Instructional Designers in Higher Education: Roles, Challenges, and Supports

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Instructional designers (IDs) play a crucial role in higher education institutions' teaching and learning endeavors. This review of literature on IDs in higher education between 2000 and 2020 found that their roles, responsibilities, and challenges are well-described, but little is known about what supports them. As ID roles evolve in response to new challenges while helping faculty and institutions adapt to changes during and after the COVID-19 pandemic, there is a rapidly emerging need to focus on additional areas of research, such as faculty perspectives, what it means to be an ID, and how IDs are--or can be--supported.

Introduction

Instructional design has been defined by Reiser (2001) as a practice that "encompasses the analysis of learning and performance problems, and the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance" (p. 1). This definition points at the core purpose of instructional design and development activities but is not a sufficient description of what it is to be an instructional designer (ID), especially in the context of college or university employment. Instructional designers are increasingly present on higher education campuses, and published literature provides a solid foundation for understanding their education, competencies, and responsibilities (Kenny et al., 2005; Kumar & Ritzhaupt, 2017; Intentional Futures, 2016; Ritzhaupt & Kumar, 2015). The literature also suggests that instructional designers do more than engaging in systematic processes to design instruction: they develop teaching and learning materials alongside faculty subject matter experts, they support online learning technologies, they evaluate course and program quality, they train others, they manage collaborations, and they interface with students as facilitators, helpdesk staff, or background support (Dykstra, 2020; Intentional Futures, 2016). Yet, as much as is known, research has only just begun to explore the challenges IDs face in their roles in higher education, and where they find, or need, support.

The already rapid pace of change relative to technologies for teaching and learning in higher education has been accelerated during the COVID-19 pandemic in the US. Almost overnight, