and Devakumar et al. (2020), a pandemic accelerates racism, discrimination and can become a driver of racism. This has been exposed in countries like the UK, USA and South Africa. Furthermore, socio-economic factors such as poverty and unemployment magnified inequalities among young adults, people of colour, and those without a tertiary education (Perry et al., 2021). Access to healthcare, green spaces, education and technology was limited to the more affluent groups of the population, mostly residing in urban areas (Myers, 2020).

Urban and rural contexts

The historical context of South Africa where colonialism and apartheid laws have resulted in separate societies created multiple inequalities (McGregor, 2011). For example, zoned living areas, homelands, separate education and health services existed for black, coloured and indian people (McGregor, 2011). Although the apartheid laws changed more than 27 years ago, with the new dispensation, contrasting societies still exist with many complexities within each context (Paterson, 2021).

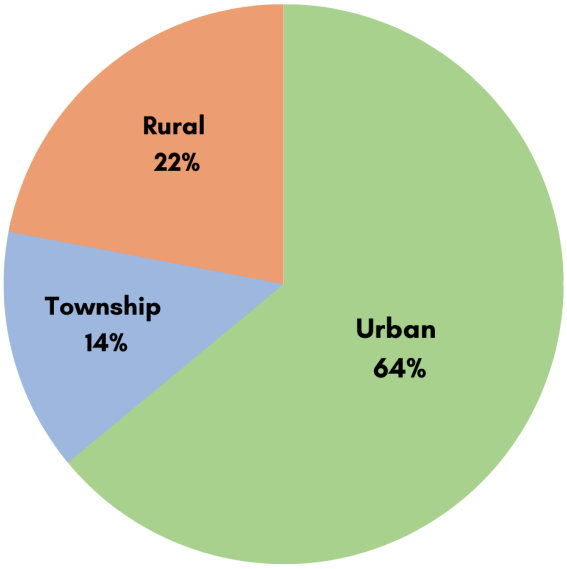
South Africa is highly differentiated geographically and is known for its alarming high levels of inequality (Masindi & Roux, 2020). The South African urban context is similar to other developing world cities in which basic requirements, good resources and employment opportunities are available. The suburban context is seen as the smaller towns, with lower population, limited resources and employment, accessible basic requirements and limited education opportunities. The rural context consists of small communities that cannot consistently access basic requirements for living such as electricity, running water and sanitation (Ellis, 2020). These areas are poverty stricken, have high unemployment rates and the community has little to no resources for effective school education. The population from these rural areas are highly disadvantaged and many still suffer the repercussions of the apartheid era. Like the rural areas, South Africa is also known for its “townships" (Howell & Shearing, 2017; Swartz et al., 2013). Although these are mostly located near urban areas and have a high population density, basic services and communications infrastructure are irregularly supplied, and high unemployment and poverty contribute to crime. These areas are underdeveloped and racially segregated as they were previously reserved for the non-whites during apartheid. Although universities in South Africa are mainly situated in the urban and “township” areas, many of the students reside in the suburban and rural areas. For the purpose of this chapter, we will refer to the two contrasting contexts as urban (urban and suburban) and rural (rural and townships).

University landscape in South Africa

South Africa has 26 public universities (Universities South Africa, 2021) and over 30 private universities (Kamerpower, 2021). While the University of South Africa is a distance learning university with its footprint all over the country, the remaining twenty-five universities are predominantly contact universities (Universities South Africa, 2021). The geographical reach of the 25 primarily contact universities is illustrated in Figure 1. Three of these universities have equal footprints in the urban, rural and/or township spaces.

Figure 1

Geographical reach of South African universities (Note: Information collated from UniRank (n.d.)



Access to devices and infrastructure

All 25 of the contact universities offer some form of remote or online learning, and in some cases, following the hard lockdowns, made provision for their students to access computer labs on campus. Additionally, some universities provided some students with tablets or laptops either for free (based on certain criteria), subsidised or included in their course fees (Boikanyo, 2020; Thapeli, 2020; Vermeulen, 2020), while the National Student Financial Aid Scheme (NSFAS) pledged to deliver laptops to all their beneficiaries (Macupe, 2021). Although university websites which include the Learning Management System (LMS) were zero-rated during the COVID-19 pandemic (Gedye, 2020; South African Government, 2020), universities still provided their students with free internet access on campus or offered subsidised mobile data. Based on the accommodations and arrangements identified above, one might assume that all university students would have had access to a device either on campus or at home. Indeed, in some instances, lecturers and learning designers developed remote and online learning activities with exactly this assumption in mind. Thus, lecturers and learning designers felt they had the freedom to use applications and tools without being entirely restricted by concerns about data or bandwidth.

However, this promising picture is far from reality. The results of Jordaan (2020) agree with a survey done by 48,981 students from 18 of the 26 public universities in South Africa, 96% of the students indicated they have access to a smart device, such as laptops, tablets or smartphones. Although students have access to devices, they prefer using laptops for their online activities. Only 50-60% of the students mentioned that they have access to a laptop while 37% of the students said that they need to make plans (borrow or buy) to make sure they have enough data to do their online activities (DHET, 2020). Although all university lecturers and students have some access to technology while on campus, universities are very differently resourced (Gedye, 2020). This contrast between urban and rural universities is explained by Gedye (2020) who stated:

> *An academic from a Gauteng university spoke about uploading video and audio files to the university's website and using Skype and WhatsApp for teaching, while an academic from a regional university said he doesn't think his university has the capacity for uploading and downloading content.*

Not only are technology resources lacking but also food, accommodation, and transport. Students' plea for technological support is echoed by the South African Union of Students (SAUS) which reported to the Committee of

Higher Education, Science and Technology that not all students are able to study online because poorer students lack the resources to access study material and activities (Mafolo, 2020).

Learning design challenges

As learning designers, we find ourselves in a challenging situation as we design content and activities based on guidelines and best practices of published research, while students often come from peripheral, marginal or liminal contexts. This is coupled with several external factors such as lack of infrastructure, connectivity, devices and technical skills which limit access to high-end data intensive technology tools. Contributing to the problem is the rapid pace of change in educational technology (Hamilton et al., 2016). As the rise and demand for online schooling (UCT Online High School, TENEO) and online tertiary education (UPOnline, WITSOnline) continues, finding e-learning tools that can be used and are suitable for all contexts remains a challenge. To bridge the gap, learning designers need to find alternative methods to deliver the same content by using innovative pedagogy combined with different e-learning tools. Current literature on learning design caters largely for the urban context with good resources. However, due to the large gap between urban and rural contexts, and the historical background in South Africa, the challenge to cater for both can be seen as more complex (Le Grange, 2020; World Bank Organization, 2020).

This chapter aims to present alternative tools for contrasting contexts (urban vs rural) to meet the demand for education in unprecedented times where learning needs to take place in an online, blended or hybrid mode. Online learning is often used interchangeably with e-learning, virtual learning, network learning, web-based learning, mobile learning and distance learning (Muljana & Luo, 2019), because online learning encompasses a wide variety of technology tools, devices and media for educational purposes (Muljana & Luo, 2019). The fourth industrial revolution (Masindi & Roux, 2020) and the remote online teaching resulting from COVID-19 (Huma et al., 2021; Maharaj, 2021) magnified the benefits of hybrid or blended learning (Paterson, 2021). Blended learning, also referred to as hybrid learning, refers to the combination of face-to-face classes and e-learning (Picciano et al., 2014). Research has shown that blended learning has a positive effect on learning and teaching (Hung et al., 2020; Kamble et al., 2022). During the COVID-19 pandemic, more opportunities to use technology arose and necessitated a focus on how to design for technology integrated teaching and learning while considering contrasting contexts.

Accordingly, the question arises – how do we design technology integrated, student-centred online activities for urban and rural contexts? To guide us in addressing this question, we used a humanistic approach together with the SAMR model (Puentedura, 2012) to build online activities and select tools.

Rural student feedback when studying at higher education

South Africa's Higher Education, Science and Innovation Minister, Dr Blade Nzimande, declared at the start of the COVID-19 pandemic: "No student will be left behind" (SAnews, 2020). However, students from rural areas or who are studying at rural universities have a contrary experience to that advocated for by Dr Nzimande (Alex, 2022; Landa et al., 2021; Moodley et al., 2015; Walker & Mathebula, 2019).

In a study with 274 undergraduate students from a South African rural higher education institution (HEI), students' feedback with regards to educational technology emphasises that for students studying in rural areas, internet access and cell phone reception is an issue when they need to access online platforms or use technology from home (Alex, 2022). Although students confirmed that they do know the basics of navigating online platforms, Alex (2022) reiterates that students and staff lack technical knowledge and this impacts their use of technology, more specifically online learning, in a negative way. Alex suggests that already available or known technology needs to be used, otherwise extensive training and support for both students and lecturers are needed (2022).

Landa et al. (2021) collected data using a questionnaire completed by 15 educators and 30 students from two South African universities and found it was evident in student feedback that all students don't have access to high-end smartphones. As a result, students are not able to access content from LMSs because their mobile device is not

designed to display content in a readable and mobile friendly format. However, students have access to WhatsApp, which is why they prefer to use this messaging application as an alternative technology to the preferred university LMS (Landa et al., 2021).

In another study, researchers sampled a total of 380 second and third-year students at a rural university (Moodley et al., 2015). Students' feedback revealed that social media platforms are technologies that students can relate to, with students believing that these technologies enhance their participation and engagement, make the learning activities more interesting and can assist in building and strengthening a sense of community (Moodley et al., 2015). Students further suggest that when technology such as LMSs are used, it needs to be accessible in all university buildings and residences. Also, sufficient computers coupled with strong internet access need to be available throughout the campus for students' access.

It is not only students at rural universities that experience these obstacles. Thirty students studying at three large urban universities emphasised that if lecturers want to use technology whether it is the LMS or applications during a lecture, they should not assume that all students have equal access to that technology. Students coming from poorer backgrounds might not have the necessary access to devices, data and internet access (Walker & Mathebula, 2019).

Theoretical foundations

Humanistic learning

Born from the work of Maslow, Rogers and Erickson (Khatib et al., 2013), humanistic learning theory focuses on the student. Humanistic learning approaches to teaching and learning is a student-centred approach (Khatib et al., 2013). When participating in learning activities, students need to have the freedom to choose their learning path (Brown, 2007). Engagement needs to be encouraged so that students are inspired and motivated to learn. Students also need to evaluate themselves and not only rely on the feedback of peers and lecturers (Goldenburg & Dietrich, 2002). This humanistic, student-centred learning approach opens up opportunities to create activities that stimulate both the affective and cognitive domain (Khatib et al., 2013).

Although the emphasis of this chapter is on the learning design and use of educational technologies in two contrasting contexts, it is also important to pay attention to humanising the learning of our students (Bartolomé, 1994). It will be foolish to replicate instructional design techniques that work in one context directly into the other (Bartolomé, 1994). In contrasting contexts, it is important to know that marginalised students learn in different ways (Huerta, 2011), and therefore questions such as those below should be engaged:

- "Who are we designing for?"
- "What are their living circumstances?"
- "What access do they have to the internet, devices, data and electricity?"
- "From what locations will students access the university's tools?"
- "What is their language proficiency?"
- "How and in what ways are students digitally literate?"

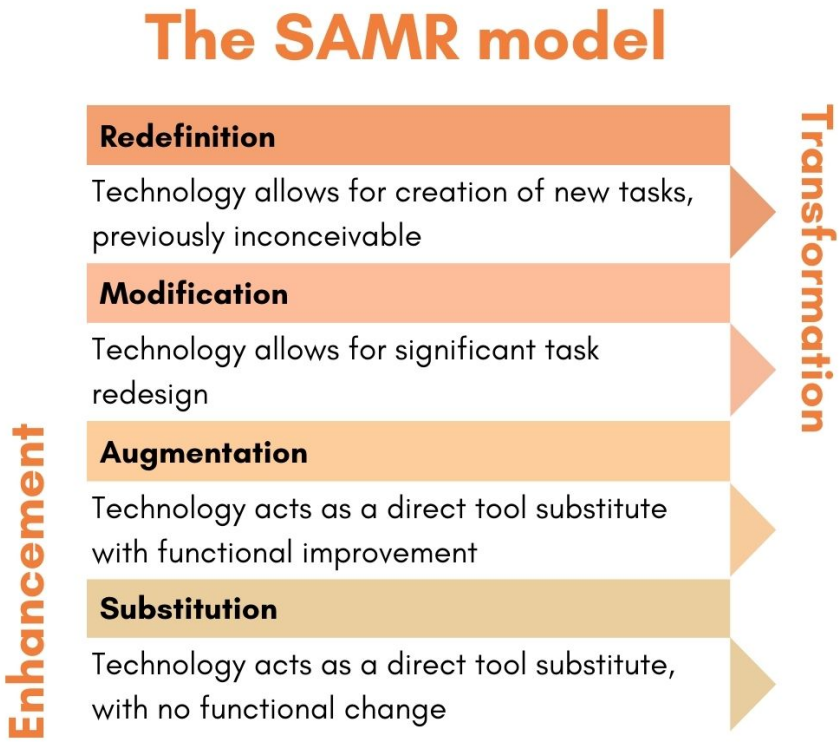
It is important to decide what culture you want to cultivate in your classes because that will influence your design, facilitation, kind of activities and technology tools to be used. In addition, learning is focused on what the students already know while at the same time respecting differences and showing care (Huerta, 2011). Humanising learning is more than learning, literacies, identities, cultural differences and participation, it also challenges the current approach to teaching (Fataar, 2016). Therefore, technology integration needs to assist in dealing with these inequalities and make provision for diversity and contrasts in personality, learning preferences and language proficiency.

The SAMR model

The SAMR model, developed by Dr Puentedura in 2012, provides a guiding framework to evaluate technology-based activities and can improve integration of these emerging technologies into everyday teaching (Hilton, 2015). As teachers and learning designers adopt technologies, it is important that they understand how the technology can be used to enhance or transform learning. This model facilitates e-learning activities and supports the transformation of learning. Cummings (2014) infers that SAMR should facilitate the selection of suitable software and modern consumer technologies that cater for staff and students and promote 21st century skills.

Figure 2

The SAMR model (Puentedura, 2012)



The SAMR model (Figure 2) is hierarchical and divided into four levels, grouped in two different categories. Substitution and augmentation are categorised as “enhancement” which means that they focus on using technology to improve existing teaching and tools to enhance learning (Hilton, 2015; Kirkland, 2014). Modification and redefinition are categorised as “transformation” – providing new opportunities for teaching and learning which may not have been possible without the technology (Hilton, 2015; Kirkland, 2014).

We provide examples based on one topic, to demonstrate how this topic can be taught with e-learning tools at the 4 different levels of SAMR and how these learning activities are adapted for two contrasting contexts. As learning designers we are aware that in adapting activities, we need to maintain the standard and quality of the activity but also keep our students, their contextual challenges and user experience in mind. For this to happen, selecting the appropriate e-learning tools plays a pivotal role. Emphasis is placed on student engagement, sound educational principles, and the alignment of learning outcomes, assessment and activities (Biggs & Tang, 2007). Designing for urban and rural contexts is an enormous challenge since educational outcomes should be equitable.

However, you cannot design student-centred learning activities without considering a learning and assessment taxonomy such as Bloom’s taxonomy. Created by Benjamin Bloom in the 1950s, this taxonomy has been used for years

as a basis for educational achievement, being seen as a lens through which we assess different levels of learning (Krathwohl, 2002). Bloom's taxonomy gives an indication of "gaps" in constructing learning outcomes at different cognitive levels to create assessments that will align with these outcomes. In addition, the emphasis is on moving from what you are learning (factual knowledge) progressively to the how and why (metacognitive knowledge) (Cochran & Conklin, 2007; Krathwohl, 2002).

E-learning tools can be used at all levels of cognitive development. The technology does not have to be complex, but the task for which the technology is used could be of a high cognitive level. It is necessary to pay attention to the learning outcome and how the technology supports the learning activity to achieve the outcome (Moodley, 2017).

We have chosen the topic "Blood flow through the heart" to illustrate how this can be taught in two contrasting contexts at different cognitive levels (Bloom's taxonomy) using a variety of different e-learning tools such as videos, animations, learning management systems, student response systems and interactive presentations to create technology integrated activities at different levels (SAMR). Our experience as learning designers informed our practice of how to develop content for contrasting contexts. In this chapter, we attempt to share our experience and provide solutions in terms of designing activities using different pedagogical approaches and e-learning tools to cater for students in contrasting contexts because activities can be designed for all levels of learning, but the integration of technology at different levels provides a different learning experience and is dependent largely on contextual factors. Also, we explore student feedback on their experiences of learning with e-learning tools and some of the challenges and successes that contributed to their learning journey. Taking this into consideration, we illustrate how lessons can be adapted by using different e-learning tools to cater for contrasting contexts.

Selecting e-learning tools

True to a humanistic approach, the learning designer needs to know the contextual background of their students before designing learning activities or integrating technology for that matter. However, taking the contrasting contexts of the student into consideration, the focus should be to design technology integrated, student-centred, online activities with appropriate e-learning tools.

Before selecting the e-learning tools, it is important to decide what needs to be taught (Blood flow through the heart) and align the pedagogical approaches and e-learning tools to the levels of the SAMR framework. Once this is done, outcomes, assessments and activities can be aligned. This can be tricky as there are several aspects to consider such as (i) designing the learning outcome; (ii) ensuring that the assessment activity is pitched at the appropriate level of Bloom's taxonomy; (iii) selecting e-learning tools that can be used in different contexts but will ensure the same learning outcome is achieved; (iv) ensuring that the tools selected enhance or transform the learning experience within the context. This is apart from the several external factors mentioned earlier that may shape the process. Incorporating the challenges and experiences described from the student feedback, we propose the following example using e-learning tools for contrasting contexts. Each level described provides an activity with an intervention strategy with possible hyperlinks and examples of e-learning tools that can be used. For the purpose of illustrating this intervention, we provide examples of how content can be presented using different levels of Bloom's taxonomy and at different levels of SAMR.

Substitution

The first level of SAMR, substitution is regarded as the easiest and simplest way to integrate technology (Hockly, 2013). An activity can be classified as substitution if it was possible to do the activity without the use of technology (Hilton, 2015; Kirkland, 2014). While in this example the activities will fall under the first two levels of Blooms' taxonomy: remember and/or understand, this does not imply that the substitution of technology can only be associated with the first two levels of Blooms' taxonomy.

Urban

In the urban context, students can be given a link to a YouTube video about how blood flows through the heart. This would replace the explanation given by a teacher with an explanation that enhances learning through audio and visual learning stimulation (I can see the heart), drawing on humanising pedagogies, such as personalised learning experiences, multimodal learning, culturally responsive teaching, collaborative learning and inquiry-based learning. The students can then summarise what they have watched and this summary would demonstrate their ability to remember and understand the process of blood flowing through the heart. The activity can also serve as assessment of or for learning.

Rural

In the rural context, not all students have devices and not all lecture halls have strong stable Wi-Fi. All students cannot work online at once unless they are in hotspot areas like the computer labs. The teacher can download the video and show it to the class (I can see the heart), use labelled images that have been saved on his/her device and explain (or play a prerecorded voice note). Alternatively, he/she can create a PowerPoint with the images and voiceover, save it as an MP4 video and play it to the class. This way, students still get the audio (teacher) and visual (illustration) stimulation. The teacher can use Bluetooth or Shareit, a cross-platform, Bluetooth-based, file sharing application, to provide the learning material. The students can summarise what they have learned and would achieve the same outcome.

Augmentation

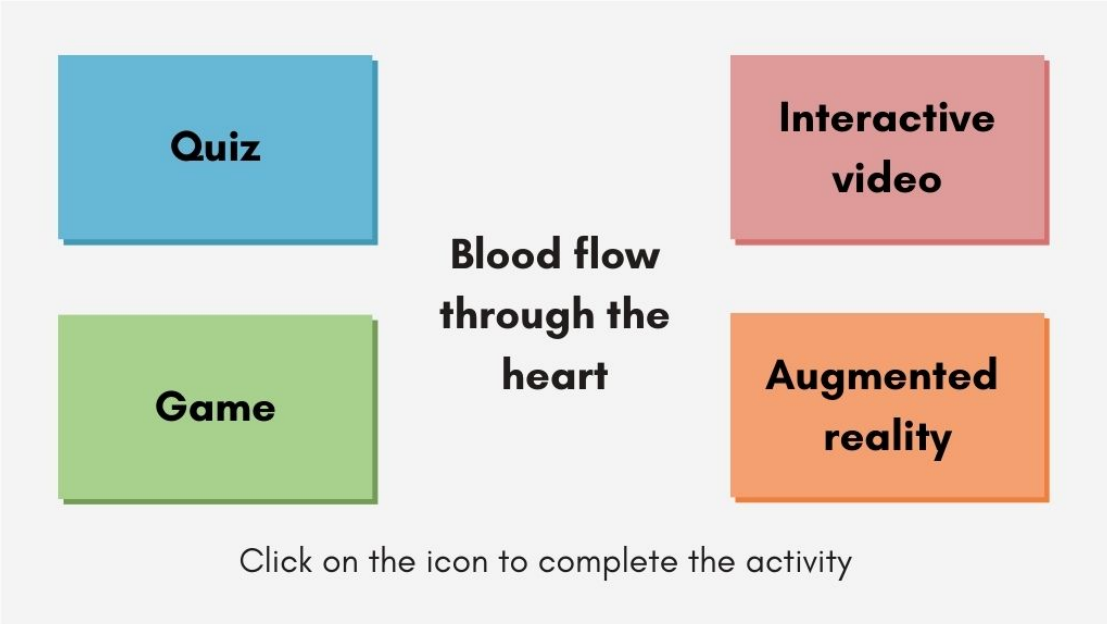
Augmentation goes beyond the level of substitution as it involves some type of functional improvement over what could have been achieved by traditional methods (Hilton, 2015; Kirkland, 2014). In this example, the technology allows for further improvement to the task that would not be possible if the technology was not used.

Urban

In an urban setting, the teacher can create an interactive PowerPoint that acts as a branching scenario or include a branching scenario that can plug into the LMS. In this case, the student can click on different icons on the home screen (Figure 3) and choose their learning path, personalising the teaching approach. Each icon will take them through a different interactive activity thus enhancing the lesson by creating opportunities for choice.

Figure 3

Illustration of a possible home screen for interactive PowerPoint



Rural

In the rural context, the possible limitation of technical skills, stable Wi-Fi and devices require the lesson to be adapted. The pedagogical approach of using learning stations with devices set up with different activities where students can complete the activities at each station allows freedom of choice. However, should devices and stable Wi-Fi still remain a problem, each activity can be completed by the teacher presenting the activities one at a time and using Plickers (Quiz) to engage with the students and scan their answers. Plickers is a classroom response system that allows teachers to gather real-time formative assessment data without requiring students to use digital devices. Instead, Plickers uses paper cards with unique codes printed on them to enable teachers to quickly and easily assess students' understanding of concepts by scanning the codes indicating their response (Mshayisa, 2020). Alternatively, the teacher can create learning stations and allow students to play the interactive presentation in teams. In this case, the outcomes are still achieved but the time taken to complete the activities increases.

Modification

Modification is taking pre-existing tasks and altering them significantly so that they will not be achieved without technology (Hilton, 2015; Kirkland, 2014). The focus is on visual, audio and textual tools to share knowledge. Studies by Wang et al. (2013) and Cornelius et al. (2011) support the usefulness of technology at the modification level. Other examples of this would be when students create voice recordings (cellphone), online group discussions (Facebook, Twitter) and interactive text tools (Thinglink, Padlet, Google forms).

Urban

In the urban context, students can create a presentation with narration of how blood flows through the heart. To do this, they can use PowerPoint or animation software such as Powtoon to create animated videos. Powtoon is a cloud-based software application used for creating animated videos and presentations. It allows teachers to create engaging videos and presentations without the need for specialised skills or technical knowledge. This will require the students to research and evaluate images to create a “story” and then order the images so that they can add a voiceover that

explains the logical flow of blood through the heart. They can then share their videos with the rest of the class on a virtual wall such as Padlet and watch or comment on their peers' videos. Padlet is a digital tool that allows teachers to create online or virtual "walls" that can be shared and collaborated on by multiple students. Padlet can be used to create a variety of visual displays, including brainstorming sessions, mind maps, infographics, and photos. This activity transforms the lesson through group cohesion, technology integration and the opportunity of choice and multiple learning styles to create a humanising pedagogical environment.

Rural

In the rural context, a teacher can provide printed images and ask students to order images in such a way that it tells the story of how blood flows through the heart. They can then insert those images on a PowerPoint slide, use PowerPoint animations and add voiceover to the slide explaining the process of blood flow through the heart and save that PowerPoint as an MP4 video. They can then submit the presentations to the teacher who can present a few in the class, reducing the online activity and data usage. Students are limited by the images provided and by creativity. The group activity becomes a whole class discussion. They still evaluate the images provided and apply their knowledge to achieve the outcome. Alternatively, students can take photos and use the movie function on their phone gallery or a free app such as Filmigo and create a video. They can share this with their peers via WhatsApp or Shareit.

Redefinition

Redefinition is the creation of a new task that would not be possible without the use of technology (Hilton, 2015; Kirkland, 2014). The focus is on the visualisation of narrative aspects found in texts (Puentedura, 2012; 2014). This is the hardest level to achieve in a rural context as it is dependent on the use of technology for new ways of thinking, creating, and collaborating. For example, virtual reality of historical sites, interactive simulations for complex scientific concepts and/or collaboration with peers in real-time from other parts of the world.

Urban

In this activity, the students will work in groups to create their own online quiz games after they have viewed the blood flow through the heart on a virtual reality app. To create the quiz, they will be using gaming software like Kahoot. They can invite other group members of the class to play their game. They will team up in groups and see the leaderboard as they progress. This quiz will require them to develop questions at varying levels of difficulty related to the flow of blood through the heart. The lesson is transformed by including online immersion in the content, online gaming elements, collaboration, social interaction and audio, visual and textual stimulation. This diversely structured activity will resonate with different kinds of learning preferences.

Rural

In a rural context, the lecturer will share (Shareit) a video which they need to watch. To create the quiz game, they would need to use PowerPoint with hyperlinks in the computer labs. The students can again work in groups to create the game and then post the game on social media (WhatsApp, Facebook). The other groups can then engage and share their game answers on the social media group. The group that manages to complete the quiz in the shortest time with all correct answers will be the winners. This will reduce data usage, include technology, collaboration and social interaction and still achieve the outcome. The gaming nature is still present but approached differently ensuring audio, visual and textual stimulation.

Alex (2022) and Landa et al. (2021) claim that students prefer to work with applications that they know such as WhatsApp and social media tools and from which they have easy access on campus. Pedagogical approaches and e-learning tools need to be adapted to cater for a context of low technical skills and lack of devices and connectivity (Alex, 2022; Landa et al., 2021). Since students have mobile phones (Landa et al., 2021; Moodley et al., 2015), the content needs to be mobile friendly and be created to have a suitable mobile interface where they can use free applications. However, using mobile devices for education relies on reliable networks and access to low data. This issue

is partially addressed since 24 (of the 25) public higher education institutions subscribe to Eduroam, a secure connection of hotspots on campuses globally ; students have access to Wi-Fi in designated areas and shared student spaces such as libraries, cafeteria, hostel and lecturing halls. Pedagogical approaches need to be adapted to supplement the less advanced technology (Alex, 2022) to create a meaningful, relevant and engaging learning experience, for example, through combining devices and apps (download a video on one device, share with others) and learning stations (setup stations where students can rotate). Careful thought, planning and evaluation of e-learning tools must be done to understand the educational value of the tool and how it can be used to support learning. It is important to note that although learning is always at the centre of an activity, this chapter focused on the level of technology integration (SAMR) and not the level of learning (Bloom's taxonomy) because activities can be designed for all levels of learning, but the integration of technology at different levels provides a different learning experience and is dependent largely on contextual factors. However, technology integration and humanising pedagogies can be used at all levels of Bloom's taxonomy.

Conclusion

As learning designers, we need to think creatively and innovatively to package our learning material to include freedom of choice in the learning path, multiple learning opportunities and a wide range of e-learning tools. We need to demonstrate flexibility to cater for the diversity of students. We need to think of intervention strategies to manage inequalities across contexts and within contexts taking into consideration students' feedback. This can be done by bringing in a human touch to our design, catering for different personalities, learning preferences and language and technical proficiency. To do this, we need to use different e-learning tools for contrasting contexts to customise or personalise our learning design. Integrating technology can be done in both rural and urban contexts and at various different levels of integration as demonstrated using the SAMR model. In this example, the rural context is limited to synchronous interactions on campus and sharing technology in computer labs. However, this is not always the case and depends on the extent of network connectivity available to students. Bloom's taxonomy provides a guideline on how activities can be designed to be more complex while keeping the technology integration simple. E-learning tools that are best suited for the context need to be used and lessons need to be adapted to suit the needs of students. As learning designers, it is our duty to ensure that no student is left behind.

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Reflecting on the knowledge-identity nexus in the learning design of an online postgraduate short course

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Chapter in brief

Learning design in higher education seeks to promote the development of learning experiences that enable students to meet the outcomes of a course while actively engaging in learning. The form that learning design takes should ideally differ depending on, among other reasons, who the learner is, the purpose of the course and where the learning will take place. In this chapter, I reflect on the development of a fully online Introduction to NVivo short course for postgraduate students at a university in South Africa. I draw on one of several distinguishing characteristics of postgraduate education – the knowledge-identity nexus – to frame the learning design of the course. My main argument is that postgraduate education poses a unique set of challenges for learning designers, and an awareness of these differences should ideally foreground learning design practices at this level.

Introduction

Postgraduate students at masters and doctoral level differ from undergraduate students in several fundamental ways. Two interrelated differences relate to knowledge and identity. Unlike undergraduate students who are introduced to foundational disciplinary principles and skills during their studies, education at postgraduate level is aimed at enabling students to access "powerful" disciplinary knowledge that enables them to see the world differently (Wheelahan, 2010). The acquisition of this knowledge contributes to the development of their disciplinary identities – identities which, consequently, enable them to eventually contribute to, and expand, disciplinary knowledge. As such, education at postgraduate level assumes that foundational principles and skills are already in place, and rather strives to provide

postgraduate students with pathways to disciplinary membership where they can become active and authoritative contributors to knowledge. Yet, there is strong evidence to suggest that postgraduate students face complex challenges in accessing and applying the requisite disciplinary knowledge as well as gaining membership into the relevant disciplinary communities (Inouye & McAlpine, 2017; Kwan, 2009; McAlpine, 2012; Tobbell et al., 2010). Consequently, there have been multiple explorations aimed at understanding how to better support postgraduate students in balancing this knowledge-identity nexus (Gardner, 2008; Kamler & Thomson, 2006; Lee & Boud, 2009; McKenna, 2017; Meschitti, 2019).

While there is acknowledgement that there are differences between the learning needs and approaches of undergraduate and postgraduate students, the design of learning activities and experiences does not always explicitly reflect this difference. This is particularly true in the educational technology space, although there are a few notable exceptions, two of which are briefly discussed below. Lamon and colleagues (2020) acknowledge the heterogeneity of their postgraduate cohort and explore how this impacts learning design decisions. It is interesting to note that their integration of self-directed active learning did not yield significant differences in terms of student marks or engagement. However, the student satisfaction ratings were high as were students' perceptions of how well the content and activities helped them meet the course's learning outcomes. As such, a lower interest in marks and performance potentially signals a different motivation for students' enrolment in this postgraduate course. Nolan-Grant (2019) evaluated and redesigned a postgraduate course based on the Community of Inquiry framework. Due to the initially low interactions in the course (social, cognitive and teacher interactions), the course redesign attempted to avoid surveillance while implementing strategies to encourage participation and interactions. While her approach acknowledges the self-directed nature of postgraduate students, it recognises that part-time students need motivation or encouragement to participate on time in order to meet the course requirements.

Following on from the examples above, the rest of this chapter seeks to reflect on the differences that postgraduate students pose for learning designers. I argue that the interplay between knowledge and identity is fundamental to our understanding of the postgraduate student learning experience, and consequently, how we could potentially frame postgraduate education and support. First, I outline the learning theory used to frame the design, followed by a discussion of the challenge of teaching similar courses. I then discuss the design considerations employed in the development of the course. The students' feedback is woven into these final discussions to share their experiences of the various design considerations.

Transformative learning as design framework

Transformative learning as conceptualised in Jack Mezirow's (2009) work provides a useful framing for a learning design approach that recognises the knowledge-identity nexus at postgraduate level. The theory was first proposed in 1978 and has survived criticisms and extensions from researchers in a range of fields. Transformative learning was originally understood as a theory of learning for adult education, with a specific focus on encouraging students to critically reflect on their assumptions and expectations in order to "transform problematic frames of reference (mindsets, habits of mind, meaning perspectives)" (Mezirow, 2009, p. 92). Questions about what this transformation actually entails at a practical level (Kegan, 2009) have been addressed by elaborating on transformative learning as reflected in changes in the learner's identity (Illeris, 2015) as well as epistemological changes, i.e., shifts in our frames of references – how we make meaning of the world (Kegan, 2009).

Mezirow (2009) suggests that a trigger sets off the process of transformation – what he terms a "disorienting dilemma". This is simply something that challenges our understanding of the world (frames of reference), and learning takes place when *how* we make sense of the world changes. It is interesting to note that our frames of reference are often implicit and subconscious, thus, we are not always aware of them and how they influence our understanding of the world. The result of the disorienting dilemma is that it forces us to make those frames of reference explicit to ourselves in relation to a particular concept – a process that is driven by critical reflection. Hence, the transformative learning process is quite personal. While the ideal is for the teacher to be able to observe — or the student demonstrate

— that transformation has taken place, this is not always possible. In effect, the impact of a transformative learning experience may be manifested after the course is complete when the student demonstrates a shift in their frames of reference (knowledge) or identity in practice.

It is also important to note that transformative learning cannot be taught (Illeris, 2015). Students may experience a transformative learning experience at varying points in a course, or may finish the course without experiencing this at all. The best that a teacher (and learning designer) can do is to design and build a safe learning environment where disorienting dilemmas are sufficiently scaffolded for transformation to take place.

The challenge of teaching QDAS

Teaching students how to use qualitative data analysis software (QDAS) like NVivo is a challenging endeavour because it goes beyond just equipping them with technical skills. Unfortunately, most published literature on teaching QDAS provides minimal guidance because of its focus on pragmatic approaches to teaching these applications (Deakin et al., 2012; Røddesnes et al., 2019). These approaches are often in the form of a-methodological crash courses focusing on technical skills (Schmieder, 2019), and fail to provide students with enough time to immerse themselves in the software and experience its true power for their research (Johnston, 2006; Walsh, 2003). Basic code and retrieve which is said to be responsible for mechanistic and decontextualised coding (Jackson et al., 2018; Johnston, 2006) represents the core of what is covered in most of these courses.

Considering the challenges that students face with qualitative data analysis, this technicist approach to teaching QDAS is not ideal. While qualitative data can provide rich and contextualised representations of society and individuals, the sheer magnitude of possible research designs and theories available for qualitative researchers makes it difficult for postgraduate students to select a suitable approach. In addition, postgraduate students regularly underestimate the time they need to organise and immerse themselves in their data during analysis. They also struggle to find useful guidance in terms of how to approach the qualitative data analysis process while staying true to both their research designs and their conceptual/theoretical lenses. As such, the qualitative data analysis process has been described as the most obscure and complex of all the qualitative research processes.

While the use of technology to aid the qualitative data analysis process can help postgraduate students organise and manage their data analysis more effectively, the challenges mentioned above actually mean that the addition of technology to the analysis mix further complicates the process. In my experience of teaching an *Introduction to NVivo* course since 2018, I have observed that postgraduate students (and faculty) attending the course have initial misconceptions about the role of technology, NVivo in this instance, in aiding the analysis process. The general view is that using technology to aid analysis will ease the process as the technology automatically carries out the bulk of the data analysis function. Additionally, teaching QDAS like NVivo involves a consideration of the increasing complexity of these applications. New features are added with each upgrade to try to address the demands of a range of methodological approaches (Silver & Bulloch, 2017; Silver & Woolf, 2015). This results in a steep learning curve as students struggle to learn not only the complex functionality of the software, but also how it intersects with their methodological choices (Johnston, 2006; Salmona & Kaczynski, 2016; Swygart-Hobaugh, 2019).

My aim in this course was to provide a safe and scaffolded space where qualitative data analysis took centre stage. The introduction of the software was guided by what students had already decided to do with their analysis. I sought to ensure that their knowledge about qualitative data analysis and their conceptual/theoretical lenses was a key component to how they approached and understood the role of NVivo in their studies. As such, the design of the course placed the postgraduate student's research at the centre of the design and learning process.

The course: Introduction to NVivo

Introduction to NVivo is a four-week fully online short course for postgraduate students offered at a South African research-intensive university. The course introduces postgraduate students to the basics of using software to analyse qualitative data, including effective data management, coding, reflections, queries, visualisations and reporting. Initially (2018 and 2019), I ran the course face-to-face in five and six-day block sessions. As such, I was already relatively familiar with the heterogeneity of the students who enrolled in the course. This diversity was reflected in the range of disciplines represented in each course, approaches and theories employed in analysis, motivations for taking part in the course and relevant qualitative data analysis skills that the students had at the start of the course. With a small group of approximately 10 students per intake, the face-to-face sessions allowed me to provide individual support to students and provide spaces for interaction and peer learning. Rather than employing generic practice exercises, students built their NVivo projects based on their own data or literature and used their methodologies and theories to frame their analyses or literature reviews.

The course was moved online in 2020 and this prompted a rethink of the presentation format as well as the content of the course. There was also a sharp increase in the demand for the course as part-time postgraduate students now had access to it. The intake for the online course was initially capped at 40 participants. The learning design that I reflect on in the next section of this chapter focuses on the design of this online *Introduction to NVivo* course based on my experiences with the face-to-face course and the learning outcomes I wanted to achieve. As mentioned earlier, both transformative learning and an awareness of the knowledge-identity nexus guided the learning design approach.

Research design

Learning design for all levels of education calls for an understanding of who we are designing the learning for in order to design learning experiences that will enable engaged learning. The learning design for this course posed a unique challenge because of the rich diversity of the participants who signed up. The course caters mostly for masters and doctoral students, although there are always a few academic staff and sometimes even honours level students enrolling in the course. There is a mix of both full-time and part-time students, and each run of the course has students from at least four of the six faculties in the university. Additionally, there have been some indications in the course feedback that some of the students are older and have been out of the higher education system for years before pursuing their postgraduate studies. Again, there is also rich diversity in terms of approaches to analysis, theories and conceptual lenses, as well as students' understanding of the analysis process itself.

As both the facilitator and researcher in the course, there are potential power dynamics that I needed to consider which could potentially impact the collection, analysis and interpretation of the data. There were three specific approaches that I implemented to mitigate the inevitable power dynamics and be explicit about my own biases. First, I encouraged an open and collegial environment during the live sessions where participants discussed their research studies, theoretical and conceptual lenses and analysis approaches. I tried to position myself as facilitator rather than lecturer, and encouraged them to reflect and respond to each other's concerns. As discussed in the next section, I viewed the postgraduate students as adult learners who had prior knowledge of research and could work relatively independently. Second, there were multiple spaces for reflection throughout the course and while this process was difficult for many of the students at first, they gradually got used to sharing their learning journeys and reflecting on their challenges. I believe that this contributed to their honest feedback at the end of the course. Last, as the facilitator, I drew on literature, student feedback and discussions with colleagues to reflect on my positionality and biases in relation to the course and the data that I collected. Brookfields (1995) recommends this critically reflective process as an indispensable part of practitioner research, allowing us to interrogate our assumptions about our teaching and our students' learning – assumptions which may hinder the learning process.

Design considerations for postgraduate students

In this section, I outline the learning design considerations that guided the development of this fully online postgraduate short course. The discussion in this section will focus specifically on issues that relate to knowledge and identity, as well as transformative learning.

The learner

Learning design for all levels of education calls for an understanding of who we are designing the learning for to designing learning experiences that will enable engaged learning. The learning design for this course posed a unique challenge because of the rich diversity of the participants who signed up. The course caters mostly for masters and doctoral students, although there are always a few academic staff and sometimes even honours level students enrolling in the course. There is a mix of both full-time and part-time students, and each run of the course has students from at least four of the six faculties in the university. Additionally, there have been some indications in the course feedback that some of the students are older and have been out of the higher education system for years before pursuing their postgraduate studies. Again, there is also rich diversity in terms of approaches to analysis, theories and conceptual lenses, as well as students' understanding of the analysis process itself.

This rich diversity can potentially be a learning design nightmare, making it difficult for the learning designer to effectively cater for the needs of heterogenous learners. As such, consideration of the knowledge-identity nexus led me to design multiple learning pathways that would enable me to support the disparate needs of the students. My approach ensured, as discussed later in this section, that each student gained the knowledge they needed for their research, and not just a general technicist approach to teaching QDAS. This last aspect was also important because I recognised that I was working with adult learners who had multiple responsibilities outside of their research studies and had to design the course so that it met their research needs. I also recognised that the course was not for degree requirements (unlike undergraduate programmes) and that participants had specific expectations for signing up. One participant expressed it as such:

> *I think for me the experience of any course is, did I learn something or waste my time? I can answer a definite yes I learned so much about the content but also so much more about my own approach to data analysis (and also with NVivo) (Academic staff, Education, April 2021)*

In designing for these adult learners, I considered the following which align with the principles of adult learning (Merriam, 2017):

- Bite-sized resources with links to a wide range of free web resources for additional information. Each week included up to ten resources and activities, most of which the participants could easily complete in 5 to 10 minutes (besides the few readings and weekly reflections). This allowed them to dip into the course when their schedules allowed. For those who were interested in an in-depth coverage of specific concepts, links to web resources were included. While the resources were kept short, the activities that they had to complete in each section required more time (between four to eight hours a week), which some students found difficult to sustain over the four-week duration of the course. One participant (Academic staff, Commerce) indicated in the course feedback that the time commitment was more than he had expected it to be and found it difficult to balance the course with all the other work commitments.
- Working at their own pace throughout the week or catching up asynchronously when they had time. Several participants appreciated this approach as indicated by this student: "I enjoyed the fact that the course went as fast or [as] slow as I was" (Masters student, Accounting, August 2020). However, this approach made it difficult to build active and sustained interaction into the course. As such, the live sessions were the most interactive spaces, and some students preferred communicating directly with me rather than posting something on the course site. This was also influenced by the individual nature of the assessments which I will discuss later in this section.

Prior knowledge

Postgraduate students are considered adult learners and bring with them a wealth of knowledge and experiences into any course they take. It is therefore important that any new learning draws from what they already know about the subject (Merriam, 2017) as this rich prior knowledge is an important building block for the learning that will take place in the course. Fidishun (2012) explains: "Adults want to use what they know and want to be acknowledged for having that knowledge" (p. 4). The learning designer therefore has to embed into the course elements that allow course participants to be explicit about what they already know. At postgraduate level, this prior knowledge will be richly diverse, which poses an additional challenge for the learning designer: ensuring that students do not feel that their knowledge and experiences are inadequate for the course in comparison to others who may be more experienced. Since our knowledge and experiences are tied to our self-identity (Fidishun, 2012), any negative conceptions could be detrimental to the student's progress through the course, and potentially to their postgraduate studies. This points to the importance of the knowledge-identity nexus for postgraduate students.

As elaborated in the section on authentic tasks below, another reason for teasing out their prior knowledge was to help them reflect on their "frames of reference" in relation to both qualitative data analysis and the use of NVivo. As elaborated earlier, our frames of reference – the way we make meaning of the world – are sometimes problematic and can hinder the learning process. Transformative triggers or "disorienting dilemmas" are an essential motivation for reflection towards transformative learning.

In the design of the *Introduction to NVivo* course, I attempted to draw participants out so that they could be explicit about what they already knew. Prior to the first week of the course, they completed a short survey about their research studies and what they wanted to use NVivo for. This survey allowed me to gauge their familiarity with qualitative data analysis and NVivo; this information was critical in guiding discussions during the weekly live sessions. Discussion forums also provided opportunities for them to share their knowledge either in response to questions from other participants, or in reflecting on readings and other learning on the course.

Learner expectations versus learner needs

The *Introduction to NVivo* course is an optional support course that provides postgraduate students with specific skills. As such, postgraduate students who sign up for this course do so because they expect it to meet a specific need related to their research studies. Those whose expectations are tightly aligned with the scope of the course often benefit the most from it. The inverse is also true. Two responses to the initial survey are presented below to illustrate this point:

> *I am currently completing [an undergraduate qualification] and am looking to start with my [postgraduate qualification], hoping that by doing this course it will help me with preparation for 2022 (Undergraduate student, Education, August 2021).*
>
> *I am an honour's student who is doing empirical research for the first time … Although I won't be using real data for this course, I believe that I can learn a lot about the analysis of qualitative data (Honours student, Management, August 2021).*

Both students' expectations were quite broad and indicated that they did not have a clear understanding of the purpose of the course and the need to have one's own research data to use in the course. According to the course logs, both students did not make it beyond the first few activities in the first week. The course is designed in such a way that students use their own data or literature, without which it is difficult to progress beyond the first week. To manage student expectations, I incorporate a discussion into our first live session which aims to help them align their expectations with what the course seeks to achieve. I also highlight some of the problematic expectations shared during the orientation week survey and use these to prompt an open discussion about how these expectations could potentially hinder a students' success in the course.

In addition to managing expectations, experience of teaching this course has shown that students do not always necessarily have a clear picture of what they will need from the course. I elaborate in the next point about how I attempted to address this by building the course around their research studies through authentic tasks.

Authentic tasks and disorienting dilemmas

As mentioned earlier, one of the issues with teaching software like NVivo is the technicist approach which equips participants with technical skills that are not easily transferrable towards the effective analysis of their research data or literature. To counter this, the *Introduction to NVivo course* attempts to introduce the technical skills by using students' research data, analysis approaches and theoretical/conceptual lenses. Using authentic tasks, students are able to see how the software applies to their studies as they learn to use it. The design considerations I incorporated in building these initial "authentic" course activities were loosely based on Woolf and Silver's (2018) five-step method to teaching QDAS. The motivation for this structure was to help students harness the technology to meet their needs rather than learning the technology and then trying to figure out how its functionality could benefit their research studies.

In the first week of the course, the focus is on three activities: 1) understanding qualitative data analysis in general and the specific approach and theories/concepts the participants will be using for analysis; 2) scaffolding their development of an analysis strategy for their research data; and 3) translating the individual tasks in the analysis strategy to match NVivo's functionalities. In this first week, we do not use the software at all; we download and activate it in the second week. Student reflections and feedback during the live sessions in that first week indicated that this was a difficult process for them. The majority did not understand the purpose of this stage and were frustrated that they did not dive into NVivo immediately:

> *The first week on the NVIVO course has been very difficult for me. Not having access to the programme yet made it very difficult to internalise what has been shared in the online classes and I feel sort of lost. I don't learn well by attending classes without being able to make the learning my own and try out what I have learnt. To really understand the programme, I need to be able to play around and experiment with the different functions of the programme (PhD student, Education, August 2020).*
>
> *This week was challenging, but more than that it was frustrating. The analysis strategy that we needed to complete as part of this week's assessment was really challenging for me, as I had literally never used the programme [NVivo] before. I felt that the introduction week and week one needed to have more information on the functions of NVivo and less explanations on qualitative data. …I felt unarmed [and] out of my depth in conceptualising the functions for a strategy (Masters student, Psychology, August 2020).*

The sentiments expressed by the two participants above are common in the first week of the course. As such, the activities in this first week functioned as the disorienting dilemma in transformative learning, although that had not been my original intention when I designed the course. A disorienting dilemma is a trigger that challenges our understanding of the world, pushing us towards critical reflection and learning. The source of the disorienting dilemma can be either internal or external, but it results in an internal crisis for the individual that should ideally lead to critical consciousness – an awareness of our problematic values, attitudes, the way we see and relate to the world (Mezirow, 2009) and then critical reflection. It is possible for students to get stuck in this disoriented and frustrated state without moving towards critical consciousness, where they begin to be open to learning. The facilitator's role is to provide a supportive and safe environment for the students to be open about these dilemmas and scaffold their critical reflection as they work towards a shift in their frames of reference (DeAngelis, 2021). As highlighted earlier, these frames of reference refer to changes both in the knowledge (qualitative data analysis, in this instance) and identity (as researchers-in-training).

Therefore, scaffolding was a critical element for the success of the fully online course, and the type of scaffolding required depended on student needs and included technical and access issues, qualitative data analysis and NVivo. I designed some of the scaffolding into the live sessions but also used discussion forums to prompt participants to

share their challenges with different aspects of the course. Students were also encouraged to reach out and ask questions, and I fostered this through the kind of environment I built in the live sessions and the online course:

> *The teacher was calm and eager to answer even the most absurd questions and always patient to explain for the class participants' understanding (External participant, Natural sciences, August 2020).*
>
> *I like the fact that she was not moving fast. She was moving with our pace, and this was being considerate to some of us who never did or used the program before (Masters student, Economics, August 2021).*
>
> *The facilitator was patient and supportive which helped put us at ease especially those of us who usually feel intimidated as soon as technology or new ways of doing is involved. It also helped that Nompilo shared her expertise and knowledge which made the examples she used very authentic. She was able to scaffold the learning for those who were novices and expertly guided those who were more advanced in using NVivo (PhD Student, Education, August 2020).*

To scaffold the critical reflection for the learning stage of transformative learning in this first week, I had an additional live session with the students. The purpose of the live session was to guide the students towards critical consciousness and an acknowledgement of the importance of the initial stage – putting in place an analysis strategy before using the software for analysis. The session was also designed to encourage and support critical reflection as students shifted from their initial assumptions and expectations about NVivo and focused rather on what they wanted to accomplish with their qualitative data analysis. However, these week one activities were not experienced as dilemmas by all students which is typical of all disorienting dilemmas in transformative learning. After the first week, there was a shift in terms of the reflections shared by the students regarding their experience of the analysis tasks:

> *I was sceptical in the first week but after getting into the work of week 2 onwards it makes complete sense to have week 1 (Academic staff, Education, April 2021).*
>
> *It was extremely beneficial to me to play around with my analysis strategy and see how it works. So much so that my analysis strategy is probably going to change because it does not fit well (PhD Student, Psychology, April 2021).*
>
> *I was grateful that the tasks for this week were scaffolded in a clear and structured manner because it allowed us to move from the known to the unknown in a logical and pleasant manner (PhD student, Education, August 2020).*
>
> *My learning this week is that my current strategy, data sources and possible analysis are not in alignment. This could be because I am tackling two separate issues in one study, or because I have not found the thread between these issues. Either way, I will need to address this fissure and find a manner in which to resolve it (PhD student, Journalism and Media Studies, August 2020).*

I have been stuck for a while in the abstract theory and unable to connect with my data through the theory, except in the most general way. I think the four stages identified by Creswell provided a calming structure and a practical way forward, then the presentation on Zoom allowed me to imagine doing something with my data, i.e. even if it was just deciding how to upload and organise it in NVivo. This was when I realised I actually have two main sets of data - historical and current, which was the missing link all this time (PhD student, Education, August 2020).

It is important to note that the teaching approach followed in this course (Woolf & Silver, 2018) is contradicted by other leading authors in the field who posit that the analysis strategy and the technical skills should inform each other and progress simultaneously (Bazeley & Jackson, 2013). Drawing on my experience of using NVivo in my own research and teaching it over several years, I found that the first approach better represented how expert users employed NVivo tools, hence my selection of Woolf and Silver's (2018) approach.

Conclusion

The design of the *Introduction to NVivo* course discussed in this chapter is framed by my understanding of the knowledge-identity nexus and its role in the postgraduate researcher's experience. The goal of the learning activities was to create an enabling environment where the course participants could not only gain the requisite knowledge but make an identity shift because of this knowledge. This is why the focus of this course went beyond equipping students with technical software skills and was designed to support the application of the skills to their research projects. Additionally, elements of transformative learning have been useful in structuring the learning journey and designing the learning content. This was done by drawing out the course participants' prior knowledge and expectations, which gave me (as the facilitator) an insight into their frames of reference. The authentic tasks were experienced as disorienting dilemmas which prompted participants' critical reflection about their research studies and the role of the software in their data analysis.

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"My Choice, My Voice!": Exploring the intersection of technology and pedagogy to foster learner-centred learning

Serpil Meri-Yilan

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Self-regulated Learning | English as a Second Language | Responsive Pedagogy | English Language Learning

Chapter in brief

The present chapter offers an in-depth exploration of students' experiences in an online learning environment developed in response to the COVID-19 pandemic. Specifically, the study entailed the creation of a comprehensive online English Writing course tailored for 20 undergraduate students at a Turkish state university that transitioned to fully or partially online education formats in March 2020. Emphasising meticulous attention to crucial factors such as academic knowledge, technology skills, cultural values, and socioeconomic status, the design process encompasses both micro-level and macro-level perspectives. Through a carefully sequenced progression of eight learning steps, the study explored various dimensions including learning needs, autonomy, content knowledge, learning awareness, and self-assessment and self-reflection skills. Drawing upon data gathered from surveys and student writings, the findings demonstrated that an emergent learning design process effectively facilitated and enhanced students' writing skills through scaffolding implemented at each relevant step. Furthermore, the findings underscored the significance of adopting a responsive design approach and incorporating diverse forms of interaction in online learning environments. The chapter concludes by providing an illustrative diagram outlining a responsive approach, comprising four key stages: pre-design, implementation, evaluation, and redesign considerations. Additionally, the chapter imparts pedagogical implications derived from activities that foster interaction among students, their instructor, and the learning context.

Introduction

What I learned from teaching during the COVID-19 pandemic, particularly between March and June 2020 when teaching abruptly moved online, helped me later in thinking about and developing the course design for an English writing course discussed in this chapter. Based on my research experiences in Turkey and the United Kingdom (UK) as well as what I learned from international research and colleagues through scientific publications and social network websites, learning should be designed as a response to a learner's needs with the aim of reaching learning outcomes. In this chapter, I reflect on the design of an English writing course and explain how my background in learning design and the context in which I taught inspired my pedagogical practices.

During my doctoral study at a UK university, I worked on Laurillard's Conversational Framework (2012) to understand how learners interacted with resources that had been designed to provide scaffolding for autonomous learning (Meri-Yilan, 2017). This framework with its focus on interaction has underpinned many of the design choices in this case and shaped how I approach course design. In later years, when I returned to teach in Turkey, I faced several issues relating to the lack of suitable, free and accessible resources.

The institution in which I was teaching was relatively young and located in the eastern part of Turkey where students mostly came from families with low socioeconomic status and education. That said, many students were very keen on improving their English using all available resources. To assist them, I initiated a language lab in a self-access learning centre equipped with comfortable desks, tables and desktop computers in a quiet setting which might not be otherwise available to many students in their homes. Having ensured that they could access suitable study rooms with the necessary equipment, I made available free resources and programmes which could facilitate their language learning.

Responsive learning design and interaction

In this chapter, I borrow the concept of "responsive design" from web development to describe an emergent, student-centred learning design process. Responsive design in web development is related to creating "websites capable of adapting layout, content, and appearance to optimise user experience across devices of varying sizes and capabilities including smartphones, tablets, and widescreen computers" (Gardner, 2011, p. 13). Marcotte (2011) notes that responsive design should not be confused with simply designing for mobiles or desktops: "rather, it is about adopting a more flexible, device-agnostic approach to designing for the web" (p. 1). Despite the wide spectrum of technology available for different purposes, predicting user contexts remains challenging for designers (Gardner, 2011), because users bring their own cultural and social paradigms to online environments (Sparke, 2009).

The integration of the notion of responsive design into learning design can enable the centring of students and their characteristics in a learning setting where they can interact with fellow students and others in their learning context. In web development, interaction is commonly understood in relation to human-to-human and human-to-computer engagements (Hornbæk & Oulasvirta, 2017). Devices are varied in online learning environments, from desktop computers to tablets to laptops to mobile phones. Additionally, Nebeling and Norrie (2013) remind us of the diversification of interaction types: learner-learner, learner-instructor and learner-content (Moore, 1996). Each interaction type functions as a conceptual benefit and a practical implication "when determining which media [or a digital device] to employ" (Sharp & Huett, 2006, pp. 3-4). Learner-learner interaction is associated with the sharing of information between peers and the provision of mutual feedback. Although learner-instructor interaction involves both teachers and students, instructors have a crucial role in increasing motivation and interest, planning student learning and encouraging each student. Learner-content interaction is related to improving learner knowledge through engaging with the subject or content.

Several studies have examined the importance of interaction and interaction types in online learning design (Demir Kaymak & Horzum, 2013; Farrah & Jabari, 2020; Hirumi, 2002; Liu & Kaye, 2016; Sharp & Huett, 2006; Wright, 2014). Warfvinge et al. (2021) indicate that a learning environment characterised by different teaching strategies can improve

student learning. They also add that "[i]f we want to achieve strong readiness to tackle the challenges of teaching and learning in an uncertain future, we should be strategic about choosing, designing, and deploying tools that can do more than one thing" (Warfvinge et al., p. 15). Hirumi (2002) suggests designing and organising e-learning interactions through a three-level framework to think about which interactions to use in the design of the online learning setting. Level 1 includes metacognitive and cognitive practices to facilitate the self-regulation of learners. Level 2 consists of all three types of interaction such as learner-learner, learner-instructor and learner-content. Level 3 contains learner-instruction interactions where instructors or programme designers offer an approach to design Level 2 and stimulate Level 1. Furthermore, Sharp and Huett (2006) indicate that there is no research about which interaction type is more crucial in online settings but that online learning can explicitly be enhanced through learner-learner interaction. Demir Kaymak and Horzum (2013) state that readiness for online learning is crucial for learner-learning environment interaction. Moreover, Wright (2014) focuses on the importance of learner-teacher interaction "to establish and maintain social presence in online learning" (p. 1). This kind of presence includes awareness and perceptions of others through interaction (Short et al., 1976; Walther, 1992). However, the design and affordances of online settings affect this presence or interaction (Akcaoglu & Lee, 2016).

A study by Farrah and Jabbari (2020) explored student interaction in online courses during the COVID-19 outbreak. The study indicated that the major reasons behind the lack of interaction lay in the fact that students did not see online learning as a serious and "real" learning mode. Additionally, technical difficulties such as poor internet stability negatively impacted concentration. Teachers' pedagogic choices influenced students' motivation, participation and interaction. For these reasons, Farrah and Jabbari (2020) suggest that instructors employ a range of engagement strategies including games for entertainment, quizzes, audience response questions and discussions for formative assessment, PowerPoint for visual aids and bonus marks for extrinsic motivation.

This chapter aims to investigate students' online learning that was designed during COVID-19 pandemic by describing the implementation of a learning design based on a responsive design approach and utilising different interaction types. The emergent learning design process took place in Turkey where in March 2020, all educational activities moved abruptly online. Even though teachers and students did not have much experience in and with online environments, they were expected to handle this new education practice. However, there is limited research on how students can handle their learning in this disrupted learning environment.

Application of responsive design

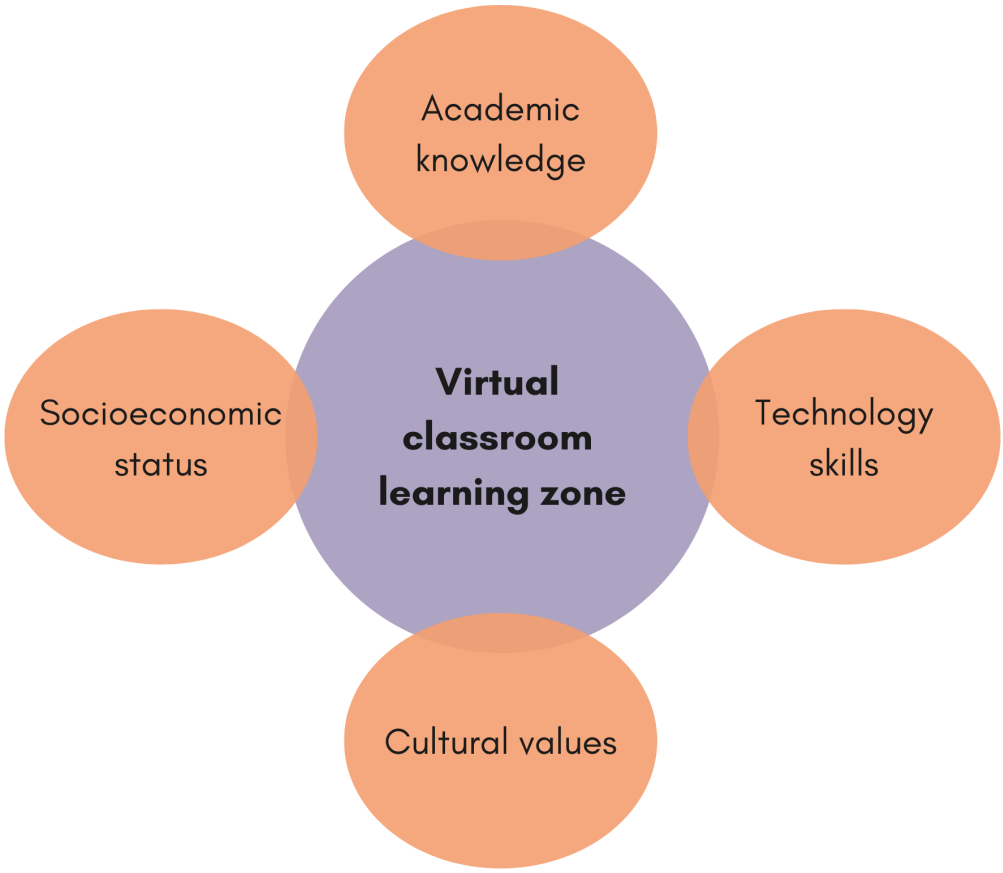
Lippman's (2010) definition of a responsive designer underpins the emergent process that I detail in the following section.

1. To describe, examine and analyse learners' needs: I used my background knowledge, attended conferences and followed some Twitter conversations about interactions in teaching and designing online lessons during the pandemic. For example, pedagogy of care was one of the issues I realised that I had not considered in designing my courses. Pedagogy of care is defined as "a teaching practice based on reciprocity" (Obuaku-Igwe, p. 88) through which "teachers care [sic] their students' learning concerning their emotions and morals" (Meri-Yilan, 2022, p. 180). I was lucky to be able to discuss this topic with a colleague working at a UK university which helped in broadening my insights about learners' needs. The most insightful part about this interaction was knowing that colleagues in different countries were applying pedagogy of care in their teaching and it was working well for both students and teachers.
2. To consider the possibilities of what may occur in online learning: I listed issues I had not come across before the pandemic but faced in my teaching in the period of March-June 2020. For example, I noted that easy access to software through different devices was challenging both for my students and me. Additionally, I developed Figure 1 below to capture factors affecting the online learning environments I was engaged in.
3. To be aware of, evaluate and compare the recent research on teaching during the pandemic with my own design: I presented one aspect of my design at an international symposium (Meri-Yilan, 2020) where I received other scholars' views on it. Based on this feedback, I integrated rubrics for each writing assignment as well as an automated feedback tool.
4. To promote a design that was aimed at being congruent with the students' needs: In this instance, I created an online classroom (not officially required by my institution) which I thought would create an informal atmosphere where students and I could freely express our thoughts. On my side, I was posting the aims of each designed activity or shared resources and programmes. On their side, they were commenting and posting their views, challenges and benefits.
5. To recognise that every resource or programme is context specific: This means it is related to the aim of learning outcomes and that each learning step was designed for context (for details on the steps, see Table 1). The steps were framed based on what I gained from the above-stated aspects of responsive design: considering the possible occurrence in online learning, researching previous studies in this regard and promoting the design based on the students' learning needs. While doing so, I referred to the work of Mor and Abdu (2018) concerning the importance of reflection on a teacher's perception of design principles and pedagogical practices. I discussed each step with more experienced colleagues who have been teaching in the field for many years.

Figure 1 presents a visualisation of the factors that were considered in the design of the writing course presented in the virtual classroom: academic knowledge, technology skills, cultural values and socioeconomic status.

Figure 1

Factors shaping the design of the virtual classroom



Context of the design: Turkish students in the liminal space

This learning design process was focused on undergraduate students in an intensive English writing course before beginning their bachelor's degree. This preparatory course followed a textbook published by Cambridge University Press which further provided a learning management system (LMS) for online activities that could be accessed with a digital device and an internet connection. All students had the same lecturer.

At the beginning of the 2020 academic year, at the point when the learning design was being reconceptualised to respond to the pandemic, I asked students if they wanted to co-design or co-create their learning experience with me. All of them agreed. Subsequently, 10 students stated that they had commitments such as working and looking after their elders and were unsure whether they would be able to participate in all the activities. They were therefore excluded from the study. In the end, 20 of the 30 students (10 females and 10 males), aged 18-26, took part in the learning design process.

The 20 students had similar academic knowledge: an A2 level of English, based on an exam prepared according to the Common European Framework of Reference for Languages administered at the beginning of the academic year. They also had a common goal – to pass the preparation class exams and begin their first class in the Department of Translation and Interpretation. This made them keen to carry out the required activities rather than skipping them. However, they differed in technology skills, socioeconomic status and cultural values; this diversity shaped the course design. The virtual classroom designed through this approach constructed a liminal space where the design was aimed to move the students' understanding of their writings from graduate to expert level (Wood, 2012).

Learning design from the individual (micro-level) perspective

Although all students had similar English levels, multiple factors, presented in Figure 1, were crucial to the design. For example, some students were taking evening preparatory classes. In Turkey, most tertiary-level students prefer evening courses so that they can take up employment during the day. When the students were asked about their reasons for taking evening courses, half of them said they worked during the day. The other half stated that they were not able to enter daytime courses because of their exam results. When asked whether they had ever thought of working while studying during the academic year, everyone said that they would most probably be doing that if the pandemic had not required them to study from home Additionally, one student reported that she had skipped one university course because of financial issues. Being able to study and work simultaneously is important for students to be able to fund their studies. However, during the pandemic work opportunities were limited.

Studies have shown that socioeconomic status may affect technology use which in turn can result in a digital divide (Harris et al., 2017). For example, five students indicated that they did not have a computer, laptop or tablet, or had shared access to such devices. Thus they could not attend all virtual classes or submit assignments because they had to share the device with siblings who also had to attend online classes. Despite their low socioeconomic status, half the group indicated that they were familiar with using digital devices and had been doing so for more than five years. This did not, however, yield reliable insight into their technological proficiency since the device they were referring to could have been a smartphone. None of the students had prior experience with online learning.

The students come from different parts of Turkey, which meant they had different cultural values. For example, the attendance of females is impacted by religious, financial and gender-related reasons (Tunç, 2009) with Selim & Balyaner (2019) suggesting that the exclusion of females from physical classrooms is a reason to include different online resources. Online learning could play a vital role in enabling educational access for female students in some contexts. Unfortunately, students did not make direct reference to the impact of cultural values on their education.

Learning design from institutional and global (macro-level) perspectives

There were two reasons for incorporating macro-level institutional and global perspectives in the design. From an institutional perspective, there is a distinct gap in educational equality between institutions located in the east and west of Turkey. The emergent learning design process occurred in a state university located in the east that had not used an LMS before the pandemic. Subsequently, this institution adopted an LMS called Uzaktan Eğitim Platformu (UZEP) which had been developed by a state university located in the relatively better resourced eastern part of Turkey. This meant that the university had limited capacity to create an online environment for its students and could not adapt the LMS to cater to students' requirements. Some of UZEP's primary functions that can be utilised include the delivery of online teaching, sharing of uploaded materials and examining students. It does not enable the creation of an effective learning environment where students can collaborate, receive different types of feedback and upload assignments.

From a global perspective, the pivot to emergency remote teaching arising from the outbreak of the COVID-19 pandemic has resulted in some students experiencing significant challenges with online learning. These challenges range from a lack of access to online classes and shared resources due to the shortage of internet access and digital devices to failure on the part of educators and institutions to implement a pedagogy-driven approach. The latter has not been a priority for Turkish educational institutions, many of which had also been implementing online and blended learning before the pandemic.

Steps of the learning design

The steps of the learning design were developed in consultation with the students and with due consideration of their learning needs. Each step was informed by a particular aim. Table 1 summarises each of the aims and the corresponding steps in the learning design process as well as the sequencing, frequency and duration of each step.

Table 1

Implemented steps with aims, duration and timing

Step	Aim	Duration/ frequency	Time period when implemented
1. Participant survey	To understand students' learning needs and their backgrounds	Once	Week 1
2. Email exchange	To foster learner-instructor interaction and build trust	Every 4 weeks	Week 2-6
3. Assignment writing	To improve student writing	Throughout the year	From the beginning to the end of the year
4. Creating rubrics	To facilitate self-assessment skills	Throughout the year	From the beginning to the end of the year
5. Personal blogging	To foster individual online writing based on user choices and interests and practice of autonomy	Every 4 weeks	Week 7-11
6. Integrating a writing tool for automatic grades and feedback	To make students aware of their language levels and provide feedback from the tool	At least once	Starting from week 18
7. Creating short YouTube videos	To remind them of key points in writing an essay	Twice	Weeks 24 and 28
8. Self-report writing	To empower students with self-reflection skills	Once	Week 27

Objectivity can be challenging when evaluating writing assignments. However, it is crucial as students need both unbiased and various perspectives and feedback on their writings. To make this happen, I discussed my design with two experts.

The following describes the process through which the students took the writing course as a liminal space. As regards the notion of liminal space, it was highlighted to indicate the importance of recognising and embracing transitional states from classroom learning to entirely online learning as valuable opportunities for development, change, autonomy and self-discovery.

Step 1: Understanding the characters of online learners and learning

Although basic preparation in designing a learning space typically starts with technical considerations regarding systems and services, the characteristics of learners and their learning needs should also be considered (Bennett, 2007). In this emergent learning design process, a survey was first implemented through a Google form to obtain basic information about the students such as their gender, age, learning aims, technology use and language level. The survey showed that all students had the same academic knowledge and learning aim – to improve their English for academic writing purposes, but differed in technology use, socioeconomic status and cultural values. Responses to the question: "What is your cultural view of learning online?" displayed considerable variation. Data from the survey indicated that the learning design approach should accommodate the use of a range of devices including smartphones, laptops, computers and tablets. Therefore, I decided to design and test the course for multiple devices.

Step 2: Building trust between learners and the instructor online

The survey provided insight into students' characteristics and learning aims. However, I needed more information about their learning interests and to establish the level of trust required for them to believe that this was a trustworthy learning space. This was an inevitable issue as trust is "a requisite component of interaction between learner and instructor for the learner to maximise their learning" (Wang, 2014, p. 346). The learner may otherwise be misled into thinking that they are wasting their time and money and drop the class (Wang, 2014). To help the students overcome this kind of mistrust, I asked them to send me an email introducing themselves with details about anything relating to their personal lives (e.g. their hometown, language level, hobbies). For them to get to know me, I responded to their emails according to the

topic they raised in the email. Students nominated the topic by deciding on what to write about, but I, the lecturer, had the role of sustaining their interest in the topic. For example, one student narrated her trip to Italy, and in response to her, I shared details of my visit there and asked which cities she liked the most. In this way, I exchanged at least four emails with her. The frequency of the email exchange typically depended on the student's reply. There were only five students (three males and two females) who sent emails back and forth only twice; the others did so at least four times. This led me to consider including some other individual and collaborative writing assignments into the course.

Step 3: Integrating writing tasks for individual development and collaboration

To improve students' writing skills, they prepared a writing task at the end of each of the 16 units in the coursebook. Each unit prepares students to understand the writing task by providing reading and writing samples, different writing techniques and types and information on grammar and vocabulary. Students submitted their writing tasks within a one-week deadline period through a Google Classroom as the UZEP LMS did not have this functionality. Another major reason for choosing the Google Classroom was that students could submit tasks as Google Docs which enabled the rapid giving and receiving of feedback. Following the one-week deadline, I gave feedback online during the class. If a participant could not attend it, they could watch the recording afterwards. Since some students might be shy, I asked them regularly whether there was anyone who did not want me to show their writing on the screen. Although there were some students at the beginning of the year who said yes to this question, over time, they grew accustomed to this feedback mode and consented to their writing being shown online. To understand this process and their feelings, I used the polling system embedded in UZEP that shows who says yes or no. I also asked them via a Google form whether they found this feedback useful in developing their writing skills. They all replied positively. As Tangpermpoon, (2008) suggested in previous research, this approach facilitated the improvement of their writing and knowledge about different topics lectured in each unit.

In addition to 16 individual writing tasks, I gave them a writing assignment about one of the unit topics every eight weeks. They chose a partner with whom to write about the assignment and were asked to give their opinions on peer collaboration via a Google form. Based on their answers, only two groups agreed that peer collaboration allowed them to see their mistakes and improve their writing which contradicts Bhowmik et al.'s (2018) claim that peer collaboration can help students gain more awareness and understanding of their writing. The other groups stated that it was challenging trying to communicate with their partners in an online setting which is in line with a study by Andrew (2019). It follows that each person should have the chance to evaluate themselves when there is no one online; this propelled me to integrate self-assessment in the design.

Step 4: Designing rubrics for self-assessment

When designing the fourth step, I researched how to improve student self-assessment skills. According to the literature (Ghaffar et al., 2020; Panadero & Romero, 2014; Ragupathi & Lee, 2020; Wang, 2017), rubrics can illustrate scores and criteria for a task, enable students to see their progress and calculate their scores. Therefore, I created a rubric for each writing task. As "scoring rubrics focus on the product" (Ragupathi & Lee, 2020, p. 75), I did not include scores but instead used checklists with yes/no questions to motivate students to focus on the process. Some of the questions were: "Did you write an introduction?" and "Did you use nouns and adjectives for the environment (e.g. ecosystem or harmful)?" These checklists were delivered during the online class when assigning writing tasks. As the class was recorded, students could watch it again to review the lists. At the end of the year, they were asked whether they found rubrics useful through a Google form and all answered "yes". Afterwards, one participant stated in an email that the checklists helped him improve his assignments in other courses. This indicates that rubrics potentially act as self-assessors and promote students' self-assessment skills. Although previous research (Esfandiari & Myford, 2013; Movahedi & Aghajanzadeh Kiasi, 2021) have found that a teacher assessor is preferred and effective in increasing writing scores, this step aligns with Andrade et al. (2010) who believe that differences in individual-based scores can be "meaningful in practice" (p. 208). When responding to their need to assess their learning on their own, this step helped me develop their autonomous learning by integrating blogging in the design.

Step 5: Devising personal blogging for the promotion of autonomous learning

Following the week six lecture on how to write a paragraph, extensive writing through a blogging approach was implemented since this method allows students to "write on a wide range of interesting topics of interest to the authors, at their own pace, for various audiences and free from teachers' corrections and judgement" (Sun, 2010, p. 328).

Consequently, the students were asked to write eight tasks in four weeks through a private blogging platform. They were free to choose any topic and write at any time and for any audience. The only requirement was to share the blog posts with me via Google Classroom by the deadline and to write the posts with the different paragraph types that were taught in the class. In grading their blog posts, I scored their use of grammar, vocabulary, punctuation, spelling, fluency and organisation etc. over time. I did not ask them to tell me if they found their graded scores appropriate or not. A few students narrated their positive beliefs about the accuracy of the scores, but this could not be considered reliable information as I was their lecturer at the time. However, I asked three evaluation questions through a Google form. As a response to the first question, all the students stated that they enjoyed blogging. As an answer to the second question, 19 students indicated that blogging promoted their autonomous learning (i.e. self-study, self-assessment, finding resources on their own etc.). In response to the final question, some of them elaborated on how blogging aided their autonomous learning. Five of them stated that blogging helped them to pace their learning on their own, while six indicated that it motivated them to write more. Furthermore, eight students said that it enhanced their critical thinking and research skills. This was probably because they had to choose the topic on their own and had to find related vocabulary and arguments by themselves. One participant disagreed with others as he was very sick during the one-month blogging period and could not write the entries on time. Although I told him that I could give an extended deadline, he did not take me up on this because he had other homework. As shown, extensive writing through the blogging approach mostly worked for the students. However, teachers should be ready for the unexpected issue that arose and possibly other factors relating to class context.

However, as blog entries were longer than emails, students appeared to need fresh eyes to check for grammatical accuracy. Considering this need, I searched for an online tool that helps students in this regard. Luckily, I attended an online session by the University of Cambridge in which a tool called Write & Improve was introduced. I will explain this tool in more detail in the next step.

Step 6: Integrating a writing tool for automatic grades and feedback

Having helped the students become accustomed to self-assessment, the Cambridge Write & Improve, a free writing tool for providing feedback and automated grades, was introduced to them. This tool was chosen because it provides instant feedback and scores on students' writing (Tursina et al., 2021). To avoid its limitation, that is, distracting students from writing without the tool, they were told to use it at least once but not multiple times (Grimes & Warschauer, 2010). In a survey administered via a Google form, they all stated that they favoured this tool and found it effective in terms of seeing their mistakes and improving their writing. Despite the immediate feedback on their writing from the tool, they might need human assistance. This step helped me find a response to this need – scaffolding each student as described in the next step.

Step 7: Creating short reminder videos

Towards the end of the year, I realised that there were still some students who struggled with writing a proper essay. To address this, I prepared a survey asking what the problem was for them when watching the recorded lectures. They indicated that they had to share their devices and study space as they did not have a personal space and device, so they skipped crucial points in the lecture. Although the problems ranged from device sharing to the distraction of studying from home, the actual issue was the length of the lectures which must be at least 30 minutes according to the university regulation. As it is hard to keep motivation and attention for a long time (Bolliger et al., 2010), videos shorter than ten minutes were created and shared with the students. They responded through a Google form that they were more satisfied with short videos as was the case in a study by Hsin and Cigas (2013), because of easy access and less

distraction. When asked whether it would be more advantageous if the videos could play through a platform which they could easily access, they answered yes. It was agreed that YouTube would work best. Short videos were thus created to function as easily-accessible reminders.

Step 8: Assigning a self-report writing task

Referring to Zimmerman's (2008) self-regulated learning strategies (SLR), I focused on developing students' planning, monitoring and reflection skills step by step. Related to Ericsson's (2002) indication about the importance of being a performer in a learning environment through SLR strategies, Lam (2018) defines reflection as being about:

> *active monitoring and reviewing of the entire portfolio development process, diagnosing the strengths and weaknesses of different aspects of drafts of writing and displaying outstanding work to represent the best performance, selected from a host of artefacts kept in students' portfolios. (p. 221)*

According to Lam's definition, reflection covers all processes from the beginning to the end of the learning process. As regards my intervention, I narrowed the focus to a one-paragraph assignment but included a broader sense of what they had gained to reflect on. The assignment was a self-report writing task named My Choice, My Voice which was submitted in a single paper. The task entailed:

1. Finding the first post they sent to me in the email exchange.
2. Revising the post and rewriting the revised version.
3. Expressing their beliefs about their progress in writing through the implemented learning design.
4. Stating their views on how they had made that progress.

Students focused on revising one post in line with the knowledge they had developed throughout the year. Based on their answers to each aspect, I was able to understand how much progress the students had made and what they thought of the learning design and their self-learning. These insights are presented in the following section.

Design insights from the students' perspectives

Students' progress: Differences between first and last posts

The comparison between the first and last posts showed that students had made positive progress throughout the year. While their initial posts were made up of three to five sentences, their last posts were longer. When compared in terms of linguistic features, fewer grammatical and mechanical errors were made and more complex structures were used in the latter posts. While a few students wrote only a corrected version of their first post, others added new information about themselves which can suggest that they became more open to sharing and trusted their teacher more. Additionally, most of them used more formal, academic English in the last post. For example, in the initial email, students were more colloquial using "Hello teacher" in their email salutation and "Love" when closing the email, while "Dear Mrs Meri-Yilan" and "Yours sincerely" were used in the revised post. The use of vocabulary also changed from "I want" to "I would like". This indicates that they could write more formally by the end of the course.

Students' views on the design and their self-learning

In the last part of the task, the students were asked to write about their progress in writing. All students stated that they made positive progress in writing attributing this to: writing practice, feedback from the teacher, the coursebook, recorded videos, rubrics and peer collaboration. For practice, some indicated that the variety in writing topics and tasks enabled them to write "even about a new topic" "confidently" and "without being too nervous". Ten students articulated the benefit of feedback in this design. One student wrote: "The more one writes and makes mistakes, the more they can develop". Another participant stated: "We're all afraid of doing wrong when we start a new hobby or endeavour, but I've learned that making mistakes is the most important belief that will lift us up, not humiliate us." The coursebook and recorded videos were regarded as opportunities to go back to any topic they had not understood or missed in an online

class. The checklists in the rubrics were also seen as a “facilitator” to go over and evaluate their writings. Again, two students mentioned that peer collaboration activities were helpful in understanding their mistakes.

As for self-learning, the students described their self-learning process as a “motivated” and” encouraged” learning path. Fifteen of the students experienced this path as learning the basics for writing and then transferring these basic skills from writing a paragraph to an essay. Five of them also mentioned using additional resources that they found through their research skills gained in the writing class.

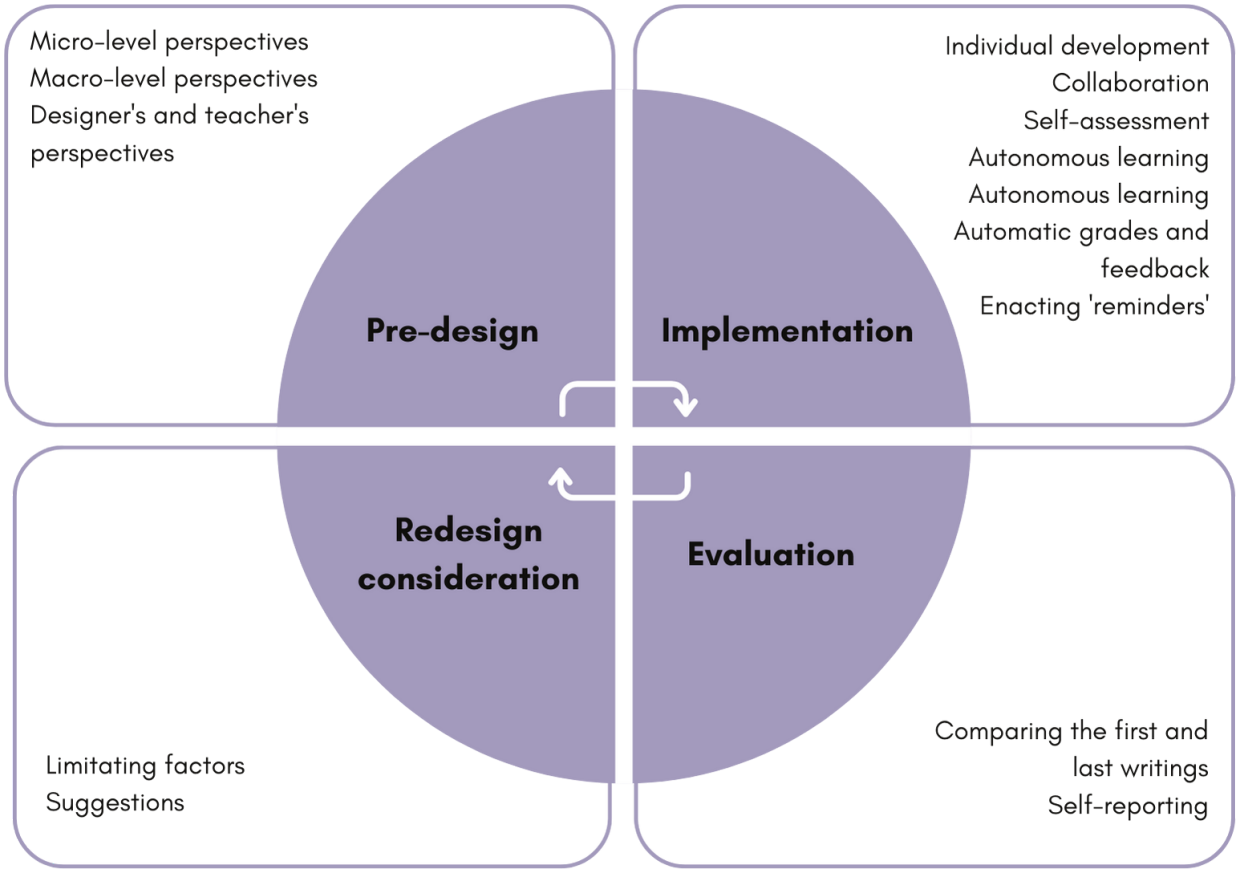
Design insights from the learning designer’s perspective

This emergent learning design process has taught me valuable lessons that align with previous studies. It confirms the significance of implementing a responsive design approach and incorporating different interaction types in online learning. What I find particularly interesting is the newfound understanding I have gained through this process. It has become clear to me that establishing a trusting environment between the teacher and students is crucial, especially in online settings where students may have never met their instructor. Additionally, I have discovered that students greatly appreciate having diverse access options to information which may even be obligatory in certain cases. They also demonstrate a strong preference for engaging in a variety of learning activities that go beyond individual writing. Activities like blogging, collaboration, research skills, self-assessment and self-regulation have shown to be highly valued by students. I have come to appreciate that these activities serve as effective scaffolds aiding students in identifying and understanding their mistakes. By engaging in such activities, students can interact with their teachers, peers and the learning context, thus promoting their progress and growth in academic writing which was the primary focus of this course. Undoubtedly, these positive aspects have significantly contributed to the success of the designed course.

Overall, this chapter demonstrates that despite the challenges posed by online learning during the pandemic, most students appreciated the activities to enhance their English writing skills. This was achieved through the design of the writing course which considered three key factors: (1) Lippman's (2010) suggestions on responsive design; (2) perspectives on learning design from micro and macro levels and of the designer and/or teacher; and (3) designing steps to develop a response in a liminal space. Figure 2 depicts how these three factors are interconnected and shows four design stages: pre-design, implementation, evaluation and redesign considerations.

Figure 2

A diagram of the responsive approach to designing the online English writing course



During the pre-design stage, I incorporated Lippman's (2010) recommendations on responsive design, enabling me to address the unique needs of learners from micro-level perspectives, and institutional and global needs from macro-level perspectives. This holistic approach was instrumental in creating a comprehensive learning experience. I was able to refine my expertise in online learning design through academic collaboration.

During the implementation phase, I meticulously integrated a wide array of activities into the course structure, empowering students to become active, independent and collaborative learners. The provision of timely feedback, automated grading, and clear assessment guidelines and rubrics was instrumental in fostering their growth and improvement. Additionally, utilising short videos proved to be an effective means of facilitating easy and efficient access to key topics.

In the evaluation stage, I conducted a comprehensive analysis of students' progress by comparing their initial and final writing while also considering their self-reports on their learning journey and self-directed learning. This thorough assessment provided me with invaluable insights, enabling me to identify areas for potential redesign and improvement that come up in the next stage.

Finally, in the redesign stage, I recognised some limiting factors and offered recommendations. As the designer, researcher and lecturer, I recognise that my own biases and beliefs may have inadvertently influenced the design and analysis. Despite seeking external input from scholars and colleagues, it is crucial for me to continually strive for objectivity and impartiality. Another gap is the extent to which I could count on my students to contribute to the co-design process. Despite the surveys letting them express their voices, I was not able to hear their voices individually in certain cases because of the heavy workload during the pandemic and the number of students in the course. The integration of the students into the learning design was also affected by the culture of the students: Turkish students are usually compliant and want to pass their classes so they might avoid expressing their “real” feelings which might cause one to question how much their voices were “heard”. This issue is partly because of the dominance of Turkish

culture in education (Kosker & Ozgen, 2018). However this was out of scope for this chapter and could be an area for further research.

Based on my design experience and the limiting factors identified, I recommend that in future studies, a teacher and/or course designer should create a reliable and flexible online learning environment which students can follow in their learning process. It is also critical to consider differences in students' social, cultural and academic backgrounds when developing the learning design. However, this emergent learning design has its limitations as its context was restricted to an English academic writing course in a Turkish higher education institution. The sample size was also small. To determine if there is a difference in students, future studies can include more participants and construct controlled and treatment groups.

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A trip to the supermarket: Towards authentic learning design in mathematics for underprepared first years

Nelisa Freitas & Johannes Cronjé

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Higher Education | Mathematics Education | Learning Design | First Year

Chapter in brief

This chapter describes the design principles and outcomes of a learning intervention to improve the mathematics abilities related to mental arithmetic and arithmetic/operational skills to solve simple mathematics amongst a group of underprepared first-year Information Technology students at a large university of technology in the Western Cape, South Africa. Although these students had passed mathematics in the South African matriculation examinations, a university placement test showed that their ability in mathematics lay at Grade 6 school level. They had very little understanding of the basic concepts of mathematics as well as a general fear of the subject. Mathematics proficiency of South African school-leavers is generally poor and unequally distributed. The key drivers resulting in poor mathematics results include fear of mathematics, poor teaching, and inadequate resources. Authentic learning offers a means by which the mathematics proficiency of school-leavers can be addressed. Contextualisation develops mathematics concepts and authentic problems can be aligned with students' careers. The use of everyday objects allows practical exploration, contributing to realistic mathematics. In a mixed method, sequential exploratory study, a series of learning events were designed using the Analysis, Design, Develop, Implement, Evaluate (ADDIE) model. Following the principles of authentic learning, students were given online learning tasks followed by a field trip to a supermarket, where they were exposed to everyday items of various sizes and proportions. With the aid of worksheets, they learned about proportions and fractions. While only 41.27% of the students passed the pre-test, 71.45% passed the post-test. A qualitative analysis of their interview responses showed an increase in their motivation and confidence to complete the subject. The chapter concludes with recommendations for the design of authentic learning experiences in mathematics, as well as suggestions for further development and research.

Introduction

What do you do when you discover that, although your students passed their school-leaving examination with a university-entrance pass, their knowledge of mathematics is on par with that of primary school-leavers when they entered university? You follow the age-old adage: When the going gets tough, the tough go shopping!

This chapter tells the story of an intervention designed to teach proportions and fractions to a group of under-prepared, vulnerable first-year students at a South African university of technology. After describing the context, we consider what causes underpreparedness of South African school-leavers in mathematics. We then present a case study of a series of authentic tasks, among which students were sent to a supermarket to observe different sizes of packaging of the same product and perform a range of calculations in response. In the study informing this work, we measured students' mathematical (and more specifically, arithmetical) capabilities to establish the level at which interventions should be implemented. We then developed and tested the intervention. In this chapter, we extract design guidelines for authentic learning in assisting vulnerable, under-prepared first-year mathematics students based on the results.

International context

An Indonesian study found a high correlation between interest, attitude, habit and performance in mathematics (Hashim et al., 2021). The concept of "attitude" has been refined to encompass patience, confidence and willingness (Yeop et al., 2019) One solution to first-year underpreparedness is to identify students' mathematical background and develop appropriate interventions (Lake et al., 2017). Hands-on activities can also strengthen students' existing mathematical concepts (Banilower et al., 2013) and problem-based learning has been found to significantly improve critical thinking in mathematics (Juandi & Tamur, 2021).

National context

The lamentable state of mathematics education in South Africa is well-documented. Studies such as the Trends in International Mathematics and Science Study (TIMSS) and others in 1995, 1999, 2003, 2007, 2011 and 2015 reported that Grade 8 learners performed at the lowest levels where only a basic knowledge of mathematics had been achieved (Reddy et al., 2016). Three-quarters of South African learners had not acquired even a minimum set of mathematics skills by Grade 8 (Department of Education [DoE], 2006; Reddy et al., 2015; Venkat & Graven, 2008). The South African mathematics curriculum reflects underperformance in mathematics at all levels (Jojo & Mybert, 2015). Although the curriculum is modern and has been benchmarked internationally (Alex & Juan, 2017), in the 2011 TIMSS, South Africa's mathematics performance was in the bottom six of the 63 participating countries (Visser et al., 2015). While the 2015 results show improvement, South Africa is still in the lower order, with the Eastern Cape (which is a feeder area of the university to which this case refers) being the lowest achieving of the nine South African provinces (Alex & Juan, 2017). There is therefore misalignment between students' pre-tertiary mathematical experience and the level of first-year university mathematics they are expected to perform at (Maddock & Maroun, 2018).

Some authors argue that the curriculum misses the fundamental aspects that are needed to empower its recipients. They recommend altering the curriculum to align it with the TIMSS curriculum for mathematics. Such alignment could minimise mismatches in the cognitive domain categories of problem solving and reasoning in numbers, measurement and geometry (Ndlovu & Mji, 2012).

Although students in low-income rural areas without internet connectivity receive mathematics textbooks supplied by the South African government, they and their teachers have no access to other learning materials (Jojo & Mybert, 2015) and the textbooks are not written in the mother tongues of the learners or their teachers (Setati, 2012).

Institutional context

Poor performance of school-leavers may cause the "dumbing down" of mathematics at tertiary institutions (Maddock & Maroun, 2018). This university has a very diverse student population, many of whom are from the neighbouring province

at least 500km away. They are typically the first members of their families to attend university and are from vulnerable, low-income families. English is their second or third language. To assist these students, the university Information Technology Department offers a transition programme, the Higher Certificate in Information and Communication Technology. For the mainstream programme, the institution requires a score of 36 on the South African universities' Admissions Proficiency Score scale, while the Higher Certificate requires a score of 28–35. Of all the students enrolled for the Higher Certificate, 8% had studied pure mathematics at high school, 86% had studied mathematical literacy at high school, 4% of the students studied information technology and engineering subjects at Technical and Vocational Education and Training (TVET) colleges prior to joining the programme, and the remaining 2% had taken a year off after school to do things other than study or work.

The following transcript of a student's response summarises the plight of so many of our students:

> *I lived in Johannesburg with my parents and my younger sister. I was very good in mathematics. I went to private schools and there I had private tutors for mathematics. My father divorced my mother, and we were forced to relocate to Cape Town. We shared a bedroom in my poor grandparents' house. I was admitted in a poor Afrikaans school. I could not speak Afrikaans and mathematics was taught in Afrikaans. By the time I finished Grade 6 I was very bad in mathematics. I carried on that trajectory until I reached Grade 9, I befriended a guy that nobody wanted to be friends with because they said that he was a nerd. He was in Grade 10 and he liked mathematics and I discovered that he was also very good at it. He began to teach me mathematics. I slowly found the love of mathematics, but it was too late. I managed to get a good mark at the end of my Grade 9 final examinations. I was recommended to take pure mathematics at Grade 10 and I did. I passed my matric with a C-. However, there were a lot of applicants that had passed with A+ and B+ at the University of Technology. Therefore, I was placed in the Higher Certificate in Information and Communication Technology intervention programme.*

A total of 147 Higher Certificate students participated in this voluntary intervention described here, which involved using everyday items to teach basic arithmetical concepts.

Reasons for poor performance in mathematics

Poor mathematics performance is attributed to "students' negative attitude toward mathematics, anxiety and fear of mathematics, inadequate qualified teachers, poor teaching methods, inadequate teaching materials, overcrowded classes" (Sa'ad et al., 2014, p. 24). This section considers the attributes of attitude to and fear of mathematics, poor quality of teaching, and lack of resources.

Attitude to and fear of mathematics

There is a significant negative correlation between mathematics anxiety and mathematics performance. Multi-step mathematical tasks increase anxiety and lower performance, as does assessment that leads to grades (Namkung et al., 2019). Anxiety also hinders self-regulated learning, student engagement and self-efficacy, and negatively impacts performance (Gabriel et al., 2020). Early development of mental arithmetic skills reduces anxiety and helps learners develop mathematical capability (Ramirez et al., 2016).

Poor quality of teaching

Teacher knowledge and instructional practices are key contributors to students' understanding of mathematics. These elements are, however, less prevalent when vulnerable students are educated (Battey, 2013). There is a lack of addressing learner behaviour, framing their mathematics ability, acknowledging student contributions and attending to learners' language and culture (Battey, 2013). Teachers move outside learners' zone of proximal development and learners do not gain relational understanding of the learning content (Siyepu, 2013).

Lack of teacher motivation and unreasonable expectations of the mathematics curricula contribute to poor learner performance. Teachers also struggle with time management and linguistic constraints when learners do mathematics in a language other than their first language (du Preez, 2018; Maila & Ross, 2018; Waller & Maxwell, 2017).

Lack of resources

According to Yaro et al. (2020), "The conservative nature of textbooks, time constraints and the dominant force of poverty remain hindrances in creating mathematics tasks that are issue centric and socially relevant to address concerns of the local community" (p. 1). South African textbooks are generally considered inappropriate and lack activities that can help learners develop a relational understanding of mathematical concepts (Siyepu, 2013). The system is plagued with poor internet connectivity, clumsy or absent learning management systems and low technology software (Dube, 2020). Schools in under-resourced areas lack career guidance, parental support and funding (Maila & Ross, 2018). In rural schools, where most of our students come from, the intensity of resource-scarceness is felt even more acutely. Physical distance from school means that students arrive late; students are also often malnourished and come from homes that experience the stresses of unemployment and demonstrate a lack of parental involvement (Owuso-Addo et al., 2021).

The role of learning design in supporting underprepared university students

Against the background of a poor attitude to and fear of mathematics, poor quality of teaching, as well as a lack of resources, learning design guidelines are necessary for developing materials, activities and tasks for underprepared university students.

An effective way of dealing with teachers' lack of content and pedagogical knowledge is to provide fully developed instructional plans (Muthukrishna, 2013). In a Nigerian study, it was found that

> *…developing positive attitude, motivation and proper guidance toward mathematics, using proper methods of teaching the subject, provision of relevant teaching materials, additional classrooms and furniture, provision of libraries and mathematical laboratories were some of the ways of improving performance in mathematics in the study area. (Sa'ad et al., 2014, p. 32)*

In our case, the field trip to the supermarket was an attempt at motivating students by using relevant authentic materials and, in a sense, the supermarket became our laboratory. The following section will discuss authentic learning design, the use of everyday objects in problem solving, allowing space for the unexpected, as well as flexible tutoring and mentoring (Jackson-Barrett et al., 2019).

Authentic learning

The best learning environment has a dynamic interaction between teachers, learners and tasks that provide an opportunity for learners to develop their own understanding (Siyepu, 2013). Authentic learning tasks improve comprehension, comparison and reflective problem solving (Dolapcioglu & Doğanay, 2020). Research in Canada, Ghana, India and Swaziland found that using local contexts allowed educators to develop authentic, meaningful mathematics tasks that might be called "situated mathematics" (Yaro et al., 2020).

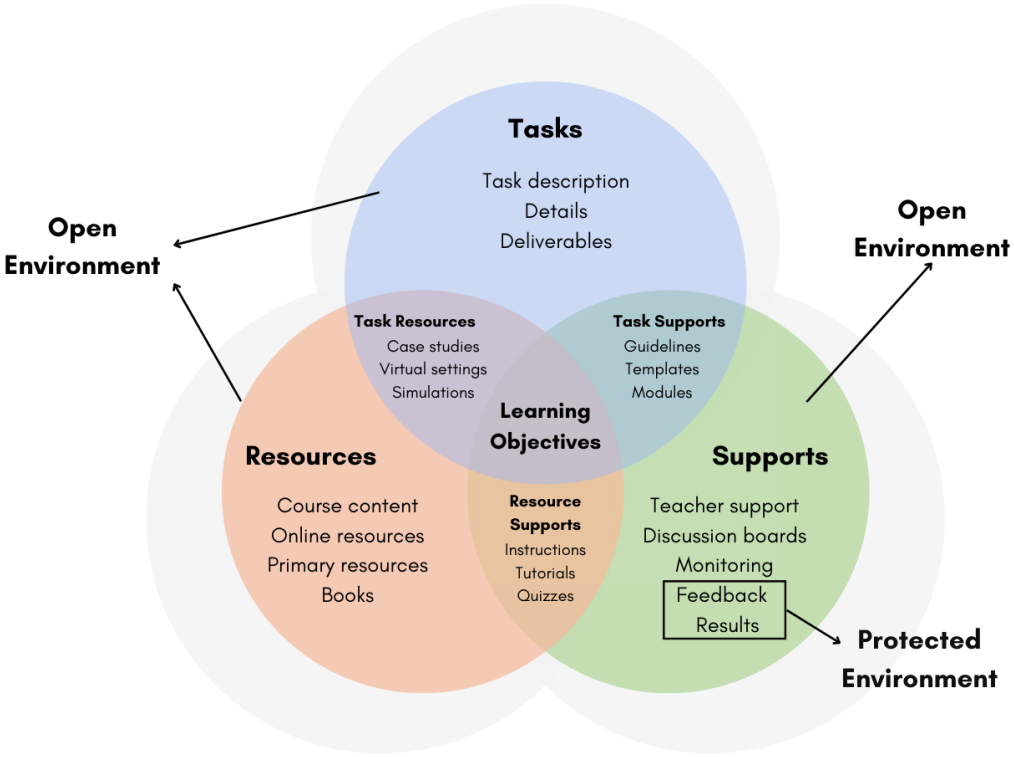
Mathematics tasks are often designed in isolation without showing their authentic usefulness. For aspects of learning to be authentic, they need to originate from outside of the formal teaching environment and they need to use physical, real-world artefacts (Vos, 2018). Unfortunately, lecturers mainly tend to use traditional learning tasks and educators cannot design authentic learning tasks (Sewagegn & Diale, 2020).

Authentic learning (Herrington et al., 2014) places learning objectives at the centre of an open environment with tasks, resources and supports. Tasks have descriptions, details and deliverables. Resources include course content, online

resources, primary resources and books, while supports include teacher support, discussion boards and mentoring, with feedback and results in a protected environment. Task resources include case studies, virtual settings and simulations. Resource supports include instructions, tutorials and quizzes, while task supports include guidelines, templates and models. Figure 1 provides an overview of the extended authentic learning design framework developed by Herrington et al. (2014).

Figure 1

The extended authentic learning design framework (Herrington et al., 2014)



Authentic learning and use of everyday objects

The use of everyday objects when teaching basic arithmetic allows for practical exploration and experimentation, which contributes to realistic mathematics. Realistic mathematics resonates with the work of Vygotsky and Piaget (Das, 2020) and contributes to sense-making through semiotic mediation, when teachers and learners co-create meaning in their interpretation of mathematical problems and the development of solutions (Siyepu, 2013). For example, the use of nutrition-related content such as portion size provides a cross-curricular opportunity to make mathematics highly relevant to learners (Follong et al., 2020).

Problem solving and allowing space for the unexpected

Mathematics tasks can be described on a coordinate system that has two axes: “contrived-authentic” and “clean-messy” (Leung et al., 2020). Paredes et al. (2020) found that along the contrived-authentic continuum, future teachers struggled to create realistic mathematics tasks but they could create open and authentic tasks in the higher cognitive domain. “Messy” contextualisation develops authentic problems that are related to real-world applications connected to students’ future careers. These contextualised problems help students to engage with the material, link concepts and organise mathematical ideas (Valenzuela, 2018).

To develop the creativity and critical thinking skills required in solving mathematical problems, students should be encouraged to use various alternative solutions. A creative problem-solving learning model would include defining, designing, developing and disseminating materials (Sari et al., 2018). The "learning cycles" put forward by Kolb and Kolb (2017) were used in the design, development, implementation and evaluation of the programme. Kolb and Kolb (2017) propose four cycles: reflective observation, abstract conceptualisation, active experimentation and concrete experience. The sensemaking approach in the experiential learning cycle is grounded in reviewing intelligibility, intuitive knowledge, meaning and natural understanding of students' usage of level of knowledge, application and/or thinking skills.

Flexible tutoring and mentoring

In multicultural, vulnerable environments, it is essential to create flexible tasks and to allow learners to share what they have learned with others (McLoughlin & Oliver, 2000). Flexibility is obtained by offering students more than one option (Messitidis, 2018) and by encouraging reflective practice (Cornelius et al., 2011).

Mentoring is even more powerful than authentic tasks in enabling creativity and critical thinking (Weng et al., 2021). This may be because of the patterns of interest that mentors spark and the development of student identity (Weng et al., 2021).

The trip to the supermarket

This section presents the case and its results. A mixed method, sequential exploratory design (Creswell, 2013) was implemented to collect, analyse and present numerical and narrative data. The design consisted of three pre-tests, an intervention and a post-test. These were augmented by interviews and focus groups. For ethical reasons, students' anonymity was guaranteed and participation in the intervention was voluntary with withdrawal allowed at any time. The research took the form of a design experiment using the Analysis, Design, Development, Implementation, Evaluation (ADDIE) model (Howie & Plomp, 2002; van den Akker et al., 2013).

Analysis

Students' mathematical skills were assessed in three pre-tests. They worked without aiding tools and materials, such as calculators and formula sheets, so that their mental arithmetic skills could be gauged, as well as their foundational arithmetic/operational mathematical skills to solve simple mathematics problems (Ludvigen et al.,). The three pre-tests were: (a) a first pre-test – Grade 12 mathematics; (b) a second pre-test – Grade 10 mathematics; and (c) a third pre-test – Grade 6 mathematics. All students failed the first two pre-tests and obtained a mean score of 41,27% in the third. A post-test was conducted in the evaluation phase.

Design, development and implementation

Five activities were designed. The first activity was a visit to a local supermarket. At the supermarket, the students and the lecturer walked around the supermarket picking up, weighing and evaluating different everyday items. Figure 2 illustrates some of the everyday items used to assist students to contextualise different weights and volumes.

Figure 2

Examples of products referred to in the supermarket activity

The supermarket visit was conducted to help students integrate and balance their conceptual understanding of basic mathematics skills regarding proportion. They had to compare the sizes of a 5kg, 1kg, 500g and 250g package of the same product, for instance, and in that way visualise the fractions.

For the second activity, students were given a worksheet requiring them to convert metric units of mass and volume. For example, students were asked to convert 96ml to litres and 100g to kilograms.

In the third activity, students were given a link to a carrot cake recipe that had been audio recorded by the lecturer. This activity was a home-based tutorial activity and the students used household utensils to measure the ingredients stated on the lecturers' audio recording.

For the fourth activity, students were divided into groups that experimented by tossing a coin and guessing on each toss whether the coin would land on a tail or on a head. They recorded their findings and discussed their observations.

For the fifth activity, the research participants played monopoly with dice and cards. Edutainment, a combination of education and entertainment, was used to help the students understand the theory of chance. Our intent was to increase the students' self-expansion, which may lead to self-knowledge and truly widened consciousness (Engeström, 2015).

The intervention was part of a class tutorial module in the first 16 weeks of the academic year, covering basic arithmetic taught to 11- to 12-year-old pupils in the last phase of primary school in South Africa. The first tutorial was based on number theory. The voluntary class tutorials were conducted in a university lecture room that sat 30 students. Two hours (14:00pm to 16:00pm) were allocated to student and lecturer consultation. Students could book time on the lecturer's digital calendar.

Lecture notes, class materials and preparatory tutorials were placed on the university's learning management system. A prerequisite for attending the tutorials was that students studied and completed preparatory exercises at home, allowing for the transformational and transactional acquisition of mathematical knowledge (Meltzer, 2002). When students had difficulties solving problems, they presented it to their groups. If the group failed to solve the problem, the tutor became involved and solved the mathematical problem/s on blackboard with chalk and the students participated.

Evaluation

During the evaluation phase, the student assessment scores were compared. We also evaluated their test scripts, observed the students and conducted one-on-one interviews with purposively selected students (Palinkas et al., 2013). Students were selected based on the scripts that reflected variations in the their computations and methodologies for solving simple foundational arithmetic problems.

Discussion

A comparison of pre-and post-test results showed that the students had improved from a mean score of 41.27% to 71.45%. In this section, we consider the design principles that emerged in this process and support those principles

with what the interviews revealed about students' attitudes towards mathematics, pedagogy, and resources.

Attitudes towards mathematics

A key to the success of the intervention was that the students recognised its value. As one student stated:

> *I recognised that the module was my second chance at acquiring mathematical skills.*

They also recognised the importance of taking responsibility for their own learning and confirmed the relationship between confidence and improved skills (Gabriel et al., 2020). One student stated:

> *I booked time with the tutor and I enquired how I could structure my study time. Once I got suggestions, I implemented them. I prepared for all my class tutorials off campus. I spent 30 minutes every day in the beginning and as I gained more confidence, I spent more time and my quantitative skills increased.*

The dynamics between attitude to mathematics and teacher support were clearly illustrated in this student's response:

> *I was an A student in high school. I became very proud because all the students used to come to me for help. Later on, I hated the responsibility and I stopped practising mathematics and I stopped doing my homework. I got bad and one day the teacher asked me to solve a mathematical problem on the board: I said I did not want to. She said I should go and study bookkeeping, and mathematics was not for me. I stopped trying to show her I did not care. When I got to the UoT I was curious to see If I could learn and get back to the level that I start helping other struggling students. I became good and I enjoyed having other students coming to me to ask questions. I began helping the tutor and this helped me even more because I used to go and ask if I was struggling with some mathematical concepts.*

Teaching and learning

The motivational role of lecturers is evident from these students' responses:

> *Quantitative Techniques class tutorials were a wonderful experience for me, and it made me realise that there are people out there who have my interest at heart and that I only need to read for my own understanding.*

Of particular interest is also the involvement of management:

> *The university professor that was heading the project was very nice and he came to visit us during the class tutorials from time to time.*

Fully developed instructional plans allowed students to plan their time:

> *I was amazed to see that the tutorials were planned well. I had time in between my hectic schedule.*

Students valued authentic tasks and everyday examples:

> *The lecturer took some of us out to have real-life experiences. She used stories that were familiar to us in her examples.*

Addressing the zone of proximal development for this diverse group was difficult:

> *In the beginning I was bored when we went through primary school work. I thought that I knew it all. Then I realised that there were numbering systems that I had never learned, like the binary*

> *numbering system. I enjoyed the fact that I could speak to the tutor and say I was bored and she would repeat the reason why we had to go through all the work from Grade 6 to Grade 12.*

But we did get it right in the end:

> *I liked the subject, the teacher the faculty and everything around the module. I was paced at my level. I was not spoonfed, but I felt challenged enough to want to continue attending the classes.*

Resources

The use of technology, peer support and tutors allowed for a flexible approach:

> *I struggled with class non-attendance due to train problems. I missed tutorials. Sometimes when I was late, I would find out that people had moved on, so I had to do catch-up. Just after class, I would approach my classmates and ask for help. My classmates were helpful. I also read the tutorial notes and watched video materials uploaded on Blackboard by the researcher. I also used the tutor/researcher student times every Thursday and this helped me because I had the tutor focusing on me and I had to make preparations for the meetings.*

Conclusions

This section will reflect on the chapter, list the design principles and provide recommendations for further development and further research by filtering our experience of teaching underprepared first-year students through the lens of authentic learning using a field trip, real-life artefacts and a game.

Reflection

The international context of this study lies in the relationship between interest, patience, confidence and willingness of students and their performance in mathematics. Nationally, in South Africa, lack of resources, lack of teacher education and lack of student confidence leads to poor achievement in mathematics, which translates, institutionally, to underpreparedness of first-time entering students.

In this study, the problem was addressed using authentic learning; specifically the elements of tasks, resources and supports, as proposed by Herrington et al. (2014).

The tasks given to the students were taken from everyday life rather than from the IT environment because as first-years in the first 16 weeks of their course they were not familiar with the IT environment. A trip to the supermarket was more authentic. Task resources were freely available, and the case studies involved familiar activities such as shopping, flipping a coin, converting a recipe and playing a board game. There were no digital simulations and real-life settings were given preference over virtual.

Course content was made available online and additional resources were provided in the form of YouTube videos. Resource support took the form of tutorial sessions, online quizzes and formal instructions that occurred during contact sessions.

Teacher support occurred continuously through face-to-face sessions that could be pre-booked. Students were regularly monitored by the tutor and using the learning management system. The lecturer herself was also supported through the professor, as one student mentioned. Task supports took the form of guidelines and notes that were made available through the learning management system. Models took the form of everyday objects from the shelves of the supermarket.

Design principles

The design principles that emerged from the study are listed below as they emerged in terms of attitude, teaching and learning and resources.

Attitude towards mathematics

1. The intervention must be designed in such a way that students recognise both the value of the learning task and the value of the knowledge that is gained through the exercise.
2. Students should be encouraged to take responsibility for their own learning.
3. The difficulty level of learning material must be determined by understanding the relationship between students' confidence and the required skills.
4. Students' attitude to mathematics is dependent on the amount of support they receive from lecturers and tutors.

Teaching and learning

1. Lecturers should play a motivational role in addition to facilitating content.
2. Management should be seen to be actively involved in supporting lecturers and students.
3. Instructional plans should be developed in such a way that students can plan their time.
4. Authentic tasks and everyday examples add value.
5. The learning event should be designed with various points of entry and exit to allow for a diversity in students' zone of proximal development. It may be necessary to develop an easier route, as well as a more challenging route.

Resources

1. A mix of technologies should be used to allow access to under-resourced students.
2. Learning materials should be archived to allow students to catch up on missed classes or tutorials.
3. Peer support should be encouraged so that students can help one another to catch up.
4. Tutorial notes and videos should be made available via the learning management system.
5. Small-group tutorial classes are essential.

Recommendations for further development and research

Further development of authentic tasks for underprepared students should concentrate on open-ended tasks and allow students to provide their own examples of real-life instances of authentic mathematics. Instead of the lecturer taking students to the supermarket, students could be asked to bring their own examples of mathematics in action.

Research should be conducted into developing differentiated tasks to cater for the diverse abilities of students. Given that students may have problems in attending classes regularly, tasks for self-study should be developed parallel to synchronous individual and group tasks. Research should be conducted to determine the optimal balance between self-study and face-to-face classes.

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Design principles for developing critique and academic argument in a blended-learning data visualisation course

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Blended Learning | Data Journalism | Data Visualisation | Academic Argument

Chapter in brief

This chapter explores the challenges experienced by second-year journalism students in developing academic argument in a data visualisation course. The course focused on representing arguments that drew on aspects of educational inequality in Cape Town. Data is increasingly produced and circulated visually; and the means to generate data visualisations are becoming increasingly accessible. It is thus important to develop critical tools to engage with these kinds of texts. The chapter describes the principles for learning design that were employed to improve the blended-learning course into one that better supported students' development as critical designers and engaged citizens. Some of the principles included delimiting the scope of the task, encouraging the use of readily accessible design tools, introducing a process approach, developing meta-languages of critique, and acknowledging different audiences. The chapter ends by analysing the work of two students in light of these learning design principles. We discuss some of the gains and losses of moving from one digital format to another (PowerPoint to poster), the ways in which students adapt texts to different audiences and platforms, and the emergence of a meta-level critique of the data sources.

Introduction

Producing data visualisations with accompanying arguments is an increasingly important task for journalists (Engebretsen et al., 2018). Data visualisations comprise graphical representations of numeric data and are a "discursive resource used in the dissemination of statistical information" (Kennedy & Engebretsen, 2020, p. 22). At a South African

university, second-year students in the Film and Media (FAM) production degree are introduced to data journalism in a five-week multimedia production course. Data journalism combines the traditional possibilities of journalistic storytelling with the scale and range of digital information now available (Bradshaw, 2012). According to data journalists, their emergent discipline is important for reasons that range from filtering the flow of data in the contemporary networked society (Meyer, 2012) to providing independent interpretations of official information (Matsunami, 2012). Through the activities in the data journalism course, students can explore the complexities of global economy, society and ecology, whilst discussing the ramifications of individual decisions.

Data is increasingly produced and disseminated visually and the means to generate data visualisation is becoming more accessible to a variety of people. There is thus a need to develop critical tools to engage with these kinds of texts. This includes considering the ways in which data visualisation can be used for a variety of rhetorical purposes, such as documentation, persuasion and manipulation. In order to construct an argument for a specific audience in an apposite way, design choices need to be made around size, shape, colour and composition. It is important to be aware of data journalism's limitations, such as the illusion of omniscience a data visualisation text seems to create, the perspectives it excludes and how it may preclude certain audiences by requiring complex visual and quantitative competencies (Walton, 2016).

This chapter demonstrates how a framework for argument in data visualisation (Archer & Noakes, 2020) was used to analyse students' texts and to inform design principles used to improve the second year journalism course. Some of the changes in the course based on these principles included introducing a process approach to the teaching of academic argument, developing meta-languages of critique, and focusing on the criteria for selection when doing a comparison (a key aspect of academic argument). The final part of the chapter analyses the work of two students. It reveals the ways in which the learning design enabled these students to start critiquing data sources and develop critical academic argument.

Argument and critique in data visualisation: A social semiotic framework

Our approach to exploring argument is multimodal social semiotics, where meaning-making is seen as a social practice (Martinec & van Leeuwen, 2008; van Leeuwen & Jewitt, 2001). It is important that journalism students are able to use data visualisation to move beyond simple narratives; to gather, filter and visualise data in order to produce an "argument". Broadly speaking, argument is a logical set of ideas supported by evidence; "the existing accepted material that an 'arguer' agrees with, or resists, but nonetheless draws on to establish a position" (Archer, 2016, p. 94). Argument is often seen as impersonal or objective. However, a social semiotic approach views argument as a social process through which texts reflect the methodologies, arguments and rhetorical strategies of situated authors adopting particular interactional positions for engaging their audiences.

Table 1 presents the Archer and Noakes (2020) framework for thinking about argument as a semiotic practice, specifically in relation to data visualisation and the teaching thereof. This framework investigates the semiotic encoding of ideational material in argument. Here the focus falls on students' basis for comparison in an argument (such as differences in levels of education obtained in diverse municipal wards) and the underlying classification identified for comparison. What is selected, including the chosen basis for comparison, is often as important as what is excluded. Students might choose to focus on social issues when comparing levels of education attained (such as pregnancy and single versus no parent households). Other students could focus on access issues (such as home language and income). We highlight these choices when we present the two student case studies.

The discourses that shape data visualisation are also important to explore. "Discourse" is understood here to refer to the ways social institutions define and regulate the practices within those institutions through the use of language or other semiotic modes. The analytical emphasis here falls on the location of semiotic resources (such as composition, size, shape and colour) within the discourses, practices and technologies that regulate their use. Zhao et al. (2014) highlight that normative discourses can be built into communication technologies, such as Microsoft PowerPoint or

Excel. Our framework also prompts an exploration of the ways that interpersonal relationships are established within the discourse communities constructed in data visualisations. Here, the focus falls on how credibility is established, as well as the use of citations. In academic writing, credibility is often established through tentative assertions. These are realised through discourse markers such as "hedging", which indicate the writer's decision to withhold complete commitment (Hyland, 1999).

Table 1

Framework for analysing and producing argument in data visualisation (Archer & Noakes, 2020)

Meta-function	Means through which argument is realised	Explanation
IDEATIONAL – semiotic encoding of the world, concepts and processes in data visualisation	Basis for comparison	Selection of what is deemed comparable based on an underlying classification
	Discourses drawn on	Normative discourses, circulating societal discourses
INTERPERSONAL – establishing social relations in data visualisation	Establishing credibility	Use of data, hedging (confidence intervals), emphatics
	Citation	Choice of source, re-working of source, integration of source, placement of in-text referencing
TEXTUAL – the ways in which complexes of signs are combined to form coherent data visualisations	Choice of: • Infographic • Colour • Font • Size • Shape	• Type of chart (e.g. bar chart, pie chart, line graph) • Organisational or connotative uses • Conventional or unconventional uses of font • Size to indicate salience or growth • Connotative or conventional uses of shape
	Composition	Minimalist versus "visual confection"; positionality and directionality: top/bottom, left/right, centre/periphery
	Relation between writing and image	Similarity, oppositional or complementary relations

The social semiotic framework outlined here provides a holistic view that is useful for providing feedback and recognising students' work, as realised through the ideational, interpersonal and textual meta-functions. Next, we outline several principles for learning design informed by our analysis of student work using this framework.

Principles for learning design in a data visualisation course

The infographics poster design course is embedded in the five-week FAM production course In 2017, the students were required to design a poster using data visualisations that focused on educational inequalities in two geographical districts in Cape Town (Noakes, 2017). The course comprised introductions to (1) using Youth Explorer for data-based journalism, (2) learning Adobe Illustrator to develop an online logo and (3) using Microsoft Excel for designing charts and exporting data visualisations. Students were taught how to combine these three aspects within a poster design and to export the resulting text for blog publication. Students presented their posters to the class for assessment and shared their blog posts on social networks. The assessment criteria for the project were divided between analysis (40), design (30), innovativeness (20) and oral presentation (10).

An analysis of the students' work (Archer & Noakes, 2020) provided an opportunity to refine the 2018 curriculum using insights from the multimodal theorising of argument in data visualisation (Archer, 2016; Prince & Archer, 2014).

Table 2 provides an overview of the initial and revised five-week course structure. Two new topics were added to the course, namely "multimodal argument" and "creative ideas for infographic design". A midway assessment was

introduced, in which students' infographic arguments were assessed as works-in-progress. The new sections and midway feedback proved helpful in supporting students to develop better arguments.

Table 2

An overview of the initial and revised FAM course

FAM course	Course sections (2017)	Course sections (2018)
Week 1	Introducing typography	Data journalism, visualisation and charts
Week 2	Designing an online identity using type, shapes and paths	Typography for the web
Week 3	Introducing infographics and preparing a poster template	• Designing an online identity • Multimodal argument (NEW)
Week 4	Exporting data from youthexplorer.org.za and designing charts	• Preliminary poster argument assessment (NEW) • Creative ideas for data visualisation infographic poster design (NEW)
Week 5	Short infographic poster presentations by students for assessment	• Presentation tips (NEW) • Pre-recorded infographic poster presentations in PowerPoint

In the latter part of this chapter, we showcase two students whose posters presented meta-level critiques of data. First, however, we introduce the six principles for learning design that informed the new course structure.

Principle 1: Delimiting the scope of the task

One might think that giving students freedom in selection would enhance engagement, but many seemed to struggle with deciding on the starting point for their arguments. The freedom to choose can be an obstacle for inexperienced students. We saw this with students making arguments concerning a "broad range of factors" for educational achievement, rather than narrowing down the focus onto specific aspects, such as "attendance" or "crime". For instance, one student was interested in contrasting educational outcomes for "Newlands and surrounds" with "Woodstock and surrounds". When looking at the data, it was clear that Woodstock had a higher number of 20 to 24 year olds with matric passes than Newlands. While this might suggest "better educational" outcomes, students in Newlands have a much higher bachelor pass rate. The use of all three aspects (highest education level achieved, percentage of students currently in tertiary education and the bachelor pass rate) proved unhelpful for developing a tight argument, other than "a range of factors influence education". The course convenors thus narrowed down students' choices to particular themes rather than giving them wide freedom in their choices (cf. Walton & Archer, 2004).

Principle 2: Encouraging the use of readily accessible design tools

In 2017, and in previous years, FAM students were taught on iMacs in a relatively high-end computer lab at the university. Access to computers and lab space could, however, not be taken for granted in 2018, as the university campus was shut down for a prolonged period in response to sporadic #feesmustfall protests (Ndlovu, 2017). While software such as Adobe Illustrator and Photoshop could be drawn on for work during lessons in previous years, the 2018 course needed to be revised for students to work remotely at home or in university residences with accessible design tools. Instead of teaching students how to design posters in Adobe, students were shown how to use Microsoft Word and Google Docs. Assessment also shifted to support maximum flexibility in terms of software choice and remote submission. Students were taught to export their designs into a Microsoft PowerPoint presentation and add an audio commentary, rather than being expected to present in person.

Principle 3: Considering gains and losses in moving across digital formats

In shifting between digital tools, students were taught about the gains and losses of moving across different digital formats. Each phase involved information being synthesised and abbreviated in a process of simplification. In the first step, the students browsed Youth Explorer, a South African, open source, data-aggregated, map-based view of statistics concerning young people (aged 15–24). The site enables its users to explore the statistical differences between youths across a range of geographic areas (from electoral wards to district municipalities). Students selected two wards and used the "Rich Data" function to compare the data for each ward side. The Excel data export for the two wards was divided into a summary section and specific sections for demographics, education, living environment, economic opportunity and youth poverty. In selecting wards, students were cautioned that one ward could include data for very different suburbs. Students also had to bear in mind that data was presented for youth aged 15–24 (following the international definition) and 15–35 (adopting South Africa's definition). As disaggregation was possible for smaller age brackets for most indicators, students could select a cohort in isolating and cleaning the data. Students were urged to select aspects that were collected with a matching timescale, or to flag such differences.

In creating charts, the course highlighted the influence of a particular format on the comparison's legibility. Students who selected an appropriate chart format and added necessary details (such as a legend and numeric values) assisted their audiences' comprehension. The students exported these charts as Picture Network Graphic (PNG) files for placement in their A4 poster designs. This export involved experimenting with the sizing of the charts in Excel and their export resolution. Exporting at a small size or poor resolution would result in charts losing detail and becoming difficult to read when the PNGs were resized on the poster. Likewise, the same considerations applied to exporting the poster export as a graphic image for import into a PowerPoint slide. Students also needed to ensure that their poster's portrait layout fitted within their slides' landscape orientation. Finally, the posters were exported in Adobe Portable Document File (PDF) format for embedding in a blogpost. The PDFs displayed in blog posts were shown at a smaller size and lower resolution, thus small fonts and chart graphics could become unreadable on blog pages. In shifting across digital formats, journalism students encountered the design challenges of making aesthetic choices that would preserve the legibility of content, even when working with "trimmed-down" formats not optimal for design purposes.

Principle 4: Implementing a process approach for developing argument and encouraging reflection

In order to enable critique and input on students' data visualisations and argument in process, students presented their thoughts midway through the course. The framework for analysing and producing argument in data visualisations discussed earlier informed our feedback to students.

Cases where correlation was confused with causation were identified and discussed (Archer & Noakes, 2020). Examples of this included cases where students selecting a ward, could easily blur the categories of their argument by equating a ward with a suburb, when the ward encompassed several suburbs. They could also presume that a suburb is a singular community with a uniform demographic and ignore the very different contexts of its constituent communities. In selecting aspects of inequality to explore, students could also blur categories by selecting different data populations without contextualising differences by age group (such as in the two roughly comparable categories of "grade 8 to matric" learners and "18 to 24 year olds") or using data collected by different organisations with differing timespans (such as Statistics South Africa's 2011 census data versus 2017 statistics from the South African Police Service).

As there were many opportunities for students to make such errors, the course recommended students consider appropriate hedging strategies. For instance, poster designers should avoid formulations such as "x is (only) caused by y" and instead hedge statements, as in "x seems to be correlated with y (and z)". Students were also prompted to reflect on their own personal limitations as observers and to critique their data sources.

The midway feedback process was an opportunity for students to reflect on their progress towards developing an argument. They considered how their own life history, community background and experiences of social interaction might influence their argument selection and framing. The designers were encouraged to interrogate their own positionality and question their chosen stance towards both the subject matter and the data. The time constraints of the short course did not allow for written reflections for assessment. Instead, the midway feedback process was the main opportunity for reflecting on each student's self-awareness or lacunae in contextualising a line of argument.

Principle 5: Developing meta-languages of critique and argument

In order to improve their arguments, students were urged to read recent South African educational sociological research and topical press articles as sources. The course flagged the dangers of qualitative complexity being simplified into numbers and analyses that ignored how such data might be inaccurate. For example, both undocumented and illegal immigrants were unlikely to be included in South African census data. The data for immigrants who avoided census officials out of concerns for deportation would thus be "invisible" to Youth Explorer users. As aspirant journalists, it is important that students do background research into the aspects they describe and explore surrounding discourses. To ground their arguments, students were urged to foreground contextual information and flag omissions in their data sources.

Principle 6: Acknowledging different audiences and the risks of sharing work as novices

Each student's PowerPoint presentation was expected to highlight some of the processes involved in making their poster, the digestion of the statistics and reflections on the complex social issues engaged with in thinking through the task. Unlike embodied, synchronous presentation to a co-present audience, the audience in a narrated PowerPoint needs to be explicitly evoked. Designs aimed at classroom assessment might preclude non-academic and other online audiences. The students thus needed to clearly define the ideal audience(s) for their posters, whether local or global. The course provided guidance on choosing an infographic design that was fit-for-purpose and audience by showing a variety of infographic types and highlighting the different roles of diagrams, charts and maps in constructing an argument.

Students were encouraged to share their blog posts with audiences on social media via Twitter and Facebook. Such sharing was intended to help students experiment as aspirant journalists who share infographic content directly with online audiences. Sharing also confronted students with the challenge of negotiating "context collapse" online. This term refers to the flattening of mutually distinct audiences in one's social network, such that people from different contexts become part of a singular group of message recipients (Vitak, 2012). The "collapse" phenomenon necessitated thinking through how work as novice designers might be interpreted by potential audiences outside the academic context. This could range from a known audience of friends to more dangerous unknown audiences, such as critics and stalkers. Of the 20 students who completed the course, over half chose not to share on social media. A few chose Twitter for sharing, but only two shared content on Facebook, which, despite its popularity in South Africa, was considered to be more likely to create "collapsed contexts". By contrast, students could readily create anonymous accounts under Twitter that were not linked to audiences of family, friends and peers.

Students had different strategies in their self-presentation styles. Most chose to create blogs and share social media under their real names and as students. This followed the norm of formal, genuine identities in the academic and journalistic fields. However, it was noteworthy that several female students chose to hide their real names to manage online visibility risks given South Africa's high rates of sexual violence (Noakes, 2019). These students used generic roles (such as "movie fan") for their blog titles. This privacy strategy was however undermined when a poster was shared featuring a real name. After the poster projects were assessed, a few students decided to reduce the risks of online visibility by removing their poster blog posts and shares.

In the next section, we analyse the work of two students and the ways in which the learning design outlined here enabled them to start critiquing the data sources and developing critical academic argument.

Academic argument and meta-level critique of data and sources

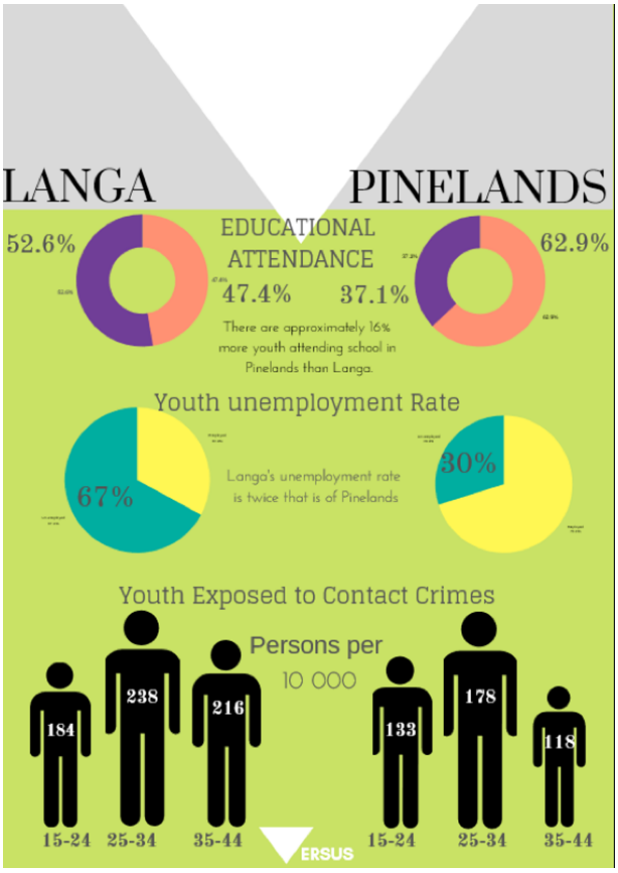
Here we look at the work of two students, Tumi and Mark, who followed different approaches to meta-level critique in their data visualisations. Both students agreed to be research participants and pseudonyms are used to maintain their privacy. Tumi's presentation critiqued the usefulness of Youth Explorer for exploring education in a peripheral township community versus a suburban "core community". By contrast, Mark's poster critiqued the statistics available for understanding "poor grade 8 systemic results" and the reasons for higher dropout rates in schooling between suburbs.

Tumi's presentation: Critiquing the sources

Tumi's poster (Figure 1) presented a critique of Youth Explorer's use for exploring education in the "peripheral community" of a Langa township versus a "core community" in suburban Pinelands. Tumi selected both suburbs due to their close proximity – "about 7km apart". She framed Pinelands as representing a core community, since it is "where most people work" and "children attend school". By contrast, Tumi described Langa as representing a peripheral community, which provides the "economic labour of circular migrants to Pinelands". Tumi's description reflects how the sorry legacy of apartheid spatial planning remains evidenced in the racially and economically skewed demographics of Cape Town's neighbourhoods. This legacy stubbornly shapes the contrasting educational opportunities offered to suburban and township residents. In this context, black children in peripheral locations often travel long distances for better opportunities in core suburbs.

Figure 1

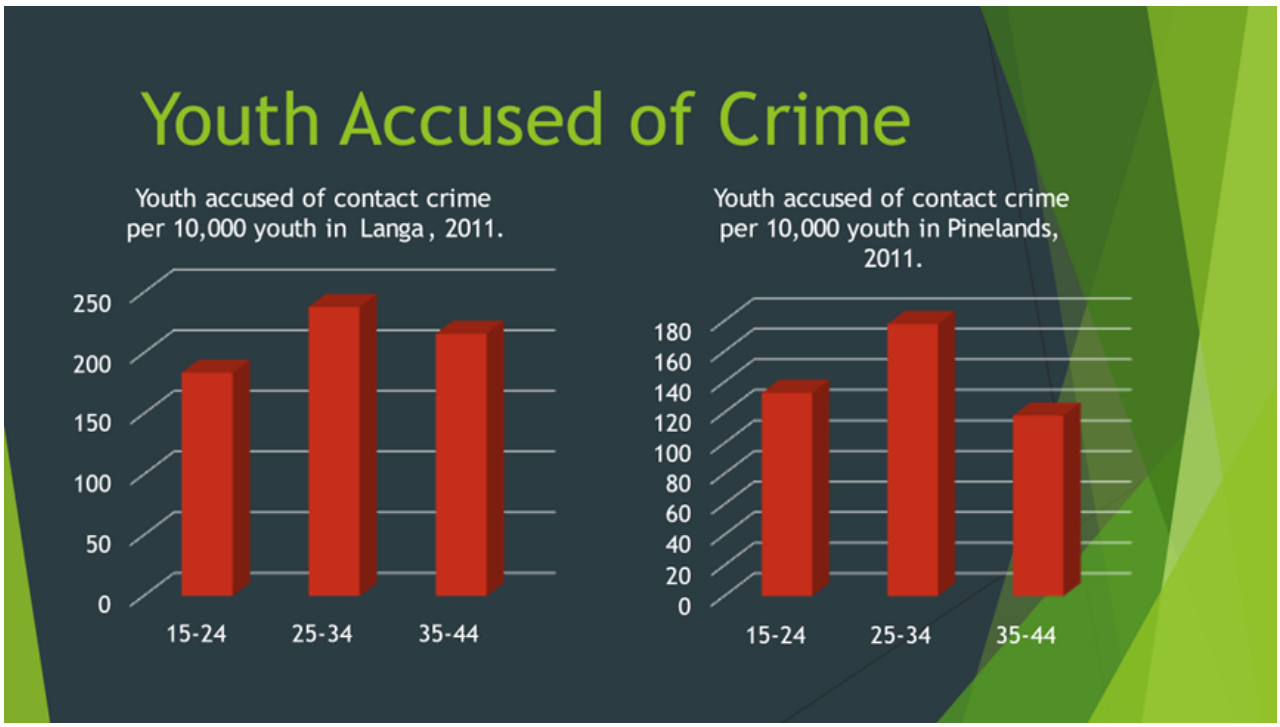
Tumi's poster presenting data on Langa versus Pinelands (reproduced with student's permission)



Tumi's poster featured school attendance, employment status and the number of youths affected by crime. The poster employs ring graphs and pie charts in different colours to indicate educational attendance and unemployment rates. Person graphics represent the number of individuals "exposed to contact crimes". They are visually innovative, but not drawn to scale, so difficult to read at a glance. By contrast, Tumi used a bar graph in her PowerPoint slide which is a better representational choice for such comparisons (Figure 2). However, it is still difficult to compare Langa with Pinelands here as the different scales of the bar graphs are not equivalent in size. In addition, both "contact crime" images do a straightforward comparison rather than addressing crime relative to population size.

Figure 2

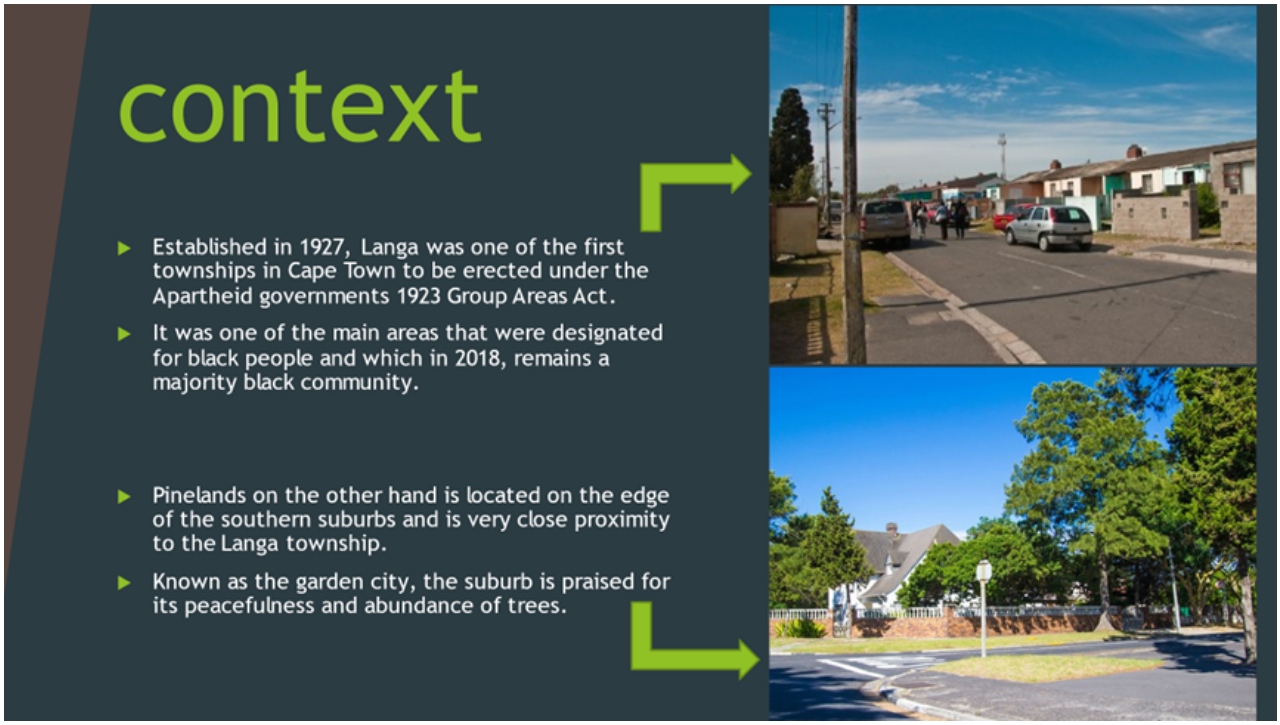
Bar graph from Tumi's PowerPoint presentation (reproduced with student's permission)



It is unclear what the argument is in the poster alone, which perhaps needs more written text. The argument is however clearly stated on the written text of a slide: "Historically disadvantaged communities still experience higher crime statistics because of the lack of educational facilities and economic opportunities available to them". Interestingly, the presentation's context slide predominantly uses images rather than writing to convey the argument (Figure 3). This is perhaps an affordance of PowerPoint. The images illustrate the economic standing of each area. The top image of Langa shows dense housing and poor roads. The bottom image for the leafy suburb of Pinelands suggests lots of open space and well-kept verges.

Figure 3

Images and text used in Tumi's PowerPoint presentation to convey argument (reproduced with student's permission)



In presenting her poster, Tumi argued that historically disadvantaged communities experience higher crime rates. In comparing Langa's data to Pinelands, Tumi argued that the latter has "better schools and employs far more people". Like many other core communities, it benefits from "the labour of peripheral communities". Tumi added a caveat statement that, "the level of crime in a community is not solely depended on availability of adequate educational facilities and economic opportunities" and that these were just the variables chosen for this study. Poverty and lack of quality education are, however, the major factors cited for increased crime rates, especially in historically marginalised communities.

One of Tumi's slides raised two critiques of the data she had collected. Firstly, the educational attendance data may be skewed unfavourably against Langa. Children from peripheral communities often travel to core communities for schooling, so data for both core and peripheral communities "can be blurred to some extent". Secondly, Tumi flagged that youth accused of contact crime were not necessarily "convicted or found guilty". Both critical limitations were raised in her presentation, but not described in the poster. In this case, the PowerPoint slides would seem better for complex argument than the infographic poster's more condensed form. It was essential to consider these texts together in the final assessment of the project. This recognition of the multimodal nature of meaning-making encourages more equitable assessment practices.

Mark's poster: Critiquing the sources

Mark chose to compare two very different areas in Cape Town, namely Athlone and Rondebosch. Athlone is a poorer area, whereas Rondebosch is somewhat affluent, with a large selection of good (and more expensive) schools. Mark's poster explored the limitations of what Youth Explorer can tell us about systemic tests and how these link to dropout rates and final-year pass rates (Figure 4). He argued that a shortcoming is the dataset's failure to convey "the role that extra-curricular support plays" in shaping learners' results. Mark managed to represent this critique on the poster through visual and verbal means, whereas other students (like Tumi) highlighted the shortcomings of the data solely in their oral presentations.

Mark presented his critique mainly through the semiotic resources of layout, colour and bold font. He wrote two paragraphs for each data visualisation. The top paragraph presents the data, whilst the second critiques or points out

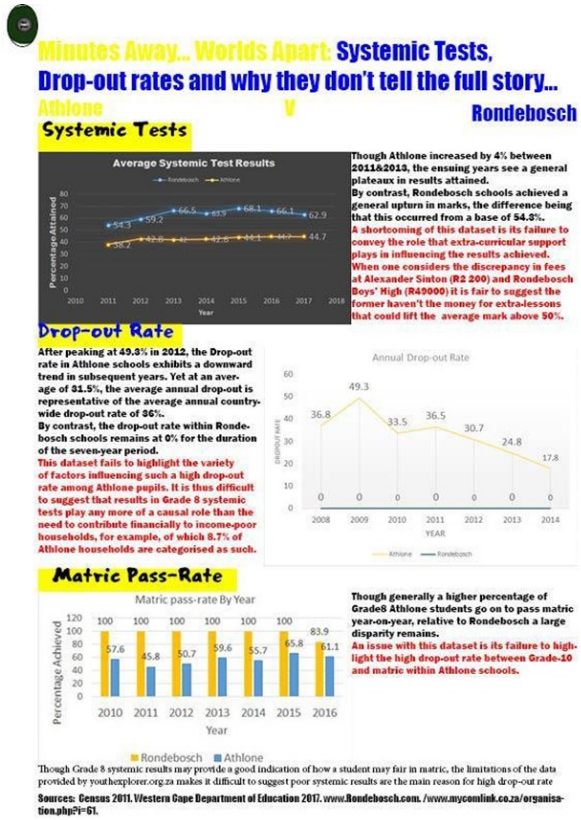
the omissions in the dataset. The top paragraph is written in black in a bold typeface, whereas the second is not bolded, but written in red. This use of colour creates a visual contrast between the two paragraphs, highlighting the difference of perspective in each, thus conveying an argument. The following quote from the second infographic highlights this difference:

> ***After peaking at 49.3% in 2012, the drop-out rate in Athlone schools exhibits a downward trend in subsequent years. Yet at an average of 31.5%, the average annual drop-out is representative of the average annual country-wide drop-out rate of 36%. By contrast, the drop-out rate within Rondebosch schools remains at 0% for the duration of the seven-year period.***
>
> *This dataset fails to highlight the variety of factors influencing such a high drop-out rate among Athlone pupils. It is thus difficult to suggest that results in Grade 8 systemic tests play any more of a casual role than the need to contribute financially to income-poor households, for example, of which 8.7% of Athlone households are categorised as such.*

As Mark highlights in red, there are gaps in what the data can tell us, including the range of factors influencing the high dropout rates in Athlone. As this argument is predominantly carried in the written mode, the poster appears to be quite wordy. However, it would be very difficult to critique the data source in the way he does using only the visual mode. Mark integrates the statistics into the written argument, by showing that the average dropout rate in Athlone (31.5%) is still lower than the average annual country-wide dropout rate (36%). His comparison of a specific instance with a general one is good practice in academic argument.

Figure 4

Mark's poster (reproduced with student's permission)



Incorporating process in the task gave Mark the time and space to consider the relationship between the larger societal context, his own experience and the data that he was interrogating. The feedback received midway through his process

led Mark to temper his original thoughts. In his initial argument, he suggested that poor grade 8 systemic results were the reason for a high dropout rate. He revised that statement to argue that "while it may be a factor, it is not the only factor". Mark emphasises the fact that many children from affluent homes go for extra lessons after school to improve subject results. This knowledge of concerted cultivation was based on his personal experience but is unaccounted for in most official accounts of educational input.

Mark highlighted the cost of these extra lessons and flagged the fact that only people in a certain income bracket can afford them. He based this argument on additional research which contrasted the annual school fees of two of the main schools in the area: R2 200 in Athlone versus R49 000 in Rondebosch. Mark is very aware of his own positionality in researching something as complex as inequality in South Africa. He writes in his rationale that he grew up in an upper middle class family that "afforded access to certain resources and opportunities" that households of a lower socio-economic standing could not afford for their children. One such resource he described was three hours of extra maths lessons a week.

Mark's story highlights the "complex entanglement" (Kennedy & Hill, 2017) of aspects of data visualisation: knowing how to physically create these texts; the pleasure and aesthetics of data visualisation; and the underlying discourses and ideological work of data visualisations.

Conclusion

It is clear that the choice of how to represent data or create an argument presents complex choices about conjunctions of meaning and form. This chapter has shown how a social semiotic approach to analysing and producing argument helped to develop a data visualisation poster course into one that better supported students' development as critical designers and engaged citizens. The course was adjusted to teach how comparisons can be erroneously based, how correlation can be confused with causation and the ways that categories can become blurred. In particular, the revised course emphasised the ways in which qualitative complexity can often be simplified into numbers.

We hoped to emphasise that data visualisations are "abstractions and reductions of the world" and that they are the result of "human choices, social conventions and technological processes and affordances, relating to generating, filtering, analysing, selecting, visualizing and presenting data" (Kennedy & Engerbretsen, 2020, p. 22). As a result of some of the curriculum interventions outlined here, students began to engage with the normative attitudes and societal discourses that shaped the information they shared. They began to flag how the graphs might represent a numeric simplification of a qualitatively complex situation and to point to the ways in which the categories for comparison may be blurred. We have shown how two students delivered meta-critiques of the data sources. Their cases speak to the revised curriculum's success in helping students develop as critical designers who also leverage their knowledge as engaged citizens.

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Rethinking and recasting the textbook: Reframing learning design with open educational practices

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Equity | Social Justice | Learning Design | Open Educational Practices | Open Textbooks

Chapter in brief

Many notable developments have taken place in the evolution of open educational practices (OEP). Among these, we focus on two in particular. First is the proliferation of the use of open textbooks, which have become a major component within OEP. Second, there are ongoing efforts at rethinking learning design in the context of open education. The purpose of this chapter is to discuss how we challenged ourselves to rethink learning designs that can result from a rethinking of open textbooks as educational artefact. We position this in the context of centering equity and social justice in learning design through both challenging single narratives and taking advantage of the affordances of an open textbook. As part of this discussion and challenge, we outline a design-based research project where we are developing a prototype for a community-generated, non-hierarchical teaching and learning resource ("untextbook") model that is open to ongoing extension and reframing. As we engage in the development of an organic, fluid resource, we invite learners to participate in ongoing cycles of extending and reframing the existing content to open new learning pathways prompted by considerations of relevant issues, lenses, roles and settings in a WordPress-based authoring tool. These cycles include a research project that is in the process of obtaining feedback and reflections from graduate students involved in courses where the prototype is being implemented.

Introduction

In this chapter, we encourage the reader to consider how the possibilities for teaching and learning practices are shifting in light of open educational practices (OEP) in education, with a particular focus on social justice. There is no single, comprehensive definition for OEP, but they are typically described as teaching and learning approaches that include participatory pedagogies focused on collaboration, co-creation and use open licensing and open technologies,

the adoption and/or development of open educational resources (OER), and recognising multiple voices and perspectives (Tietjen & Asino, 2021). Beyond the adoption of OER, which are teaching and learning materials that are free to the user, and through open licensing that enables re-used, remixing and revising of content, openness has been posited to provide a stimulus for rethinking learning designs and, in some cases, providing impetus for rethinking teaching and learning processes (Lane & McAndrew, 2010; Littlejohn & Hood, 2016; Porter, 2013). The opportunity for the diffusion of these learning designs among communities of scholars has also been boosted by the underlying openness. Some OER now provide a description of teaching activities and learning plans and, in addition, educators are increasingly sharing learning designs through blogs, social media and social networks (Jhangiani et al., 2016; Kimmons, 2016; Petrides et al., 2011).

As one area of consideration for OEP, we focus on the structure and the role of the textbook, and more specifically the open textbook. As a major contributor to the growth of OER, the open textbook has rapidly made major inroads into education. While the related issues of access and cost are well recognised in relation to the open textbook, its role in OEP and, more specifically, critical pedagogy remains somewhat less developed.

The textbook has been a prominent focus in the discourses and practices of open education practitioners. Textbooks

> *…mediate the structure of knowledge on the one hand, and the performance of teaching and learning on the other … At the same time, however, textbooks contain a deep contradiction. They are today's mediation of yesterday's knowledge in the light of educational projections about tomorrow. (Hamilton, 2003, p. 8).*

We observe a similar contradiction when applying textbook use to open pedagogies. While open licensing enables certain pedagogical practices, what other aspects of the textbook ought to be rethought in the context of open pedagogies and practices?

The authors of this chapter bring our own contexts and perspectives as learning designers and researchers heavily engaged in the broader open education community. We captured our initial positions in 2018 at the outset of a design-based research (DBR) project that sought to challenge conventional designs of the open textbook as well as the traditional notions, processes and roles of the learning designer. These initial reflections based on our individual contexts are shared below.

> *I've always hoped that openness would provide more of an impetus for innovation in teaching and learning. Certainly in my practice, it has changed the way I design my pedagogical approaches, strategies, resources and assessment methods. Open resources and technologies can be used to support and enable active learning experiences, by presenting and sharing learners' work in real-time, allowing for formative feedback, peer-review, encouraging learner contributions, and ultimately, promoting community-engaged coursework. Yet, open textbooks, in very traditional forms, remain a dominant theme in open discourses. I joined this project to consider and contribute to exploring how critical instructional design might be used to rethink course resources and design methods, and further the maturation of instructional design in light of open educational practices. – Michael Paskevicius*
>
> *Much instructional design today is embedded in thought structures and processes of an earlier era. Too often we remain bound up in a project management mindset and an instructional development process focused on highly predetermined learning activities and outcomes in a world that demands creativity and critical insight. In addition, many of the resources available to instructors and students in instructional design are based on traditional course structures and set faculty and learner roles. My hope is to be part of the development of a living resource for instructors, students and practitioners that both explores and models alternative approaches to instructional/learning design, in the form of an untextbook. The term "untextbook" is a placeholder for an open, creative, community-developed and -maintained resource that advances theory and practice in critical instructional/learning design. – Irwin DeVries*

> *For me, critical approaches to learning design mean thinking about ways to open up our spaces or make them more permeable. I feel we are often constrained by technology, institutional policy or other traditional expectations about learning – be it responses to academic integrity or assessment. I am always trying to think about design that can open up barriers, perceived or real, so that we can invite learners in to take more ownership of their learning. This project takes one traditional element that often defines our learning spaces, the textbook, and asks us to rethink how it can be more open and sustainable. As a designer, I wonder how rethinking one of our fundamental learning resources may open up new possibilities for practice. – Michelle Harrison*
>
> *For me, critical learning design is about challenging our assumptions about instructional design processes, the teaching and learning environments that we build, and the artefacts that we've come to expect in a teaching and learning experience. What aspects are timeless, and what aspects no longer make sense when we embrace openness? How can we challenge these things in an inclusive and participatory way? – Tannis Morgan*

Before delving more deeply into the relationship between OEP, social justice and open textbooks, a significant context stands out in the foreground of our research and associated workshops during our work on this project. As in many countries around the world, Canada, the home country of the authors, exists historically as a result of European colonisation of Indigenous lands. Throughout its history as a country, this fact underlies the positionality we hold toward the very land on which we live, work and learn. A cross-country Truth and Reconciliation Commission (TRC) – which operated from 2008 to 2015 – documented many of the injustices inflicted on Indigenous people throughout the history of Canada and into the present. Calls to action from the TRC cut across many spheres of public and private life in Canada. Coverage given to a growing awareness of unmarked graves at some of Canada's residential schools has become part of mainstream media reporting. Growing awareness of historical and continuously perpetuated injustices suffered by Indigenous peoples is significant and compels a challenge to dominant narratives. Following the local publication of an open textbook on Canadian history (Belshaw, 2015) and the subsequent participation of the author in our data collection, we became aware of both the need and interest in means to extend and reframe sections or chapters from a variety of perspectives currently limited by the textbook structure.

The purpose of this chapter is to explore learning designs that emerge from a rethinking of textbooks as artefact in the context of centering equity and social justice in learning design by means of challenging single narratives while at the same time taking advantage of the affordances of an open textbook.

Rethinking learning design in the context of open education

Several researchers have examined the phenomenon of open education beyond resource provision. Even in the early days of OER adoption, Camilleri and Ehlers (2011) suggested that OEP would be

> *…the next phase in OER development, which will see a shift from a focus on resources to a focus on OEP being a combination of open resources use and open learning architectures to transform learning. (p. 6)*

Hegarty (2015) proposed eight attributes which describe the strategies and policies which encompass OEP, including: participatory technology; people, openness and trust; innovation and creativity; sharing ideas and resources; connected community; learner-generated; reflective practice; and peer review. Cronin (2017) notably defined OEP as the

> *…collaborative practices that include the creation, use, and reuse of OER, as well as pedagogical practices employing participatory technologies and social networks for interaction, peer-learning, knowledge creation, and empowerment of learners. (p. 4)*

Scholars have suggested OEP may provide an impetus for innovative teaching and learning processes, resulting in new conceptualisations of the roles and practices of both educators and learners (Lane & McAndrew, 2010; Littlejohn &

Hood, 2016; Porter, 2013). As highlighted by Coughlan et al. (2018) as well as Harrison and DeVries (2019), engaging with open education can be a foundation, conduit or catalyst for further innovation in teaching and learning practice. More recently, OEP has been positioned as an approach that embraces social justice as a critical value that must be explicitly addressed through the selection of resources, inclusion of marginalised voices and inclusive design (Bali et al., 2020; Hodgkinson-Williams & Trotter, 2018; Lambert, 2018). For these researchers, OEP reflects an intentional approach to both the selection of learning resources and the design of learning that addresses the needs of learners with inclusivity and equity as core values.

These scholars have taken an expansive view of openness in teaching and learning, either in making use of OER, engaging learners with openness or making professional practice more accessible. All of this can only be enacted through learning designs that recognise, acknowledge and even prioritise the contested nature of knowledge. Yet, to date, the most common teaching and learning practices in higher education – and particularly in North American education systems – are still largely mapped to existing artefacts and systems such as commercially published textbooks, the learning management system (LMS), traditional instructional design processes and academic publishing models. We believe that OEP, including the use of OER, provides us with several emergent ways of approaching critical instructional design in higher education contexts.

Commercially produced textbooks still prevail in higher education contexts. However, that dominance is shifting to open-licensed resources (Seaman & Seaman, 2019). A reliance on commercially produced textbooks has implications on teaching and learning, as faculty adopt the textbook as a script for the course in some cases while in others the textbook is only partially used but is a required resource for participation. Inadvertently, many curricula are structured around the contents of the adopted textbook that are perceived to be the most useful. Following Facer and Selwyn (2021), one must consider who benefits from the use of such tools and how their use is negotiated. It often goes unrecognised that the physical and digital boundaries created by these environments may determine available pedagogies (Dron, 2016).

In rethinking learning design, we believe it is important to gravitate away from the defaults. Since many faculty have had little preparation or formal training in the processes of teaching, defaults such as the use of a commercial textbook, the utilisation of the LMS, or application of online learning rubrics are, in many cases, supported, adopted or even promoted by the institution (Stommel & Burtis, 2021). How does one design a course prioritising open pedagogies that foreground equitable access and the exploration of multiple perspectives using a single authored text as the primary mediating artefact? There has been a call for learning design and technology adoption to go beyond the traditional focus, an approach described by Veletsianos (2021) as the three E's of learning design – effectiveness, efficiency and engagement – to include a fourth E: "equity". This has been echoed by Facer and Selwyn (2021), who recommend specifically directing educational technology interventions towards addressing issues of equity, diversity and overcoming disadvantage. However, this does not simply mean adopting a new set of tools, but rather designing learning experiences in new ways.

Extending open textbooks

The open textbook has great potential in supporting OER-enabled pedagogies, owing mainly to the open licensing of the content permitting an extensive array of opportunities to repurpose textbook content (Wiley & Hilton, 2018). These opportunities include assignments that can incorporate revisions or additions to the content by students, with the potential to create an ongoing series of revised, expanded or even substantially new open textbooks for use in subsequent learning settings in an evolving, organic manner. From a critical pedagogy stance, DeVries (2017) describes a discussion held with colleagues about how open licensing and the "5Rs of open pedagogy" – to retain, reuse, revise, remix, redistribute (Wiley & Hilton, 2018) – offer the opportunity to

…work the boundaries of openness toward open/critical pedagogy, extending past the perceived affordances of the 5Rs of openness and other tools of open education practices such as Creative Commons licensing. (para. 3)

Examples of prompts for critical pedagogy include those in Table 1, which were derived by collectively brainstorming an expansion of the original "5Rs of open pedagogy" (Wiley & Hilton, 2018), shifting from the more general terms in the "5Rs" to those that invite or prompt critical approaches to dominant narratives. These are just some possibilities with the letter R, leaving open many other possible such tables. The "5x5Rs of ours" (Table 1) can be used to invite or prompt critical approaches to dominant narratives.

Table 1

The 5Rs of Ours

Resist	Ramble	Reconnoiter	Risk	Respect
Ruffle	Read	Ransack	Respond	Recognise
Reflect	Ruminate	Revive	Reciprocate	Relearn
Reframe	Reject	Riff	Reinforce	Retell
Reclaim	Repeat	Reverberate	Resonate	Reconcile

With open licensing, teachers can use the open textbook's permissive licensing to strategically support an intentional critical pedagogical approach that invites an opening up of new voices and perspectives, as well as prompting awareness of new issues derived from the original chapters. For assignments, it provides a format for responses that create new learning and knowledge pathways through and beyond the original content. A further recentering of these new pathways can then deliver seeds for further continuation of the same process on an ongoing basis.

A notable project adopting many principles of the "untextbook" concept is the book *25 years of ed tech*, in which Weller (2020) provides a history of the use of educational technology in higher education over the period 1994–2018. Each chapter covers a specific topic, ranging from early bulletin board systems and computer-mediated communication to artificial intelligence and blockchain, closing with a focus on "Ed tech's dystopian turn" (p. 169). The conclusion offers reflections on the larger themes that characterise this period, including an overemphasis on technology in place of education, the recurrence of the same ideas under different guises fueled by a pervasive sense of techno-optimism, and the co-optation of technology used for educational purposes while not having been designed for that specific context.

Published under a Creative Commons licence, the *25 years of ed tech* book was followed up by a serialised audio podcast version hosted by Pasquini (2020), in which each chapter was read aloud and recorded by a guest reader. These were then followed up with another podcast *Between the chapters*, which presented a series of recorded audio interviews between a host and a variety of scholars from around the world. The original text has been significantly expanded through the podcasts to include discussions, extensions, critiques and further questions about each chapter. Rather than closing off each of the chapters and topics, this format continues the discussion and builds upon the original ideas. The two complementing resources result in a rich tapestry of voices and perspectives that go beyond the original text and collectively offer a multidimensional and robust introduction to the field of educational technology.

The conclusion to the serialised podcast project provided reflections on the success, challenges and further potential of the *Between the chapters* concept. One of the challenges stated was the inclusion and exclusion of many other voices that could speak about topics related to such a project in addition to those already invited. However, as noted in the podcast, the current iteration was limited by a somewhat random selection of participants, consisting largely of convenience-based samples of interviewees. Within a more structured pedagogical setting, specific contributors could be strategically invited as under-represented voices to provide new perspectives, which could in turn provide content for new editions. This requires some thinking about how subsequent conversations and voices can be recentred in subsequent revisions and continued as part of an ongoing discourse on educational technology. This context and example both point to the possibilities afforded by a critical and social justice-oriented approach and the use of technology to extend and reframe aspects of the open textbook that have been inherited from its traditional antecedents.

Conceptualising the untextbook

As we considered how to reframe and extend the resources and technology we use in our teaching and design practice, we came to develop an alternative view of the textbook as well as the learning environments that are intended to complement them. As part of our ongoing project, we first considered how readers/participants would engage directly with the resource from a practical sense. In this next section, we discuss the design of a prototype platform and activity which could help facilitate a change in practice.

Reframing and extending

Critically, we are viewing the textbook itself as a potential mediating artefact for the interrogation and development of knowledge. This is most salient in content areas where multiple views and perspectives come into play and vie for dominance in the textbook narrative.

As we consider practice cases, theory and approaches for use in a variety of learning design courses and programmes, we hope to create a resource that includes content that has critical approaches for practice, but that also enables continued expansion from new perspectives authored by students through a digital platform. Though many open platforms, such as Pressbooks, allow for collaborative generation of OER and other interactivities, they are still often presented in a similar form and structure to a traditional text. As we will describe below, we hope this resource can open new ways for inviting multiple perspectives and co-creation of content.

Our explorations and discussions about critical and open approaches to design evolved into a DBR (McKenney & Reeves, 2012; Pool & Laubscher, 2016) project that included goals for producing a community-generated resource and inviting feedback from colleagues and design practitioners. Our DBR process included three iterative stages, including analysis and exploration, design and construction, and evaluation and reflection with practitioners and students working in open education (McKenney & Reeves, 2012). In the first phase of this project (analysis/exploration), we hosted a variety of collaborative workshops, where participants were asked to consider what textbooks meant. What emerged were ideas for an “untextbook” that included attributes such as inclusion of multiple voices in the ongoing creation and re-creation of the textbook, student production, accessibility, customisation, and “foraging” in the development of new pathways. Foraging in this instance can be described as a way to search, seek or wander in search of provisions or resources. The notion of foraging becomes ever more important in an information-abundant world. Developing foraging literacy can be a means to practice critical digital literacies and seek out diverse perspectives (Zamora et al., 2021). Five overall key attributes emerged that expand the functionality of the textbook to provide a useful starting point to center equity-centred learning design, including interactivity, agency, accessibility, structure and voice. Many of these attributes are already associated with OEP. However, while some participatory and open platforms for digital resource development offer opportunities to move beyond the hierarchical and linear ordering of content, many of these platforms still represent western epistemologies and knowledge sharing traditions (Funk & Guthadjaka, 2020).

The second phase of the DBR process (design/construction) entailed the development of a platform that aims to invite elements of open pedagogies, including participatory technologies, knowledge sharing and co-creation, and open, connected communities (Hegarty, 2015), as well as critical approaches that are more inclusive and equitable. We were inspired by ongoing work to design digital platforms that extend the conventional tools of digital textbooks (e.g. Hypothesis, Pressbooks, H5P) and in creating this boundary object (Star & Griesemer, 1989), we can then explore the possibilities for learning designs through the space that it opens up. It is our hope that through this design process we can expand our capacity to work with students and instructors to develop knowledge resources that are networked and fluid, rather than fixed and linear, where knowledge is examined by learners who are exercising increased epistemic agency (Scardamalia & Bereiter, 2021) and examining learning content across multiple dimensions.

Platform and activity design

As we explored a variety of current publishing models, we found that even fairly novel open textbook publishing platforms such as Pressbooks do not fully allow for non-linear pathways, or for inclusion of multiple voices, multimodalities or annotation. A notable exception is Ravenspace, a publishing company that describes itself as a "digital publishing platform for media-rich, interactive books, where Indigenous communities and scholars can work together respectfully and knowledge circulates across networks and generations ".

Our challenge was to consider the ways that non-linearity and more open structures could be built into a digital online space. We were inspired by elements included in other projects, such as Ravenspace and the *Between the chapters* (Pasquini, 2020) project that focused on providing space for alternative modalities and commentaries, specific invitations for participation and guidance on centring and respectful inclusion of traditional knowledge. As we explored the possibilities and constraints of the various platforms, our colleague and web developer posed many challenging questions, including:

- What are the elements of current platforms that are inspiring?
- What can "non-linear" mean in a digital space? How do you deal with the balance between scaffolding or open-ended decision-making?
- How do you determine what content is prioritised? Where can we add elements of randomisation and audience/reader determination?
- What are the different kinds of elements that the space will have? Beyond chapters, how can you organise content so that it is somewhat meaningful in its connections?
- How do you include/create spaces for discourse, argument and disagreement that are respectful and evidence-based?
- What does annotation look like? At what level, and whose voice is emphasised?

Table 2 outlines some of the platform design elements that were considered to help reflect early participant feedback about agency, voice, structure, interactivity and accessibility that emerged from the first stages of the research. For example, the platform allows for the ongoing building of resources and learner ownership/authorship, where simple authoring tools embedded directly in a page will allow students to choose different lenses and approaches. Content can be reorganised into new configurations and iterated, and there are choices about peer review, authoring (open/anonymous or other), and different context types and modalities. We also considered how to create an invitation to contemplate contested knowledge and invite multiple layers and perspectives.

Table 2

Textbook design considerations

Design element	Design implications from study	Platform design
Agency	Develop capacity for "foraging literacy" to help learners develop their own resources/pathways togetherOngoing building of resources, annotation and learner ownership/authorship	Simple open authoring embedded directly on pageStudents choose lens/approachFlexible search/tagging structure
Voice	Include diverse perspectives and voices – beyond one dominant, authoritative voiceMultiple layers/lenses/approaches (within framework)Invitation to consider contested knowledge	Embedded choice about authoring and peer review optionsCenterd invitation on how to participate (a model)Content can be reorganised into new configurations
Structure	Non-linearityScaffolding (a framework for engagement)	Open content/licensing typesAbility to iterate from new contributions, rearrange (randomise content)A framework for engagement is providedAuthoring access has choice (open, anonymous)Different content types (chapters/responses)

Design element	Design implications from study	Platform design
Interactivity	Participatory activity and multiple ways of linking materials	Inclusion of more interactive forms of engagement (through embedded response fields vs. the more traditional “comment” box)Beyond annotation
Accessibility	UDL principles	Accessibility requirements will be notedConsidered in visual design/styles

As highlighted in the design elements column (Table 2) and questions outlined, there is a tension between creating a space that has structured connections versus one that is completely open but which might become chaotic and unnavigable. As we considered how this untextbook might be used, we felt that some pedagogical structure might be helpful for students to develop what we thought of as a “foraging fluency” and created a framework consisting of four framing

prompts (outlined below) that would invite deep and critical engagement with the content through guided explorations. It is important to stress that this structure is intended for use within an educational setting that includes responsible and accountable moderation, setting appropriate boundaries for debate, including a focus on equity and respect.

Revisiting the 5 R’s from Table 1 led us to think about ways we could provide prompts that could help frame a response, for example in the form of “respect” and “reframing” of a topic. In the current design, each use of the untextbook begins with a chapter that presents a discussion of a topic relevant to the course. Learners are then invited to create responses in a custom-developed WordPress-based tool that may incorporate all, or any combination of, aspects that can be assigned or negotiated as part of the learning activities of the class. These aspects include issues, lenses, roles and settings and are discussed in more detail below.

Issues

Textbooks, scholarly literature and even current events reflected in settings ranging from social media to journalism, all present a continuous range of issues that have topical relevance in a course setting. Instructors may select or collaborate with students to identify one or more issues that are relevant to the course and potentially of interest to students. Issues can range widely, from ongoing debates about privacy to public health to emerging stories about climate events.

Lenses

Students may choose or be assigned to research the issues from a particular lens, such as decolonisation, historical justice, anti-racism and other such anti-oppressive perspectives that centre on alternative narratives to those obtained from dominant cultures. By working with a specific lens, students will research issues from a social justice perspective. In addition, the use of lenses can also encourage a focus on transdisciplinary approaches.

Roles

Different roles can have an impact on the interests and perspectives of students. Being a student is in itself a role – undertaken in domestic, international, full-time or part-time, newly matriculated or mid-career professional settings – along with other possible roles as parent, administrator, educator or other areas within their life outside of the educational milieu.

Settings

Many learning experiences in higher education include various forms of experiential learning intended to integrate workplace or community-based learning with formal education. Focusing on a specific setting can help focus the learning on specific settings. Students may come to their studies from, or with ambitions toward, a particular industry or workplace, community setting, education or profession in the corporate or public sector, or any of many possible

disciplines. For instance, learning design in higher education is distinctly different from the corporate world or government contexts. These settings may have an influence on the perspectives students bring and/or would like to bring to their research and course work.

Once students have responded in this way, students, the instructor or both may collaboratively identify one or more of the newly created pathways and recentre the next round of activities on those.

Learning activity

The following activity introduces an example of approaches that can be experimented with in designing for and/or working with an open textbook towards a critical pedagogy and social justice perspective.

1. Discussion points: What has your experience been with open textbooks as a teacher, instructional designer and/or student? Were you able to take advantage of the format and open licensing to extend the textbook in new directions? If yes, what were you able to accomplish? If no, what were any limiting factors?
2. Reflective activity: Take some time individually or in small groups to discuss and reflect personally on where and how you situate yourself with the four aspects given in this chapter:
    a. Issues: Identify an issue in an open textbook or other open resource relevant to the topic of your study that is of particular interest to you (and/or your group) and reasons you've chosen it.
    b. Lenses: In relation to your chosen issue, consider adopting a lens such as decolonisation, historical justice, anti-racism or other such anti-oppressive perspectives through which to examine your issue.
    c. Roles: Consider a role you play that affects your perspective on the issue you're interested in.
    d. Settings: Situate your exploration within any of a number of settings, such as a particular industry or workplace, community setting, within education or a profession, corporate or public sector, or any of many possible disciplines.
3. Describe and/or (time permitting) develop a potential artefact (e.g. video, text, podcast, artwork or other) that you could create that would help to reframe and extend the issue using your perspective that could be contributed as an additional section or modification to the resource you originally worked from.
4. Describe how you would implement this approach in your own teaching practice.

Conclusion

Open educational practices continue to emerge and evolve as educators experience and research their potential, particularly in the context of critical digital literacies in service of social justice. Part of this process of change involves re-evaluating current practices and tools. As a deeply entrenched aspect of our educational systems, textbooks are employed to mediate teaching and learning interactions and activities. Open textbooks in particular continue to contribute by providing increased access and lowering the cost of education to students. By using open licensing, they also offer an opportunity to rethink approaches to content in ways that support increasing OEP beyond access toward social justice.

Our dialogue with educators in various global settings provided insight into ways to expand the textbook. They shared with us a desire for textbook-like platforms that encourage learner agency in responding to content by creating new pathways as extensions of the original content, the inclusion of diverse perspectives and multiple lenses within a scaffolded framework, the ability to contest given knowledge, iterate with learner-generated contributions in a non-linear manner, provide for interactive forms of engagement, and ensure accessibility.

In response, a DBR approach led us to prototype a community-generated, non-hierarchical teaching and learning resource ("untextbook") model that is open to ongoing extension and reframing as part of the development of an organic, fluid resource. The prototype is designed to invite learners to participate in ongoing cycles of extending and reframing the existing content to open new learning pathways prompted by considerations of relevant issues, lenses, roles and settings. These considerations arise in the context of an increasing awareness of social justice frameworks in OER and OEP, challenging us to rethink our practices and artefacts in a way that invites a growing diversity of voices,

including those that are traditionally marginalised. As learning designers, we have an important role in extending our practices and challenging what appears to be conventional notions of learning design and open textbooks. This chapter provides some examples of extension and outlines how a DBR approach is informing an example of the development of an approach and a digital platform for this work. Our DBR is currently continuing with a research project under way involving multiple cycles of in-class use in two graduate-level educational technology and leadership courses followed by student feedback and reflections.

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The digital divide and the accessibility of print-based learning materials

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Accessibility | Distance Learning | Digital Divide

Chapter in brief

The COVID-19 pandemic prompted a rapid shift of face-to-face classes to online classes. Furthermore, globally, distance education is shifting towards online education. In the context of Namibia, characterised by high levels of unequal access to limited resources, I, an instructional designer at a Namibian university, maintain that the retention of conventional distance models, and the production of print study materials is key to both access and equity. While going digital reduces costs for the institution in some ways, it reduces the opportunities for students with limited access to digital infrastructure and digital literacies. Moving away from printed guides towards online-only materials widens the digital divide.

Introduction

During the COVID-19 pandemic, full-time face-to-face classes were shifted to online classes while distance learning programmes were run as they used to be. In addition to this dramatic shift online, the trend globally seems to be to conflate distance with online learning, and, in so doing, to replace distance learning with online learning. Going online is, in many ways, economical for a higher education institution. The cost of printing study guides, which are the basis of traditional forms of distance education, will be eliminated and that saves millions for the university. On first impression, online seems to be the way to go, but if one scrutinises the situation more thoroughly, there is more that needs to be considered in terms of contextual needs. While the decision to go online will benefit the institution's "bottom line", some students with limited access to technology and connectivity will be impacted.

I am an instructional designer at a Namibian university and have primarily worked on the development of printed study guides for distance education programmes. However, with the increase in digital learning, my role has slowly shifted to

focusing on developing for online learning as the university moves away from printed study guides.

This short position piece seeks to make the case for considering access to digital course materials in a context characterised by constrained digital infrastructure and limited access to this infrastructure. I question the kinds of study materials that are needed for distance students and argue that print materials still have a place in today's society.

The Namibian context

Namibia, a country in Southwestern Africa, is sparsely populated with over 2.5 million people in an 823 290 km2 area (Food and Agriculture Organization, 2019; World Population Prospects, 2022). Namibia is almost four times the size of United Kingdom with only a fraction (0.04%) of the population. Given the country's socioeconomic climate and legacy of apartheid, it is challenging to provide the necessary infrastructure such as electricity and mobile connectivity all over the country. Most rural communities depend on agriculture, whether it is husbandry or horticulture, for survival. Most of the population is also found in rural areas with limited access to infrastructure. Those who are populating the rural areas where there is no electricity are mostly the black population of Namibia. The black population, who were marginalised during colonial times, are still suffering the consequences of the past, and are finding it hard to make ends meet. Due to limited or no electricity, devices and internet connectivity, they are also the ones who find it hard to learn online.

The University of Namibia (UNAM) is one of the universities in Namibia offering courses through distance learning. UNAM offers opportunities to the Namibian population to study full-time or part-time through its various programmes. One of the most prominent reasons for distance study is that students are working full-time and have no time to come to classes as the times of the classes and their working hours clash or have commitments beyond work and thus are unable to attend full-time classes.

The opportunities which are offered on a part-time basis include those offered through the distance modes. For online programmes, students engage in the course guided by the lecturer and using technology such as a learning management system. Through distance mode, the students receive hard copy or printed study guides and meet the tutor once or twice a year face-to-face for clarifications of course materials. While infrequent, these meetups are helpful to students who are struggling to understand the course content.

Even students who may have access to technology and devices, many, particularly in African education institutions, still experience issues around internet connection speeds or unreliable internet access — making online learning a challenge (Zell, 2020). Therefore, students who reside in rural areas decide to study through distance learning and receive print study guides, aligning with their needs. However, there seems to be a trend to do away with the hard copy study guides and replace them with online learning where the students will be forced to use technology to study as that will be the only option for studying at a distance.

Addressing the digital divide

The move to online learning raises several concerns. One particular concern is the digital divide within the Namibian population. In the context of Namibia, the digital divide can be usefully understood to refer not only to unequal access to technology but also to unequal access to digital literacies to make optimal use of these technologies (Kumar & Strazdins, 2021). Even in comparison to other African countries, Namibia has low network coverage, relatively high handset costs, poor online security but, for the region, relatively good basic literacy and equitable access to devices by gender (Kumar & Strazdins, 2021).

The digital divide is thus a core determinant for the kind of materials universities should develop for their students. Certainly, providing students with e-learning opportunities is a way of reaching remote students. But for this to be successful, the digital divide needs to be overcome. In my view, until digital access and literacy are more widely distributed among the Namibian population, distance learning through printed study guides remains a necessary

strategy to reach those in rural areas, and sectors of the population with limited access to data, devices and high-quality internet.

Conclusion

While online learning and digital materials offer several advantages, I maintain that print course materials are still necessary to provide inclusive and accessible education for rural Namibia and the rest of Africa. Even rich countries like the US have extreme inequalities and places with poor connectivity. There are still people everywhere who do not have devices which are adequate for studying purposes. Educators have a responsibility to all students, no matter what their conditions of access. While it is important that we embrace and leverage the digital era, we are not ready to abandon the ship of print-based course materials — not yet anyway.

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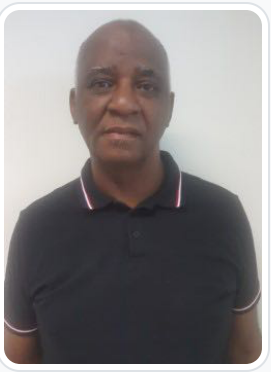

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Ten principles of alternative assessment

Eliana Elkhoury

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Equity | Inclusion | Co-creation | Alternative Assessment | Authentic assessment

Chapter in brief

Assessment design is an integral part of learning design. This work came to life due to the demand for alternative ways of assessing students highlighted by the COVID-19 pandemic. This chapter presents a summary of ten principles for alternative assessment in higher education. The chapter is divided into four sections. In this first section, I locate myself and describe the context of the chapter. In the second section, I provide a brief background of why this chapter is needed. In the third section, I describe the theoretical frameworks that inspired my work. The last section contains a description of each of the principles. Within the description, there are concrete examples and resources that will help readers in the process of rethinking their assessment design. This chapter is significant to higher education educators as well as educational developers.

Introduction

In 2020, the move to remote learning imposed by the COVID-19 pandemic reminded educators that we need to explore other options when it comes to assessing students' learning. Exams are not equitable as they carry the notion that all students have the same opportunities for success (Singer-Freeman & Robinson, 2020). Additionally, the pandemic showed educators that it is possible for students to demonstrate their learning in more meaningful, engaging and equitable ways.

The pandemic induced many changes. On the surface, educators saw concerns about assessment proctoring and academic integrity. On a deeper level, educators noticed changes related to flexibility, timing and equity. The uncertainty of the geographical location and home duties of the students implied that assessments needed to be more flexible; which in turn implied that instructors needed to consider that students should be able to take the exam at a time that worked for them.

Instructors also had discussions about students' learning and constructive alignment. Those changes paved the way for deeper changes or a paradigm shift. There was now an opportunity to think about assessment differently and to discuss how to reconceptualise or redefine assessment. Questions arose: What would higher education look like without exams? What could educators do better, and how could we do it?

This chapter presents a summary of ten principles for alternative assessment in higher education. Work on the principles was inspired by my own personal teaching and educational development experience and designed around evidence-based approaches. The chapter is divided into four sections. In this first section, I locate myself and describe the context of the chapter. In the second section, I provide a brief background of why this chapter is needed. In the third section, I describe the theoretical frameworks that inspired my work. The last section contains a description of each of the principles. I end the chapter with a summary of the goal of the chapter.

Locating myself and my interests

As I reflect on my view of the world, the word "journey" comes to mind – a journey across an educational divide and a journey across multiple identities. I grew up in a working-class family in Lebanon. Inside me, I hold both a working-class and an academic mindset, the latter of which was acquired later in life. I started my career working in the K-12 system and now I work in higher education. I am also a woman who is considered a visible minority in Canada. English is my third language. All my life experiences define the way I view and experience assessment.

In my academic career working in universities in Canada, I have worn many hats. In the last 13 years, I have been a teacher, an instructional designer, an educational developer and an assistant professor. In the last two years, as an academic developer, I have worked with instructors from several disciplines to create more meaningful assessment plans for their courses. I have encountered many instructors who are looking for new ways to assess students and many of my discussions with them have revolved around allowing students to demonstrate their learning. The idea to provide instructors with information about how they can assess their students differently brought this chapter to life.

Locating the assessment and student contexts

It is also important to describe the assessment context in which this chapter originated. With the pandemic preventing institutions from conducting face-to-face exams, instructors were searching for alternative ways of assessing students. It is important to note that in this particular assessment context, the use of proctoring software was discouraged and limited; instructors were instead encouraged to find an alternative means of assessment that did not add stress to the students and supported academic integrity.

The instructors I worked with taught a diverse body of students. The diversity of the student body is too large to describe in one paragraph, but I have tried to include some of the characteristics. Students belonged to different demographic groups, consisting of undergraduate and graduate students, international and domestic, in Canada and abroad, native English speakers and English language learners, neurodiverse and neurotypical, and traditional and non-traditional students. Students also belonged to different socio-cultural backgrounds and different learning exceptionalities. The diversity of students impacted the choice of assessment, as the students did not have the same access to technology and/or other resources.

The changes incurred by the pandemic allowed for conversations on reframed academic rigour, the cultural relevance of assessment, assessment bias and equity in assessment, among other topics. I recall chatting with educators about assessment in science, technology, engineering and mathematics (STEM) and whether bias exists in these settings. The pandemic also brought forth discussions about the mental stresses that equity-minded educators undergo and the need to have these conversations in a community where they feel they are not alone. The pandemic allowed these important conversations that educators were not having before to surface. Undoubtedly, these conversations will change the face of assessment in higher education in years to come.

Traditional exam-based model: Why change is needed

Conventionally, a uniform timed exam for students has been considered the objective way of measuring learning. Higher education leadership and instructors have used exams to obtain an objective assessment of students' learning Although concerns have been raised about inequities in assessment (Montenegro & Jankowski, 2017), exams are still the primary mode of assessment. Curtis and Anderson (2021) summarised the state of assessment, noting that "assessment in the classroom is one of the most highly guarded and protected aspects of higher education and one of the last holdouts of sole faculty ownership" (p. 56). Traditional assessment favours one type of knowledge, one way of demonstrating that knowledge, and one type of language. It is time and location-specific.

Studies have highlighted several concerns related to traditional forms of assessment. The first concern is that exams are not as objective as they claim to be. Orr (2007) and Sadler (2009) questioned the objectivity of exams. Struyven et al. (2005) found that exams encouraged surface rather than deep learning; while Kellaghan and Greaney (2019) found exams failed to measure the various skills included in the curriculum, which was also corroborated by Bloxham (2007).

A second concern with exams is that it marginalises students for several reasons. Kellaghan and Greaney (2019) found that exams marginalised indigenous students and students from poor socio-economic backgrounds. Hartley et al. (2007) found that exams presented gender bias and Burke and Jackson (2007) found that the traditionally recognised structure of a good essay was deeply gendered. Similarly, Hounsell (2007) found that exams marginalised diverse students

Despite the many examples that I provide in this chapter, alternative assessment remains at the periphery of traditional assessment practices, which continue to occupy the central location. The dominant approach of a single, one-way transmission of knowledge (traditionally from instructor to student) enforces peripheries. Traditional assessment rewards one type of knowledge and views all students as the same, without careful consideration of the following kinds of factors that put them at a disadvantage.

- Schedules.
- Racism.
- Digital divide.
- Dominant culture versus diversity (e.g. minoritised students, international students, non-traditional students).
- Mental health and physical well-being.
- Social connectedness, sense of belonging and motivation.

These are only a few examples of factors that put students at the periphery of traditional assessment, which considers all students to have the same chance of success in one-size-fits-all exams.

An alternative assessment framework: Overarching theoretical approach

I explored several theoretical frameworks for alternative assessment. No single, overarching framework covers all the aspects I wish to address. I have therefore used multiple frameworks as a basis for articulating my 10 principles.

The most relevant theoretical framework I have drawn on in developing my 10 principles is Universal Design for Learning (UDL) (CAST, 2018). Like UDL, my work is rooted in a social justice framework and I aim to address the dynamics of oppression and privilege in my design. I draw upon theories of multiculturalism, critical pedagogy and anti-oppressive education as social justice frameworks. The principles are also inspired by a feminist approach to education (Noddings, 1984).

I propose a framework for alternative assessment that takes students who are at the periphery into consideration and helps educators design for the success of all students, thus not leaving any student at the periphery. This approach allows instructors to minimise gaps and create a welcoming space to connect all students. I invite instructors to

consider the following 10 principles and their applications in the design of alternative assessments. These 10 principles are practice- and evidence-based; incorporate the ideals of equity, diversity, and inclusion; and include elements of innovation in teaching and learning. In addition, the principles are a result of advancements in technology and the possibilities of online education, as well as a recognition of the importance of engaging students. In the next section, I present each of the principles, give a few theoretical and practical examples, and offer recommendations for those who do assessment design.

Ten principles of alternative assessment

Figure 1 presents a graphic visualisation of the 10 principles of alternative assessment. Alternative assessment takes multiple forms and is authentic, equitable, flexible, renewable, interdisciplinary, co-created, continuous, culturally responsive and engaging. Each of these 10 principles is explained in detail below.

Figure 1

Ten principles of alternative assessment

Principle 1: Alternative assessment uses a variety of forms and mediums

You can check for students' understanding in a variety of ways apart from the traditional exam or essay. Technology, social media and multimedia have opened doors to a myriad of ways that students can demonstrate their learning. Similarly, projects have taken on a whole new dimension where community focus and service learning are woven into the design. Have you been thinking about removing the exam from your course? Depending on your learning objectives, you could ask your students to interview a classmate or expert, create a blog to reflect on their learning or record a tutorial.

If you are unsure of the appropriate medium to use to assess students, a first suggestion is to give them a list of assessment mediums that they can choose from (Garside et al., 2009; Mogey et al., 2019; O'Neill, 2011, 2017). A second suggestion is to ask the students what assessment would help their learning. Alternatively, you could combine those options, giving students a range of choices and allowing them to suggest one that works for them. For 35 alternatives to traditional assessment, consult A Guide to Alternative Assessments (Elkhoury, 2020).

Principle 2: Alternative assessment is authentic

Authentic assessment replicates real-life situations. These situations include examples learners might encounter in their current life (Frey et al., 2012) or situations that might come up in their future jobs (Gulikers et al., 2004). In addition, authentic assessment is designed to allow students to use the skills needed in professional life situations (Mueller, 2005). Authentic assessment also includes activities that are meaningful to the students (Mueller, 2005). Based on these characteristics, the goal of authentic assessment is to prepare students for real life and in our fast-changing world part of that goal is to prepare them for a changing world.

When moving to the design of authentic assessments, consider using real, contemporary examples. In your quest for contemporary topics of interest, refer to Google Trends or trends pages on social media platforms (e.g. Twitter). This information will allow you to gauge contemporary events and interests. To give students more autonomy, an approach is to guide them to choose a topic of interest and use assessment to explore that topic. It is a great way to motivate learners by allowing them to bring their selves, life circumstances and values to the classroom (Wlodkowski & Ginsberg, 2017).

One way to design authentic assessments is to use an experiential learning assessment. For instance, you could allow the students to find a community partner. Are you teaching your students to code? You could ask them to find a community partner such as a library or museum that would benefit from coding a program that would address their needs. The best approach to design is to ask yourself what evidence would allow you to know that the intended learning has occurred and design around that expectation (Bull, 2015).

The University of Tennessee, Knoxville (n.d.) has more information on different types of experiential learning. If you wish to learn more about authentic assessment, I recommend exploring Ashford-Rowe et al.'s (2014) eight critical questions as a baseline to evaluate what constitutes authenticity within assessment activities. Finally, Mueller (2018) has also created a helpful framework for designing authentic assessment.

Principle 3: Alternative assessment is equitable

Designing alternative assessment that is equitable is a journey. The conversation on equity and assessment has expanded since I started this work and one thing I am sure of is that there is much still to be done. In this section, I describe my work designing a massive open online course on equity in assessment design.

Equity in assessment is a broad concept that implies designing assessments that allow every student the opportunity to succeed. Work on equity starts with oneself. It is important to examine positionality and bias in the design process. In addition, through assessment, you can help students build a community and have a sense of belonging. Another approach to equity in assessment is to provide equitable feedback, such as by building feedback literacy in your class early on. Students come from different feedback cultures and respond differently to cultural feedback. You can try to ensure that your feedback is free of cultural references and ambiguous English.

You can read more about equity in assessment in Montenegro and Jankowski's (2020) report, A New Decade for Assessment: Embedding Equity Into Assessment Praxis.

Principle 4: Alternative assessment is flexible

Flexibility can take many forms at different levels. Flexibility in assessment recognises that students have a wide range of inflexible responsibilities, both academic and personal, and many professionals consequently provide alternatives to them. Rumsey (1994) explained that flexible assessment practices "can accommodate the scope of knowledge and

skills encompassed by the assessment criteria, the variations in context in which assessment may be conducted, and the range of needs and personal situations of potential candidates" (p. 20). Wood and Smith (1999) distinguished nine methods that allow instructors to be flexible in assessment: flexibility in components, style, tools, feedback, grouping, weighting, content and marking. Collis and Moonen (2011) suggest that flexibility consists of offering different options for the "how, what, where, when, and with whom" (p. 15) students partake in learning.

Giving assessment choice to students has been explored in various studies. Adams et al. (2017) found that giving students choice in their assessment increased their motivation and supported inclusion. Other studies found that choice of assessment has great potential to support equity of assessment in diverse student cohorts (Garside et al., 2009; Mogey et al., 2019; O'Neill, 2017). Most recently, O'Neill and Padden (2021) found that giving students choice in their assessment increased engagement and empowerment. In addition, students favoured a wider range of assessment than teachers perceived (Morris et al., 2019). Educators have multiple approaches to flexibility in assessment. Mealy (2018; 2019) show how they applied flexibility in assessment over two consecutive years. In 2018, Mealy asked students to decide on what type of assessment they wanted in the first week of the course. In 2019 and following students' feedback, Mealy adjusted the approach and students could make decisions on a week-by-week basis. Leung and Kier (2017) gave students three grading schemes to choose from, whereas Pretorius et al. (2017) used a combination of allowing students to make decisions and providing them with choices. Smith (2021) redesigned his course with no deadlines during the pandemic to allow students to manage workload.

If you wish to know more, you can consult Ryerson University's (n.d.) Flexible Learning Resource; Teesside University's (n.d.) blog post, "Flexible assessment for a hybrid model", which offers best practices for flexible assessment; and "Flexibility in Assessment" in de Bie and Brown's (2017) Forward with Flexibility. Additional practical examples of how to use choice in assessment can be found in UCD Teaching and Learning's (2010) A Practitioner's Guide to Choice of Assessment Methods Within a Module.

Principle 5: Alternative assessment is renewable

In a panel I organised for students to give their insights about the alternative assessment they experienced during the pandemic, one of the students indicated that the most meaningful assessment they had experienced was creating a Wikipedia page for the course. When asked why, the student indicated that they felt that the assessment was not forgotten after the submission, and they could build on it throughout the semester. They also felt that the assessment was not written only for the instructor's eyes. Most importantly, the student said that they could go back to the assessment while taking other courses and make modifications. The student was happy that what they had written could reach a wide audience.

This example demonstrates the idea behind renewable assessments. First, students are no longer consumers of knowledge; they are also producers of knowledge. Examples of renewable assessment include creating a website, tutorial or even an open textbook with your students. You can see multiple examples of how instructors have created renewable assessments in Bruff's (2013) blog entry on students as producers and in Wallis's (n.d.) "Renewable assignments" chapter in Structured Renewable Assignments.

Principle 6: Alternative assessment is interdisciplinary

Interdisciplinary learning is defined as a process by which "learners integrate information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines to craft products, explain phenomena, or solve problems, in ways that would have been unlikely through single-disciplinary means" (Mansilla & Learning, 2017, p. 289). Interdisciplinary assessment allows students to make connections between the different pieces they are learning about. Interdisciplinary assessment helps prepare students for the 21st century (Klein, 2018) and allows them to develop a global view. Ringby and Duus's (2017) article about using an innovation camp in health education is a good example of interdisciplinarity.

Principle 7: Alternative assessment is co-created

Partnership is an important aspect of alternative assessment. Partnership in this context is twofold, including partnership with and among students. Pedagogical partnership is "a collaborative, reciprocal process [whereby] … all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision making, implementation, investigation, or analysis" (Cook-Sather et al., 2014, pp. 6–7). In brief, students' partnership in assessment implies that students involved in assessment must be a part of the entire process. It also implies that students cannot simply be recipients of assessments, they must be central to the practices in the classroom.

Researchers who have explored the concept of students as partners, such as Cook-Sather et al. (2014), provide a wealth of information on the benefits of this approach for both the educator and the students. Hinchcliffe et al. (2021) published a student partnership in assessment guide, in which you can find practical examples. Student Partnerships in Quality Scotland (Sparqs, n.d.) has a participation matrix in its staircase exercise that will help you reflect on the role of students.

Partnership among students is also an important aspect of alternative assessment and allows educators to build a pragmatic sense of community in which students get to know and appreciate one another. This partnership can support students during difficult moments and build connections beyond the assessment.

I have collected a list of examples of what you can do to involve your students as partners in your assessment. One option is a class-constructed assessment rubric, in which you can include your students in the construction of the rubric. This practice will help you gain an understanding of the different interpretations that students have of the criteria and the descriptors. It also empowers students to feel that their voices are being heard. You can always start by reviewing an existing rubric with your students instead of creating one from scratch.

Another idea is to use partnership in questions; for example, you could ask your students to provide assessment questions. Students can use these questions for practice and you can choose some of them to include in the assessment. If you are asking students to do presentations, you can ask them to provide assessment questions after their presentation. These questions could be circulated to students to practice, and be used in the assessment. PeerWise Publications (n.d.) provides a number of examples of co-created assessments on its website.

Decide together with students on the grading scheme, medium of assessment, deadline and the content of the assessment (a topic students are interested in). When giving feedback on assessments, involve students as partners. This involvement requires getting feedback from students on your assessment. You can also seek feedback on the syllabus. For example, provide a shared document link to the syllabus and ask students to provide comments. Another way to co-create assessment with students is to seek anonymous feedback from them on the assessment. A good practice is to curate the information you receive from the feedback, share it with your students and let them know what actions you will take.

Principle 8: Alternative assessment is continuous

According to Hernández (2012), continuous assessment holds a formative function for feedback and summative assessment for grades. In addition, there are no additional tasks for a final exam – the assessment and the course tasks are the same. Continuous assessment strengthens the feedback function, as it allows time for students to incorporate feedback before the next assessment and avoid last-minute cramming that happens usually before a final exam (Trotter, 2006).

Continuous assessment reminds me of a discussion I was having with an instructor who was worried that the students were skipping a whole assignment that was worth 20% of the final grade. The assessment required them to learn a skill that was used only for this assessment. As a result, students who were not invested in learning that skill skipped the whole assessment. During my conversations with the instructor, we both realised that it was a standalone assessment;

skipping it did not impact the class. To avoid this situation, you can use continuous or embedded assessment where students need to use the knowledge learned in the assessment to continue learning throughout the course.

For more information on continuous assessment, check out Bjælde et al.'s (2017) article on continuous assessment in higher education in Denmark. Coimbra Group (2018) also has an informative White Paper chronicling current trends in assessment in Europe.

Principle 9: Alternative assessment is culturally responsive

Culturally responsive pedagogy acknowledges the significance of culture on student learning (Ladson-Billings, 1994). As Strange and Banning (2015) state, student cultures "can play an important role, for good or otherwise, in introducing students to and maintaining their engagement in the learning process" (p. 53). Culturally responsive assessment also creates opportunities for students to experience deep learning by honouring their prior knowledge and experiences. Adjacent and complementary to culturally responsive assessment are culturally sensitive assessment and culturally safe assessment.

Many significant studies have been conducted on cultural responsiveness in assessment, of which I would like to mention a few to ground this discussion. First, it is important to understand the cultural disconnect and the fallacies related to culture and assessment. To learn more about this topic, you can explore Estrin and Nelson-Barber (1995), who outlined three aspects of cultural disconnect in assessment: (1) over-reliance on Eurocentric context and content within assessment instruments; (2) tension between individual versus collaborative strategies for assessment task completion, and (3) fixed versus flexible pacing and timelines for assessment completion. Sedlacek (1994) has identified five fallacies related to culture and assessment, stressing that most measures have not been designed with non-traditional or underserved populations in mind.

Alternative assessment is also culturally relevant. The student body is becoming increasingly culturally, linguistically and ethnically diverse. Our students' diversity influences the way they perceive information and make sense of it. Work on creating culturally responsive assessment is a journey of reflection and action.

- Creating culturally responsive assessment starts with knowing your student population. Who is enrolling in your programmes? Where do your students come from? Departments usually have this information. Equally important is the evaluation of your current assessment practices and choosing appropriate assessment tools or approaches that offer the greatest chance for various types of students to demonstrate their learning. Assessment results should benefit students from all backgrounds and advance the collective interest in student success.
- Language also plays an important role. Make sure that you are using language that is appropriate for all students when developing learning outcomes, acknowledging students' differences in the planning phases of an assessment, and developing or using assessment tools that are appropriate for different students.
- Students must see themselves within the field and believe in their ability to achieve in order to form an attachment to the course content. Sharing research findings conducted only on white populations, for example, marginalises some students. Give all students a voice and appreciate their input and experiences.
- Make sure your feedback is culturally responsive and consider collaboration with local communities to expand your reach.

Principle 10: Alternative assessment is engaging

There are many recommendations about the importance of making your lessons engaging for all students. Engagement can take many forms, such as creating fun, collaborative learning and interactions with peers, educators and the community. Part of making your lessons engaging includes designing engaging assessment. Given that other aspects of engagement, such as collaboration, interaction and community, have been covered in previous subsections, I focus here on engaging, fun and creative assessment.

A scan of the literature shows that many instructors have used creative assessments to engage and motivate their students. Of the many examples, I describe using social media and gamification to engage learners. Content in social

media takes multiple forms: short videos, a limited number of characters, longer posts, visual posts or strictly professional posts. You can engage learners with social media content or social media–like content, meaning that learners can create the content but not necessarily post it online. One example I particularly like is asking students to create a meme about the course content. I then take two minutes to go over the memes at the beginning of the next class. This technique serves to engage students in a fun way while also reviewing the content.

Gamification in assessment uses elements of games in the assessment design. Gamification is known to decrease test anxiety (Pitoyo, 2019) and increase learners' motivation and engagement (Menezes & Bortoli, 2016). Approaches to gamification in assessment are varied, such as choose-your-own-adventure, badges, unique reward systems and checkpoints. Elements of gamification can be seen in everyday life, such as progress bars, the galaxy achievement system in Khan Academy and trophies in Snapchat.

In this subsection, I highlight the choose-your-own-adventure approach to gamified assessment. This concept debuted in the 1970s and became popular in the 1980s. Lately, it has been popularised in Netflix's newest Black Mirror film, Bandersnatch (Sims, 2018). The interactive nonlinear approach has been used in books, tutorials, quizzes, presentations and orientations. For example, the choose-your-own-adventure approach has been used in education for medicine and pharmacy (Scott et al., 2021), anesthesia (Buhl et al., 2021), podiatry (Wilson-Stewart, 2017), engineering (Edington et al., 2020), and theology (Duperon, 2017).

For more concrete examples of how to design choose-your-own-adventure assessments, I recommend Stachowiak's (2015a; 2015b) two-part blog post on her personal experiences. Tucker (2020) also has an engaging blog post on designing a choose-your-path learning adventure.

Conclusion

The goals of this chapter were threefold. First, I wanted to raise awareness about alternative assessment and stimulate conversation about its characteristics and potential for increased student learning. To that end, I have presented the 10 principles of alternative assessment as a practical blueprint. Second, I have grounded the 10 principles in research and praxis. They are based on common standards used by educators and designers, and I have given examples to help educators apply them.

The principles are a work in progress. Most importantly, the principles are stronger when they are contextualised. I expect them to evolve when instructors apply them in their contexts. I call on instructors to explore the strengths and weaknesses of these principles and to share them with the community. I also encourage instructors to seek feedback from students and to reflect on them. Finally, we need to acknowledge the central role that institutional support and institutional resources play in encouraging instructors to explore alternative assessment.

Now it is time to continue the conversation about alternative assessment to meet the third goal: raising awareness of the peripheries that sit at the border of traditional assessment and that disadvantage some students. For this goal, each of us has a part to play.

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Reimagining authentic online assessment for large classes in a low-tech environment

Anneri Meintjes

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Authentic assessment | Online assessment | Large classes

Chapter in brief

The chapter is divided into two parts. The first part discusses the theoretical framework of authentic assessment proposed by Ashford-Rowe et al. (2014) and presents two case studies on student presentations to illustrate the principles of the framework. The second part addresses practical considerations for designing authentic online assessments in the South African higher education context, specifically for large classes with limited resources. The chapter provides practical examples based on the author's experience working with academics from various disciplines. The concept of authentic assessment is explored, emphasising its alignment with workplace demands. The eight principles identified by Ashford-Rowe et al. (2014) are outlined, providing guidance for the design of authentic assessments. The chapter further examines how authentic online assessment can be implemented effectively, considering the affordances of technology in a low-tech environment. Two case studies, focusing on video presentations and poster presentations, demonstrate how authentic online assessments can be integrated into courses. Challenges related to internet access and device availability are discussed, along with strategies such as flexible deadlines and alternative submission methods. Overall, this chapter aims to present a comprehensive understanding of authentic online assessment in a resource-constrained context, offering practical insights and recommendations for educators and academic developers in South Africa and similar environments.

Introduction

As demands from employers for a more professionally skilled workforce have increased over the last few years, higher education institutions have progressively turned to authentic assessment to improve the preparation of students for the workplace (Sokhanvar et al., 2021). Well-designed authentic assessment can enhance employability because it promotes the development of skills that employers seek such as critical thinking, problem-solving and communication skills (Riyanti & Rahmawati, 2021). In addition to the potential authentic assessment holds in developing better-equipped graduates, it also fosters deep learning, enables knowledge transfer from different domains, can increase students' commitment and motivation and enhance students' engagement (Sokhanvar et al., 2021; Villarroel et al., 2018).

South African higher education institutions are progressively turning to blended learning and, consequently, online assessment. This shift is not only due to the COVID-19 pandemic but also due to political disruptions that have become prevalent in the sector since the #FeesMustFall protests in 2016 (Czerniewicz et al., 2019). There is also a need for assessments that are suited for large undergraduate classes that are becoming commonplace as the demand for higher education access increases (Mohamedbhai, 2014). In this context, there is a need to not only design authentic assessments but to design authentic assessments for large classes in an online environment.

The digital divide between developing countries and developed countries limits the possibilities of educational technology and requires new ways to implement online assessment (Gillwald et al., 2019). Although South Africa has a higher penetration of internet use than most other African countries, still only about half (53%) of the population has internet access (Mothobi & Gillwald, 2018). In addition to insufficient access to the internet, the populations of developing countries often do not have access to internet-capable devices (Gillwald et al., 2019), which means that students rely heavily on the infrastructure provided by higher education institutions. Another key consideration is network quality in developing countries. Mothobi and Gillwald (2018) report that none of the 46 African countries ranked in their comprehensive study on digital access in the Global South obtained broadband speeds above 10Mbps with the median speeds between 2014 and 2018 at between 1Mbps and 1.5Mbps.

As an academic developer at a university in South Africa with urban and rural campuses, I work with academics from a range of disciplines to find assessment solutions that are simultaneously and pedagogically sound and practically implementable. As an academic developer, I wear several hats: curriculum designer, trainer, critical reader, and other times, I just need to be a soundboard for a lecturer to help them refine their ideas.

The work that we do as academic developers in this context often requires balancing competing demands. On the one hand, we need to prepare students for the world of work by giving them opportunities to hone and practise skills they will need in the workplace through authentic assessment. On the other hand, we need to find ways to assess large groups of students without overburdening lecturers with marking. Additionally, we need to effectively incorporate online assessment into more flexible assessment strategies, while being cognisant of the unequal access students have to reliable internet and electronic devices.

This chapter, divided into two parts, seeks to reimagine authentic online assessment with a resource constrained context in mind. In the first part of the chapter, authentic online assessment is framed within a theoretical framework put forward by Ashford-Rowe et al. (2014). Two case studies on student presentations are presented to contextualise the principles of the framework. In the last part of the chapter, practical considerations to address two main challenges in the South African higher education context (large classes and limited resources) are discussed. In this part, I also provide several practical examples based on my experience of working with academics in different disciplines to show how these considerations can be implemented.

Authentic assessment

What is authentic assessment?

An authentic assessment requires students to use skills, knowledge and attitudes that they would one day need to demonstrate in the workplace to complete a product or performance. The purpose of authentic assessment is to create a task that closely resembles what students would encounter in the workplace to better prepare them for employment and to improve their employability skills (Sokhanvar et al., 2021). Ashford-Rowe et al. (2014) identified eight principles of authentic assessments to guide the design of these types of assessments (see Figure 1). The principles put forward by Ashford-Rowe and colleagues are broad enough to be operationalised in different contexts such as a resource-constrained environment characterised by large classes as is the case in the South African higher education context, while simultaneously being specific enough to provide guidance to both lecturers and academic developers.

Figure 1

Principles of authentic assessment (adapted from Ashford-Rowe et al., 2014)

The eight principles (Ashford-Rowe et al., 2014) are:

Principle 1: The outcome of the assessment is in the form of a product or performance.

The assessment should require students to apply skills needed in the workplace and knowledge of the course content to produce something – either a product or performance.

Principle 2: The assessment design should ensure knowledge transfer.

An authentic assessment task requires students to draw from and integrate skills and knowledge from different domains to apply in a single domain. Knowledge and skills gained in one area can (and should) be applied to other, often seemingly unrelated areas.

Principle 3: Metacognition is a component of authentic assessment.

Metacognition was first researched by Flavell (1979) who defined it as “knowledge and cognition about cognitive phenomena” (p. 906). In its simplest terms, metacognition can be viewed as thinking about one’s thinking. When designing an authentic assessment, there must be opportunities for students to critically reflect on their learning and for self-evaluation of their work.

Principle 4: The assessment requires accuracy in performance.

An authentic assessment is one that simulates the needs of a real-world environment and where the value and connection to the real-world are clear.

Principle 5: The assessment environment and tools used to complete the assessment are authentic.

When designing an authentic assessment, it is important to try and ensure that the environment in which the assessment is completed closely resembles the real-world environment, and that students use the tools that they would one day be required to use in the course of their employment. Here it should be noted that a traditional sit-down examination in which students write down answers to questions on a piece of paper probably does not closely resemble the environment in which they would one day be expected to demonstrate and use their skills and knowledge.

Principle 6: The assessment design should include opportunities to discuss and provide feedback.

In a workplace, it is essential to be able to receive and respond to feedback. Feedback is also a critical component of assessment for learning.

Principle 7: Collaboration is valued.

Collaboration can be understood in various ways. First, it is important that students develop the skills needed to effectively work with their peers in completing a product. An example is group work that requires teamwork and communication skills. However, collaboration also has to do with seeking out external sources for gathering data. This means that even if students complete an assessment individually, they are never really relying solely on their own skills and knowledge. The key is to ensure that students understand the value of collaboration in completing an authentic assessment.

Principle 8: Authentic assessments are challenging.

The degree of challenge that is required to successfully complete an assessment is a determinant of the assessment’s authenticity. Students should be establishing connections between real-world experiences and the course content and should be relying on not only their ability to recall information but to apply and integrate skills and knowledge.

Authentic online assessment

An assessment may be considered authentic if the principles put forward by Ashford-Rowe et al. (2014) are embedded in its design. However, it does not need to meet all eight principles. In the examples that follow, I illustrate how some of these principles can practically be embedded in the design of authentic online assessments in the South African higher education context.

One of the affordances of online assessment is that it can expand on traditional methods of assessment and enable new practices, not always possible in face-to-face settings. The use of multimedia is one example (Byrne, 2016; Grieger & Leontyev, 2020; James et al., 2019; Ras et al., 2016). Instead of a traditional written essay, for example, students can create a podcast, a digital story or an electronic poster. Over the past few years, and especially since 2020, I have seen examples of innovative ways to approach assignments from lecturers. In the section that follows, I share two case studies of South African Sign Language (SASL) lecturers who implemented digital student presentations as authentic online assessments in their modules.

Case studies on student presentations as an authentic online assessment

Oral communication and presentation skills are important in many workplaces yet public speaking is one of the most prevalent fears that people have in social situations (Smith & Sodano, 2011). One way for students to develop these skills in a safer environment is online student presentations. Online presentations, when implemented well, are an effective way to promote deeper understanding of a topic, increase students' confidence and ability to present a topic to an audience, as well as improve students digital skills in using technology that they would likely need to use in the workplace one day (Amin et al., 2021; Grieger & Leontyev, 2020; Smith & Sodano, 2011).

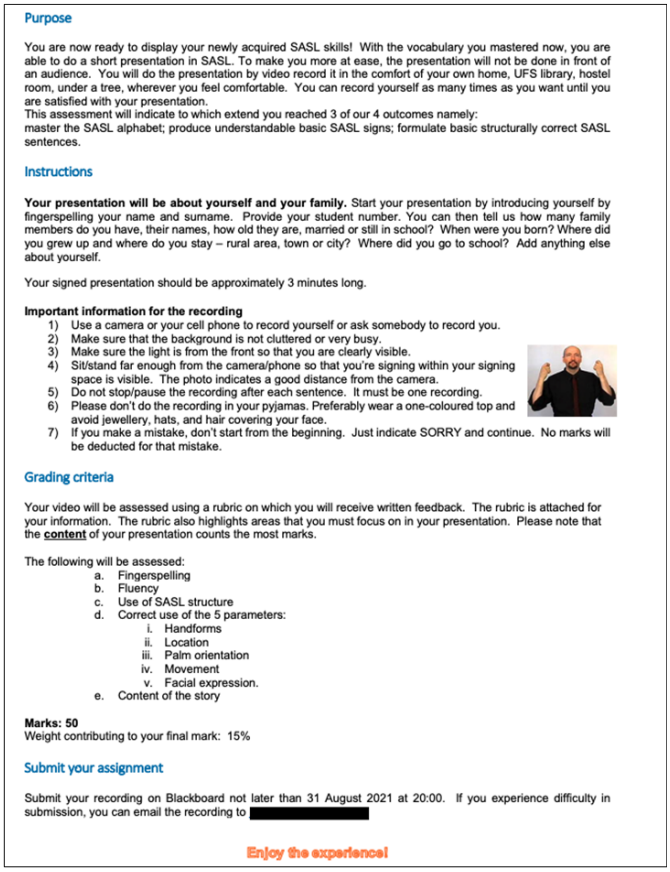
At the University of Free State (UFS), student presentations are often group assignments and, before 2020, these were mostly conducted in a face-to-face environment where a student or group of students would do a presentation in class. When the university moved to emergency remote online teaching in response to the COVID-19 pandemic in 2020, some lecturers implemented student presentations as an online assessment.

Video presentation

One SASL lecturer at UFS, with approximately 80 students in her class, assessed her students through three-minute video presentations in which they were required to introduce themselves and their families by using SASL. Figure 2 is an excerpt of the assessment instructions.

Figure 2

Excerpt of assessment instructions for video presentations in a SASL course (used with permission from the lecturer, Ms Susan Lombard).



Purpose

You are now ready to display your newly acquired SASL skills! With the vocabulary you mastered now, you are able to do a short presentation in SASL. To make you more at ease, the presentation will not be done in front of an audience. You will do the presentation by video record it in the comfort of your own home, UFS library, hostel room, under a tree, wherever you feel comfortable. You can record yourself as many times as you want until you are satisfied with your presentation.
This assessment will indicate to which extend you reached 3 of our 4 outcomes namely:
master the SASL alphabet; produce understandable basic SASL signs; formulate basic structurally correct SASL sentences.

Instructions

Your presentation will be about yourself and your family. Start your presentation by introducing yourself by fingerspelling your name and surname. Provide your student number. You can then tell us how many family members do you have, their names, how old they are, married or still in school? When were you born? Where did you grew up and where do you stay – rural area, town or city? Where did you go to school? Add anything else about yourself.

Your signed presentation should be approximately 3 minutes long.

Important information for the recording

1) Use a camera or your cell phone to record yourself or ask somebody to record you.
2) Make sure that the background is not cluttered or very busy.
3) Make sure the light is from the front so that you are clearly visible.
4) Sit/stand far enough from the camera/phone so that you're signing within your signing space is visible. The photo indicates a good distance from the camera.
5) Do not stop/pause the recording after each sentence. It must be one recording.
6) Please don't do the recording in your pyjamas. Preferably wear a one-coloured top and avoid jewellery, hats, and hair covering your face.
7) If you make a mistake, don't start from the beginning. Just indicate SORRY and continue. No marks will be deducted for that mistake.

Grading criteria

Your video will be assessed using a rubric on which you will receive written feedback. The rubric is attached for your information. The rubric also highlights areas that you must focus on in your presentation. Please note that the **content** of your presentation counts the most marks.

The following will be assessed:

a. Fingerspelling
b. Fluency
c. Use of SASL structure
d. Correct use of the 5 parameters:
    i. Handforms
    ii. Location
    iii. Palm orientation
    iv. Movement
    v. Facial expression.
e. Content of the story

Marks: 50
Weight contributing to your final mark: 15%

Submit your assignment

Submit your recording on Blackboard not later than 31 August 2021 at 20:00. If you experience difficulty in submission, you can email the recording to [redacted]

Enjoy the experience!

What works particularly well with this assessment is that the students experience an opportunity to build confidence in their ability to use SASL in an environment in which they are comfortable. They can use their cell phones to record their videos and can stop and redo their presentations until they are satisfied with the product, although the lecturer does include instructions (point 7) for how to deal with making a mistake. The lecturer also includes some guidelines for how to produce a professional video with considerations for the background (point 2), lighting (point 3) and dress code (point 6). This teaches students what they will need to focus on the workplace.

Feedback from the instructor

Feedback is integrated in this assessment; each student receives detailed feedback on their video. The video submissions ensure that, unlike when a student would do a short presentation in a face-to-face environment, students can go back and watch a section of their videos to see exactly where they need to improve. Students can upload their videos to the learning management system (LMS) or email their video submissions to the lecturer. A positive aspect for the lecturer in this regard is that she can take a little more time to view and provide feedback on each video than would not have been the case in a face-to-face environment. The lecturer uses rubrics to grade and provide feedback to students which saves her time in marking and helps to provide detailed feedback to students.

The biggest challenge with this assessment is unequal access to the internet and internet-capable devices, as well as loadshedding, where electricity is unavailable for parts of the day, making it difficult for students to achieve strict deadlines. To address these challenges, the lecturer communicates the assessment deadline well in advance and leaves the assessment submission box on the LMS open for a week to allow students with limited access to the internet to secure access and submit their assessments in time. She also allows students to email their videos to her if they struggle to submit their assessments via the LMS. This flexibility has been characteristic of many lecturers during the Covid-19 pandemic and when I spoke to the lecturer about this assessment for the purpose of writing this chapter, her passion for her students and their learning was evident. What she enjoys most about this assessment is to see the effort that students put into these videos and how it builds their confidence to use SASL.

Authentic assessment principles addressed with the assessment

Figure 3 shows a summary of the authentic assessment principles addressed in the video presentation assessment. The assessment is challenging and ensures transfer of knowledge because it addresses and integrates three different outcomes of the course (i.e. master the SASL alphabet, produce understandable basic SASL signs, and formulate basic, structurally-correct SASL sentences). It requires accurate performance as students are required to perform the task professionally, in the sense that they need to be mindful of elements in their videos that will be relevant when they work as interpreters in a workplace (e.g. their dress code, the lighting, the distance and angle of the camera etc.). They will need to become comfortable in front of a camera and this assessment helps them to practice. Additionally, feedback plays an integral role in this assessment and students are encouraged to watch their videos again after receiving feedback to analyse where improvements are needed.

Figure 3

Authentic assessment principles addressed in the video presentation assessment

Poster presentation

Another SASL lecturer, with a class of approximately 800 students, designed an online poster and presentation assessment (Figure 4 is an adapted excerpt with the assessment instructions). The assessment consists of two parts. First, students have to design a poster on one of three topics and then they have to do a short virtual presentation about their poster. Since this is a large class, the lecturer encourages students to work in groups of up to four students, but students who prefer to work alone are allowed to submit their posters and do their presentations individually. Before the pandemic, about 80% of the class preferred to work in groups, but the lecturer noticed a decline in the proportion of students in her class who worked in groups when students were studying online from their homes. Suddenly, students were geographically dispersed and it was more difficult to meet with and connect with other students.

Before 2020, students did their presentations in a face-to-face class but the lecturer adjusted this component of the assessment, requiring students to do their presentations virtually on Blackboard Collaborate (video conferencing tool on the LMS). When students did the presentations in class, approximately 60% preferred to do the presentation live while the remaining 40% preferred to prepare a recording of their presentation. During 2020 and 2021, these numbers switched around with 40% of the class preferring to do the presentation live in the Blackboard Collaborate virtual class and 60% preferring to upload recordings of their presentations. Students' proficiency and familiarity with technology played a role in this shift with some students not feeling comfortable with presenting live in an online environment. Another challenge was that some pre-recorded videos were too big to upload to the LMS and many students needed to learn to either compress their videos or to make use of other software, such as WeTransfer, to share their video presentations with the lecturer.

To address this issue, the lecturer arranged an extra class in which she explained the different options for compressing a video or sharing a large video in alternative ways. She also made the recording of the extra class available so that students could view the steps and options again. While this reduced the number of student queries she received, the lecturer noticed that not all students attended this class nor did all students who ended up contacting her for assistance viewed the recording. She decided to make how-to documents and shorter videos available to students from

2022 to see whether providing assistance in different formats, and from the start of the course, would reduce technical queries from students.

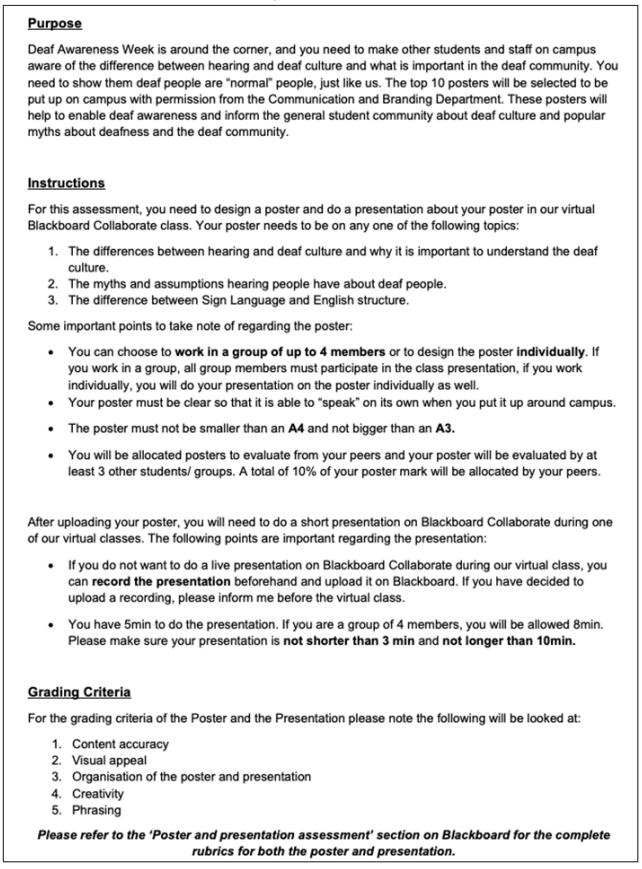
What did work well with the combination of designing a poster and presenting on it was that students took ownership of their assessments and took pride in the products that they produced as part of this assessment. It provided them with a formal opportunity to work on their oral presentation skills and having to assess their peers provided additional opportunities to give and receive feedback. Students seemed to appreciate having choices with this assessment. The fact that they would choose a topic, whether to work individually or in a group, and whether to present live or submit a recording contributed to students' sense of ownership for their work.

Feedback from the instructor

Ms le Roux is a passionate lecturer and in my interactions with her for the last few years I have always admired how willing she is to try new things in her teaching and assessment practices. She also never frets much about the challenges of large class teaching but tends to focus on what worked well and what can practically be done to improve aspects that did not work well. When I spoke to her about her and her students' experience with this assessment, she highlighted how rewarding it was to see students develop and grow, how they are active participants in their assessment and not only passive observers who need to memorise something from a textbook and recall it in an examination. While grading can be time consuming in a large class, she finds rubrics helpful to standardise her feedback and marking, as well as to save time.

Figure 4

Excerpt adapted from poster presentation assessment (used with permission from the lecturer, Ms Annemarie le Roux)



Purpose

Deaf Awareness Week is around the corner, and you need to make other students and staff on campus aware of the difference between hearing and deaf culture and what is important in the deaf community. You need to show them deaf people are "normal" people, just like us. The top 10 posters will be selected to be put up on campus with permission from the Communication and Branding Department. These posters will help to enable deaf awareness and inform the general student community about deaf culture and popular myths about deafness and the deaf community.

Instructions

For this assessment, you need to design a poster and do a presentation about your poster in our virtual Blackboard Collaborate class. Your poster needs to be on any one of the following topics:

1. The differences between hearing and deaf culture and why it is important to understand the deaf culture.
2. The myths and assumptions hearing people have about deaf people.
3. The difference between Sign Language and English structure.

Some important points to take note of regarding the poster:

- You can choose to **work in a group of up to 4 members** or to design the poster **individually**. If you work in a group, all group members must participate in the class presentation, if you work individually, you will do your presentation on the poster individually as well.
- Your poster must be clear so that it is able to "speak" on its own when you put it up around campus.
- The poster must not be smaller than an **A4** and not bigger than an **A3.**
- You will be allocated posters to evaluate from your peers and your poster will be evaluated by at least 3 other students/ groups. A total of 10% of your poster mark will be allocated by your peers.

After uploading your poster, you will need to do a short presentation on Blackboard Collaborate during one of our virtual classes. The following points are important regarding the presentation:

- If you do not want to do a live presentation on Blackboard Collaborate during our virtual class, you can **record the presentation** beforehand and upload it on Blackboard. If you have decided to upload a recording, please inform me before the virtual class.
- You have 5min to do the presentation. If you are a group of 4 members, you will be allowed 8min. Please make sure your presentation is **not shorter than 3 min** and **not longer than 10min.**

Grading Criteria

For the grading criteria of the Poster and the Presentation please note the following will be looked at:

1. Content accuracy
2. Visual appeal
3. Organisation of the poster and presentation
4. Creativity
5. Phrasing

Please refer to the 'Poster and presentation assessment' section on Blackboard for the complete rubrics for both the poster and presentation.

Authentic assessment principles addressed with the assessment

The poster presentation assessment addresses seven of the eight authentic assessment principles put forward by Ashford-Rowe et al. (2014). Not only do students have to produce a poster, they also have to make a presentation to

successfully complete this assessment. They have to integrate several learning outcomes and use different skills to complete this assessment which ensures knowledge transfer. By designing a digital poster and presenting their work digitally (either via a video recording or using video conferencing software for a live presentation) they learn to use tools that they would one day use in the workplace. This assessment also has built in opportunities for feedback, not only from the lecturer but also to and from peers and the option to work in groups allows for collaboration.

Figure 5

Authentic assessment principles addressed in the poster presentation assessment

Authentic online assessment in large classes and a low-tech environment

South African academics need to be skilled in designing online assessment as traditional contact-based higher education institutions in the country are progressively turning to blended learning. Additionally, as the demand for access to higher education in the country increases, large undergraduate classes are prevalent (Mohamedbhai, 2014). A critical third consideration in the South African context is digital inequality among our students as could also be seen from the two case studies above. Designing an online assessment while considering the elements of authentic assessment is one thing, but to design an authentic online assessment in a low-tech environment for a large class or both is something else. An assessment, no matter how authentic or pedagogically sound, needs to be feasible. We cannot design assessments (or teach for that matter) in a vacuum. In the sections that follow, practical considerations for authentic online assessment in large classes and a low-tech environment are explored.

Large class considerations

One of the most significant assessment challenges in a large class is grading (Broadbent et al., 2018). Without additional marking assistance it can be difficult to manage the workload. However, additional markers introduce the

challenge of consistency and reliability of grading across the board. Providing feedback to students on their assessments is an additional challenge in large classes. For feedback to have a positive effect on student learning, students need to receive clear and specific guidance on how to close the gap between where they are and where they need to be. Giving good quality feedback takes time and even more so in large classes (Henderson et al., 2019).

Rubrics

Detailed, sometimes called analytic, rubrics are an effective way to not only ensure consistency in large classes but also serve as a form of feedback as students can easily identify areas for improvement. While it may take some time to create an effective detailed rubric, it saves time in grading and feedback. Additionally, if students have access to the rubric before starting with the assessment, it also serves to clarify expectations. In both aforementioned case studies, the lecturers used rubrics for feedback and made the rubrics available to their students together with the assessment instructions. This helped students to understand what is expected of them.

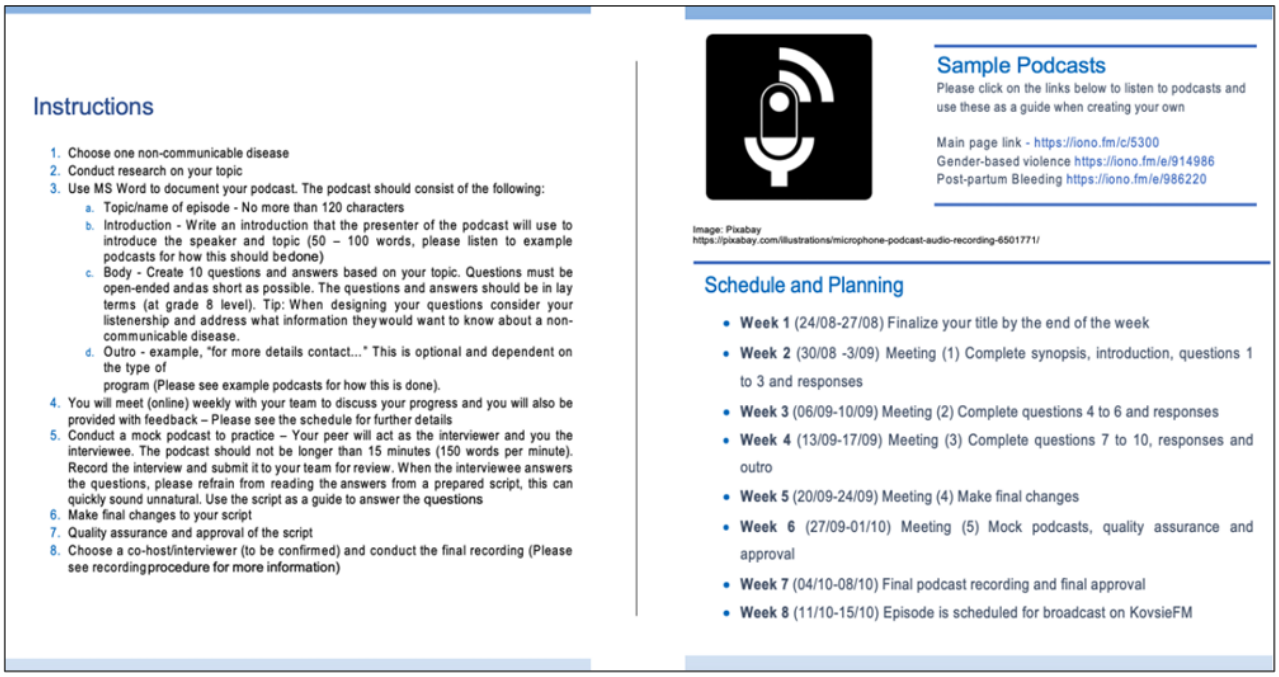
Chunking

Chunking, or breaking down an assessment into steps, is one way to lessen a lecturer's marking load. It is also easier to give quality feedback quicker if the assessment is shorter. Assessment chunking benefits students in that it allows additional opportunities for feedback throughout the course that they can use to correct mistakes and improve their performance (Hornsby, 2020).

Chunking can be approached in different ways. An assignment can either be broken up into steps that build on each other almost like different pieces of a puzzle to create a final product – product chunking. Another way to approach chunking is to break down the process that students need to follow to get to the final product almost like climbing a ladder ring by ring to get to the final product – process chunking. Figure 6 shows an example of the assessment instructions for an authentic podcast assessment by a UFS lecturer in Medical Physiology. This example illustrates how product and process chunking can both be applied to one assessment. From week 2-5, students work on completing a transcript for their podcasts little by little, an example of product chunking. In weeks 6-8, they work on finalising the recording of their podcasts which is further product chunking. Students complete the task by completing different aspects of it. First, they identify a title, then they complete a transcript, then they record their podcasts, an example of process chunking.

Figure 5

Excerpt for podcast assessment instructions (used with permission from the lecturer, Dr Janelle Govender-De Bruyn)



Group work

When students work together on an assignment, they develop their communication, critical thinking and teamwork skills (Ashford-Rowe et al., 2014). Group work, if designed well, does not only have academic value but also develops the skills students will need in the workplace (Labeouf et al., 2016). Additionally, group work reduces grading time which in turn allows lecturers to provide more timeous feedback.

When designing a group assignment, lecturers can combine group work with chunking. Students can either complete the entire assessment as a group (see Digital Story example in Table 2) or the assessment can be broken down into group and individual submissions (see the Interdisciplinary Assignment example in Table 1).

Table 1

Group work examples

Assessment example	How group work can be incorporated
Digital Story	A group of students can work together to complete an assignment, such as a digital story, by collaborating from start to finish. Process chunking can work well in completing a digital story too where students complete the following steps: 1. The group first submits a planning document in which they explain the topic they will address in their digital story and a timeline that includes actions and responsibilities of each group member. Students can get feedback here on the topic they are planning. 2. The group submits either a visual or text storyboard. 3. The group submits their digital story.
Interdisciplinary Assignment	Students can work together in groups to finish different parts of an assignment and not necessarily the entire assignment. Interdisciplinary assignments will typically work like this. Education and agriculture students can work on an interdisciplinary assignment in which agriculture students need to communicate/ explain a topic on sustainable agriculture to Education students. The Education students then need to design a lesson plan at a relevant grade-level to teach the sustainable agriculture principles they've learned to school learners. Group and individual assessments can be submitted for this assignment:

Assessment example	How group work can be incorporated
	1. A group of Agriculture students do an online presentation to a group of Education students explaining a topic on sustainable agriculture. The Education students can ask clarifying questions about the presentation (Agriculture students assessed groups). 2. The Education student group prepares a written summary of what they learned from the online presentation (Education students assessed in groups). 3. The Education student group shares the summary with the agriculture group who gives feedback to the Education students on the summary (Education group assessment and Agriculture peer assessment in group format). 4. Education students individually submit a lesson plan to teach the sustainable agriculture principles that they learned about to school learners (Education students assessed individually). This example illustrates a combination of group and individual work for Education students. Additional steps with a combination of individual and group work for Agriculture students can be added before they do their online presentation.

Peer assessment

When students evaluate their peers' work, they internalise the grading criteria and benefit from seeing examples of different ways to approach a task. Moreover, receiving feedback from peers allows students to get feedback from multiple perspectives (Kulkarni et al., 2013). Peer assessment can alleviate lecturers' marking load and increase the frequency of feedback during a course (Hornsby, 2020).

Peer assessment and feedback can be combined with chunking to create more feedback and reflection opportunities for students as they finalise an authentic online assessment. If peer assessment is combined with product chunking, it can help students to improve the quality of their final product by implementing the feedback as they progress. Peer assessment combined with process chunking can offer students insight from different perspectives and expose students to more solutions and strategies than if only the lecturer assessed their work. In the poster presentation assessment case study shared earlier in this chapter (see Figure 4), peer assessment is used for the poster section of the assessment. Students give feedback on other students' posters and use the feedback they've received from their peers before planning their presentations.

Low-tech considerations

Digital inequality broadly includes both the gap between people with access to digital technology and those with limited (or no) access, as well as discrepancies in digital skills. Many rural areas in South Africa have underdeveloped technological infrastructure and unreliable access to electricity making it difficult for students who reside in these areas to participate in online learning (Williams et al., 2019). At UFS, a study was conducted at the beginning of the first nationwide lockdown at the beginning of the COVID-19 pandemic to determine students' access to data and devices in which 13 505 students participated. The results showed that 13% of students do not have any access to the internet off-campus and that while 70% of students are able to access the internet off-campus by purchasing data from a service provider, 56% cannot afford more than one gigabyte of data to complete academic activities. Slightly more than half (56%) of students have access to a laptop but 81% own a smartphone (Centre for Teaching and Learning, 2020). This means that, when designing online assessment activities, the extent to which students are reliant on smartphones to complete the assessment should be considered.

Asynchronous assessment

One way to address digital inequality in online assessment is to design assessments that students can complete asynchronously. This way students do not have to be online at a particular time but can participate in the assessment at a time that is convenient for them. Students who have unreliable, limited or no access to the internet where they live can submit the assessment when they do have access such as on campus. This often means that students have to travel to a place where they can access the internet to complete academic activities for more than one course. Bearing this

logistical demand in mind, it is important that deadlines for assessments or components of an assessment are communicated to students well in advance.

Downloadable resources

In addition to designing assessments that students can complete asynchronously, it is important to consider how students access the information and content that they need to complete the assessment. Since many students have limited access to reliable internet, they need to be able to download content and information that they can use offline to complete the assessment. Keeping in mind that many students only have access to limited data and, in many cases, are likely to be using mobile phones with limited storage, downloadable resources should not be large files.

Chunking assessments can help lecturers to organise the content and information that students need to download into smaller sections that students can use to complete different parts of the assessment. This way, students do not have to download all the content and resources in a course at once. Some practical examples of downloadable resources students might need as they complete authentic online assessments are shown in Table 2.

Table 2

Problem-solving assignment: An example of downloadable resources for an authentic online assessment

How the assessment can be chunked	Downloadable resources
1. Introduction that includes the scope and background of the problem	• Word/ PDF document with detailed assessment instructions (the purpose of this part of the assessment, the tasks that need to be completed and the criteria for success). • PowerPoint/ PDF document with an overview of a list of problems that can be used as a topic together with a short description of each. • Additional reading material (e.g. journal articles) in PDF about some of the problems on the list. • Examples of problem-solving essays. • How-to document for submitting an assignment via the learning management system.
2. Description of the problem and why it needs to be addressed	• Word/ PDF document with detailed assessment instructions. • Examples of problem-solving essays with explanations of why this part of the essay (problem description) in the examples are helpful or not helpful.
3. A solution (or multiple solutions) to the problem	• Word/ PDF document with detailed assessment instructions. • Examples of problem-solving essays with explanations of why this part of the essay (solution) in the examples are helpful or not helpful.
4. Final essay including a conclusion and call for action	• Word/ PDF document with detailed assessment instructions. • Additional resources (PDF) on writing a conclusion.

Flexibility

Another way to address digital inequality when designing an authentic online assessment is flexibility. Flexibility in this context means offering students choices. Since we know that many students extensively use their smartphones for academic activities, this limits the types of assessments that they can effectively complete. Allowing submissions in more than one format and allowing students to choose from different types of assessments can offer opportunities to mitigate accessibility issues. When having to submit written work, allow students to submit a photograph of a handwritten paper. Examples of flexibility were illustrated in both case studies earlier in this chapter. In the video presentation case study above, the lecturer allows students to email her with their videos if they're unable to upload it to the LMS. She also keeps the assessment open for an extended period to account for varied levels of access to reliable internet. In the poster presentation case study, the lecturer allows students to choose to work in a group or work

individually, she also allows them a choice between doing a live presentation and recording their presentation in advance. Flexibility is a key component of successful authentic online assessment in our context.

Key takeaways

The benefits and potential of authentic assessment are well-documented in the literature. However, the success of any assessment is inextricably linked to its feasibility. To ensure that our students benefit from authentic assessment, we cannot ignore the realities of the context in which we assess. The realities of digital inequality and large undergraduate classes in South African higher education combined with the drive towards more effective ways to assess students online require a rethinking of authentic assessment in this context.

Designing effective authentic online assessments in a South African university means first planning an assessment that incorporates the principles of authentic assessment. But even with principles considered, additional planning is needed to make the assessment feasible. In large classes, the marking load and providing regular good quality feedback are challenging. Using rubrics, which are already well-suited for most authentic assessments, can alleviate these pressures. Group and peer assessments also alleviate lecturers' marking load but also enhance student learning in many ways. Product and process assessment chunking, while requiring some additional planning, is a fairly simple way to address not only the challenge of large classes but also digital inequality. The final takeaway from this chapter is that contextualising good assessment practices is not an insurmountable obstacle but rather a rethinking exercise.

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Inclusive online assessment practices in distance learning education explored through autoethnographic narrative vignettes

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Teacher Education | Distance Learning | Inclusive Assessment | Student Agency

Chapter in brief

Discovering new approaches to inclusive online assessment is a major concern for many educational institutions especially in online and distance learning settings. This chapter explores effective strategies used in the Teaching Life Sciences module of a Postgraduate Certificate in Education (PGCE) programme offered through distance learning by a private higher education institution in South Africa. We identify and examine five inclusive online assessment practices namely, conversational, practical, collaborative, reflective and applicational. We also offer examples of each of these practices, based on our experience in the Teaching Life Sciences module. Drawing on these experiences and the unprecedented events of the COVID-19 pandemic in 2020, we explore what the future holds for inclusive online assessment practices with a focus on maintaining academic rigour and validity while ensuring that student agency and freedom are not compromised.

Initiation

In this chapter, we reflect on inclusive online assessment practices in a Postgraduate Certificate in Education (PGCE) module offered through the distance learning mode by a large private higher education institution (PHEI) in South Africa.

Our focus is on the inclusive assessment practices of the Teaching Life Sciences module in the Further Education and Training (FET) phase - the last three years of secondary education, which we explored through autoethnographic narrative vignettes. One of the unique features of the flexible hybrid mode of this module was to provide distance

learning students with the choice to either visit the campus to attend in-venue sessions or visit regional centres for a simultaneous broadcast of the in-venue session via Zoom. Alternatively, students could watch sessions via YouTube streaming and participate in the webinar chat on their own devices. If none of these options was possible, they could watch the recording via the learning management system (LMS) after the event. Although academic staff members were largely prepared to move learning engagements online when the pandemic struck in 2020, the biggest challenge was to implement all assessments online, whilst maintaining academic rigour and validity without compromising student agency, and limiting students' freedom (Crosslin et al., 2018; Czerniewicz et al., 2020; Mbembe, 2016). Drawing on our assessment practices and following a year of much disruption because of the COVID-19 pandemic, our observation of heated online debates on the ethical implications of online proctoring (Hodges & Barbour, 2021), and the mental health of students, we consider what inclusive online assessment practices may look like in the future.

Situation

In response to the unique needs of Southern African students, in February 2020, our institution launched the Postgraduate Certificate in Education (PGCE) in the Senior Phase and Further Education and Training distance learning programme. The primary objective of this accredited programme was to equip graduates from non-education fields with the necessary educational theory, pedagogical skills, and teaching methodologies to become qualified beginner teachers. The PGCE specifically targeted mature students, who had completed a degree at some point in the past, and were seeking to enhance their pedagogical knowledge alongside their existing content knowledge through accessible and flexible learning approaches.

To provide practical training, students were placed in selected schools nationwide and supported through structured Work Integrated Learning (WIL) processes. These placements offered valuable teaching practice and diverse experiences in various schooling contexts throughout the regions.

The PGCE Life Science for the FET phase specialisation aims to provide entry-level professional preparation for individuals holding undergraduate degrees or approved diplomas. It focuses on developing specialised knowledge and skills for teaching Life Sciences to students in Grades 10-12 of the South African schooling system. The programme attracts a diverse range of students with qualifications spanning from undergraduate degrees in microbiology to environmental sciences and even includes some doctorate (PhD) degree holders.

One significant aspect of this programme is its affordability as it offers reasonable student fees. Coupled with the flexible distance learning mode of learning, the PGCE programme plays a pivotal role in advancing teacher education in Southern Africa.

In this chapter, we focus on the Teaching Life Sciences module whose outcomes include, but are not limited to, engagement with the South African Curriculum Assessment Policy Statements (CAPS), educational theories related to the teaching of Life Sciences, the use of Information and Communication Technology (ICTs) to teach Life Sciences, an exploration of learning preferences, and the development of lesson plans. It should be noted that the CAPS curriculum for the FET phase, which our pre-service science teachers are prepared to use when they become classroom teachers, has three specific aims as highlighted below by the Department of Basic Education (DBE, 2011, pp. 13–17):

- Specific Aim 1: Knowing the subject content (Theory)
- Specific Aim 2: Doing science or practical investigations and
- Specific Aim 3: Understanding the applications of life sciences in everyday life and understanding the history of scientific discoveries and the relationship between indigenous knowledge and science.

Our students are geographically dispersed, culturally diverse and represent a broad spectrum of experiences ranging from recent graduates to highly experienced practitioners. Students can choose between a 12-month full-time and 18-month part-time distance learning offering with options to further extend their study if necessary. Learning is facilitated mainly online with on-ground support at distributed learning centres. Inequities that still exist in this context include

varying degrees of access to the internet, different levels of preparedness, life, health and family demands (Cross & Atinde, 2015).

Considering the profile of our students and aligning the module to the CAPS curriculum for pre-service teachers to teach this curriculum in schools, we aim for assessment design of online assessments that are authentic, rigorous, fair and aligned with the outcomes of the module. We consider the time demands in terms of the credits and we acknowledge the diversity of students in terms of gender, health, ability, and the availability of technology. We aim for inclusive assessment to promote student agency and self-regulation, as well as modelling practices that our students as current and future educators may adopt. These practices challenge the examination-based norm characteristic of the typical distance learning model which, when moved online, by default, require much-contested proctoring.

Approach

Although we recognise the literature on learning design as addressing diverse student needs through flexible and hybrid approaches, flexible assessment is under-researched and "has only recently gained attention in scholarly research" (Wanner & Palmer 2015, p. 357). We acknowledge Achille Mbembe's (2016, p. 31) warning against higher education "substituting this goal of free pursuit of knowledge for another, the pursuit of credits. It is replacing scientific capacity and addiction to study and inquiry by salesman-like proficiency" (Mbembe, 2016, p. 31). Therefore, we argue for the creation of opportunities to conceptualise and challenge the role of formative and summative assessment and how these can be mediated and supported online.

In this chapter, we discuss five inclusive online assessment practices, namely conversational, practical, collaborative, reflective, and applicational, that we found to be supportive of student learning and which were intended to promote inclusion, access and equity for our distance learning students.

We followed a collaborative autoethnographic (CAE) approach (Chang et al., 2012) with the first author (Oluwakemi) as the lecturer providing an insider perspective, in dialogue with the second author (Jolanda) in the role of the instructional designer. Jolanda had recently joined the institution and was tasked with facilitating the migration of the PGCE programme to a new LMS. Five online conversation sessions between the two authors were conducted via MS Teams and recorded. These sessions totalled just over four hours between 20 August 2021 and 28 September 2021. The vignettes were conceptualised during these dialogue sessions and the quotes for each inclusive practice were derived from Oluwakemi's insider perspective as the lecturer.

Vignettes

conversational I practical I collaborative I reflective I applicational

We present the five inclusive online assessment practices as vignettes, using selected quotes by the lecturer to sketch our stories, scenarios and situations (Hill, 1997) in written and pictorial form. This approach enables us to reflect on and interpret the "actions and occurrences that allow situational context to be explored and influential variables to be elucidated" (Barter & Renold, 1999). The inclusive online practices that we selected demonstrated a range of

characteristics across the different categories. The inclusive online assessment practices were categorised based on their prominent characteristics.

Conversational inclusive online assessment practices

During semesters 1 and 2, we employed conversational inclusive online assessment practices in two spaces, in discussion forums in semesters 1 and 2 for summative purposes, and in the live chat room sessions for formative purposes.

> *When you make it conversational it reduces the isolation of students because everybody is somewhere alone … tools that could make students engaged even when they don't see one another.*

The discussion forum provided an asynchronous text-based conversational platform for the students. Students were asked to discuss and critique one another's "Introduction to writing lesson plans and designing a practical task from the Environmental Studies' Strand in the CAPS Curriculum" topics in semesters 1 and 2 respectively. The forum discussion assignments spanned two to three weeks and the groups typically included around 44 students. Notifications were sent out as soon as someone made a post, alerting the others to pay attention and respond where needed. The discussion forum in semester 1 counted for 5% of the total grade for the semester, and 10% for semester 2. Our experience is that grading provides some incentive for students to actively participate.

> *When you say it is for marks, then everybody wants to participate.*

Through our autoethnographic reflections, we discovered that asynchronous conversational assessment methods were suitable for mature students studying online and at a distance. It gave them the necessary flexibility to balance study and life commitments. Asynchronous text-based conversations afforded these students a platform to reflect on their classroom practices through narratives and to share and discuss these with their fellow students.

> *We cannot easily teach them all this information in one year.*

The live chat room sessions, facilitated by the lecturer, usually took place on Monday evenings from 19h00 to 20h00. A live synchronous text-based (no audio or video) platform was created on the LMS, for engagement and support that are informal and formative assessment that was not graded, but students received real-time feedback. Chats were set for specific time slots and hosted on the LMS. The chat room was not compulsory and provided one large thread of conversation that could be accessed afterwards at any time, as a resource. Prompted by questions, the students were keen to share their experiences and queries while interacting with the lecturer and their peers. They were able to access immediate feedback on academic issues which reduced one-on-one email queries and correspondence with the lecturer. Also, through the chat room conversations, non-academic issues could be addressed, for example, when the lecturer assisted students with technical questions or referred them to the relevant support unit to investigate any technical challenges that students might have had with the LMS.

> *The issue of lecturing where you just lecture and go, I think it's not working in this generation. We have to also teach … We have to engage them. So, we need feedback. When you have feedback from them (the students), it also informs your practice as a lecturer.*

Mature PGCE students can engage more independently but undergraduate students need more guidance. Students also need to be given clear instructions and be made aware of the ground rules, guidelines or rules of engagement.

> *One of the things I've learned is to give detailed instructions, so you don't get floods of emails.*

We found that a lecturer can manage groups of up to 40 students, but not more, preferably with the assistance of a tutor. The lecturer must actively facilitate the discussion forum and intervene where needed. Where recurring issues appear, the lecturer can address those issues during a live online session.

We learned that it is important to provide clear instructions, including word count as a guide, and a detailed rubric. In the future, we want to consider how we can promote students' engagement with indigenous knowledge content and how to take conversational assessments forward on the LMS.

> *This conversational assessment … enabled us to get more from the students, to teach more … It also informed, helped the lecturer to also know what are some of the challenges that they (the students) faced.*

Practical inclusive online assessment practices

Two practical assessments were introduced in the year: the heart dissection in semester 1 and the science project in semester 2, each counted 30% of the total mark for the respective semesters. The practical inclusive assessment practice described in this chapter is the heart dissection assignment. It covered the content of the dissection of the mammalian heart and speaks to Specific Aim 2 of Life Sciences in the CAPS curriculum: doing science or practical investigations. It constituted 30% of the year mark.

The fact that the module was offered through distance learning did not lessen the importance of practical assessments as part of the curriculum. Specific Aim 2 outlines seven skills that relate to doing practical work in Life Sciences:

- Follow instructions
- Handle equipment or apparatus
- Make observations
- Record information or data
- Measure
- Interpret, and
- Design/plan investigation or experiments (DBE, 2011, pp.15–16).

Therefore, for the PGCE pre-service teachers to be competent in doing practical work in the classroom as future teachers, their teacher training program should expose them to a range of skills that relate to practical work in Life Sciences.

The assignment spans semesters 1 and 2. In semester 1, the focus is on how to dissect, measure, draw and present the outcomes of the experiment. In semester 2, the focus is on project-based learning and how to design projects around the topics of environmental studies, health and circulatory systems. Students have six weeks to complete the assignment which comprises two equally weighted parts. Part A focuses on the studying of a range of skills and designing scientific investigations and part B involves a video presentation by the student. For part A, students are required to provide a three-page write-up on the range of skills that relate to “doing” practical work in Life Sciences.

Using the CAPS document for Life Sciences (Grades 10 to 12), students are required to select one scientific investigation that can be carried out at home, perform the investigation, take pictures of the process and formulate a scientific report on the investigation, including a discussion of the required safety measures. In part B of the assignment, students are required to produce a five minute video of themselves dissecting the heart of a cow, sheep, or pig obtained from a butchery, showing the various parts of the heart. The video must be accompanied by a list of required apparatus, an annotated diagram of the dissected organ and a discussion of the safety measures.

Distance learning students would not normally have access to equipment and materials as would be the case for contact learning students. In 2020, due to the COVID-19 protocols and movement restrictions, this assignment was specifically challenging because students did not have easy access to materials for practical assessments, for example, organs in this case, to execute the assignment and hence they often had to compromise.

The aim of practical assignments is to help students gain confidence in carrying out practical assessments in the classroom without fear of making mistakes, to encourage them to find resources and to improvise in cases where resources are limited. Holstermann, Grube and Bögeholz (2010) argue in "support of designing biology lessons that allow for experiences with hands-on activities that also interest students". Thus, not only was the acquisition of the range of skills emphasised in the assignments, development of the pre-service science teachers in practical work/hands-on activities was also considered. According to the feedback received from the students' reflections at the end of semester 1, the heart dissection assignment was for many of them the most interesting of all the assessments.

These pre-service teachers will be teaching FET phase students who must be able to design and plan a simple investigation or experiment. This would require them to identify a problem, offer a hypothesis, select apparatus or equipment and/or materials, identify variables, suggest ways of controlling variables, plan an experiment, suggest ways of recording results, and understand the need for replication or verification. It is therefore an important assessment at the PGCE level. However, some PGCE students find it challenging to do practical work. During the hard lockdowns of 2020, when some people could not travel, the practical task was adapted to compensate for the fact that they couldn't all get access to a butchery. Those students who were unable to source a real organ were required to develop a model of the heart from recycled materials from home. One student built a model of the heart using bread dough.

> *She's made the heart, using several materials to make the bread dough, and now she has labelled the different parts of the heart for demonstration.*

This process prepared the teachers quite well to negotiate challenging circumstances, innovate and compensate for a lack of resources. This project prepared teachers for the kind of resilience needed for teaching in South Africa and it helped develop their confidence.

> *One of my students said, I could carry out this practical activity, I know what to do, (even) if I don't have all the equipment – I can make a plan*

We concluded that practical work is important in the classroom, especially for life sciences and natural sciences subjects. Practical work can bring the theory to life and make it real for the students, especially distance learning students who don't always have easy access to a learning community.

> *… because I don't see the students, I must be creative as a lecturer, it will give them that confidence and competence when they go to class, when they become teachers …*

As a lecturer, it is important to model the behaviour that you want your students, in turn, to model to their learners when they, themselves, become the teachers.

Collaborative inclusive online assessment practices

In semester 1, a scenario was created as a collaborative forum (Wiki) and students were required to reflect on the pedagogical skills that they developed. This assessment counted for 5% of the total semester mark. Students were asked to identify, explain, and share their practical experiences of teaching methods that worked and those that they observed from others. Students were invited to engage asynchronously by sharing experiences including direct instruction group work, teaching methods, field trips and lessons learned from their mentor-teachers as part of the teaching practice module. These inputs could be text-based but also include pictures, other images and audio if needed.

We did not explicitly set out the ground rules. Instead, we relied on our expectation that postgraduate students should be familiar with the basic rules of online engagement. The lecturer's presence was visible, and he regularly added comments and responses. The Wiki was different from the discussion forum in that it was about students building content and receiving comments from their peers. The frequency of the student inputs differed and the discussion forum was more like a conversation – it provided more immediate responses.

> *Some of these students have higher degrees, they bring in their knowledge … Some of them even include links in their arguments, references, they substantiate their arguments.*

Assessments are not typically considered to be collaborative. However, the essence of this online assessment is to bring the students together to critique each other's ideas constructively.

> *… Everybody was there … you go there, you post comments, you criticise … you say, "Oh why don't you do it this way, why don't you do it that way?" In that collaboration where they were helping one another … it must be a kind of constructive criticism and interaction … so some people would just go there … it wasn't that I grouped them … it's just an open space, where you can go and say, "Okay, I like what you're doing but why don't you add this to this?" And then she will respond and say, 'Okay ja okay, it's a good idea." … and then they were also able to see what others were writing and that made it kind of interesting.*

Students were assessed on their inputs of ideas for a practical task including annotated drawings and text. They were also required to comment on the post of a fellow student as well as comment on a reply to a post. These inputs were assessed based on the logic of their designs, the clarity, and the quality of drawings, annotations and text. We planned the collaborative assessment to be peer-assessed, but the students felt that they didn't have the competence and therefore, in the end, we abandoned peer assessment. Although peer assessment did not work in this case, students still reported how much they learned from each other.

> *In her reflection, one of the students explained how this assignment helped her to see how talented her peers were, and it encouraged her appreciation for the discipline of teaching.*
>
> *… by giving them (students) the power, it's not only the teacher that (sic) knows everything.*
>
> *In this collaborative environment, they (students) are able to see ways to do experiments … they were able to help each other …*

We learned that collaboration in the Wiki forum gave students the power to generate content, innovate and share ideas. It was important to give them the rubric upfront, as a guide, so that students could understand how they would be assessed. We acknowledge that it is difficult to measure and assess student ownership and reflection; these are issues that we wish to further explore in the future. Additionally, qualitatively assessing peer-to-peer engagement in a forum, beyond simply counting the instances of engagement, remains challenging.

> *It showed us the importance of participation and highlighted that we must teach more than lecturing.*

This collaborative inclusive assessment did not involve group work. However, we are planning to explore group work in the distance learning space. For example, we are considering how to accommodate formal and informal online platforms for engagement. We found that the Wiki was less successful in terms of student participation. The online system had glitches, and, in the end, the students couldn't engage properly.

Reflective inclusive online assessment practices

In each semester, there is a reflective writing assessment that counts for 5% of the total semester mark. PGCE students were asked to reflect critically, in theoretically informed ways, on the teaching skills acquired through the life sciences module in both semesters respectively. They were asked to reflect on what they learned and how they would apply this knowledge as professional teachers, in the future. In addition, through the student reflections, it was possible to establish whether and how the goals and objectives of the module have been met, where the students' weaknesses are, and how to improve the module in the future.

The most common topics that the students reflected on were the practicals, lesson planning and teaching methods. The PGCE students reflected on their desire to engage their learners rather than do all the talking, overcoming obstacles and classroom resource limitations through innovative solutions. Others commented on the role of technology in the classroom and the need for them to demonstrate concepts to learners in the most practical and tangible ways.

The rubric for the assessment included five main criteria: the acquisition of skills, analysis, implementation, language use and format. The reflections had to clearly explain the students' thinking and their learning processes as well as the implications for future learning. Students were required to provide an analysis of their learning experiences, the value of the derived learning to themselves and others and their appreciation for the discipline. Furthermore, students had to provide examples to explain how they would implement the pedagogical skills in the classroom environment. A clear layout and sophisticated use of language and vocabulary, grammar, punctuation and spelling were rewarded.

Student reflections ranged from the practical to the philosophical including the factors to consider when selecting a textbook for teaching life sciences in the classroom when they become professional teachers. According to William Bragg (1959 cited in Shour, 2019, p. 2), "the fun in science lies not in discovering facts, but in discovering new ways of thinking about them".

> *You could hear their own voices coming through.*

Two prominent themes that emerged from their reflections are their understanding of the value of collaboration, learning from their peers and the potential to innovate to overcome ordinary challenges associated with the schooling context in South Africa.

> *The textbook is not the only resource you can use. You can use a bottle of water, for example.*

An important unintended outcome of the reflective online assessment is the value that it holds for lecturers to help them reflect on their teaching and how to improve their modules.

> *Another thing that I picked up was that students who come from backgrounds such as the Sciences were not used to doing qualitative research. These came out of their reflection.*

We acknowledge the value of reflection as a teaching and assessment tool, as well as a tool for the lecturer to reflect and act on towards ongoing improvement of the module content and teaching. Perhaps we underestimate the value of feedback as an assessment practice which can also inform lecturer reflection and inform teaching. The student reflections displayed evidence of sense-making by the students, of what they observed and experienced. However, the reflections were not specifically critical, which could be a result of the way that the rubric was formulated. In the future, we could revisit the rubric to include a requirement for critical reflection and the interrogation of their ideas.

Applicational inclusive online assessment practices

The COVID-19 pandemic highlighted the general reliance on invigilated, venue-based examinations which tended to focus on testing students' memory and information retention. Moving these assessments online meant that in-venue invigilation was no longer possible, thus driving requests for online proctoring. However, proctoring is understandably highly contentious on the grounds of social justice and the privacy of students. As suggested by Crosslin et al. (2018), "more authentic ways of assessing what was learned" (p. 112) need to be sought, to replace these high-stakes standardised testing because the problem with standardised testing based on rote memorisation is that "the answers are the same for everyone – and typically already on Wikipedia or some other website somewhere" (p. 114).

We introduced a time-based lesson planning assessment in semester 1 and a research proposal development assessment in semester 2, each counting 15% towards the total semester mark. Both these assessments, which took the form of online workshop activities and the submission of written work, relied on students' application of their knowledge and understanding, rather than memory retention. These assessments required students to apply judgement, synthesise and make sense of the given situation.

> *When the students go and do some work, they're producing an output.*

For the research proposal, students were required to identify a topic that represents a challenge in the teaching and learning of Life Sciences in South Africa. They then had to contextualise the problem, select and discuss relevant literature and identify any gaps. The idea was for the activity to be done via a workshop tool available on the LMS. The workshop is a valuable peer assessment activity where students add submissions which are then distributed amongst their peers for assessment. However, many students felt that they did not have adequate foundations in research knowledge and skills from their previous qualifications to properly review the work of their peers.

In addition, students were required to complete 12 weekly involvement trackers per semester, making up 10% of the mark for each semester. The involvement trackers were short weekly quizzes to test what was taught in the previous week. We wanted to ensure that students engaged with the live online sessions which were recorded or pre-recorded lectures, PowerPoint slides, and other resources uploaded on the LMS for the week in focus. Although not all 12 involvement trackers required knowledge application, some were applicational in the sense that students were required to do some research, find the right answers and develop solutions. They were required to draw on what they learned weekly and apply that knowledge to a new situation to demonstrate, not only what they know, but also what they can do. The applicational inclusive online assessment practice draws on the other four practices namely conversational, practical, collaborative and reflective.

Although the workshop activity was not executed as we had planned, the student proposals were submitted through Turnitin and assessed by the lecturer. We learned that we cannot assume that students with previous degrees have adequate knowledge of research methodology. We discovered that there should be provision in the module design for the teaching of fundamental research principles and techniques especially education-focused research work. We also found that, although some students felt overwhelmed by the frequency of the weekly involvement trackers, it kept students on their toes which ultimately helped to improve their performance.

Although there may be specific circumstances that require invigilated sit-down or proctored online assessments like professional examinations, most sit-down exams can be replaced by applicational online assessments. We are currently piloting a proctoring solution at the institution. However, we are aware of the critiques of online proctoring, and therefore we aim to use this practice selectively, and where possible, allow students to select their preference for each assessment instance. This principle aligns with the institutional aim of student-centredness and the flexible mode of learning to, where possible, always allow students a choice.

Reflection and imagination

In this chapter, we discussed five inclusive online assessment practices: conversational, practical, collaborative, reflective and applicational. The discussion forum and the chat room provided examples of conversational inclusive online assessment practice, the heart dissection, and the science project illustrated practical inclusive online assessment practices. A collaborative inclusive online assessment practice was achieved by the Wiki, and reflective writing was an example of a reflective inclusive online assessment practice. Finally, the lesson planning assignment and the research proposal development assignments offered opportunities for applicational assessment practices, providing alternatives to sit-down exams.

Through our investigation, we have identified a common factor that hampers success in various online assessment practices: the inflexible time constraint. This prompts us to inquire about the specific contexts and circumstances in which the imposition of time limits would genuinely benefit students in their assessment endeavours. Essentially, we

aim to determine when time becomes a critical factor for measuring competence and when its influence diminishes. To gain deeper insights, future research should explore innovative assessment designs that transcend the mere acquisition of credits and instead foster a genuine pursuit of knowledge (Mbembe, 2016, p. 31). Moreover, it is crucial to examine the potential role that private higher education institutions can play in realising this ambitious vision.

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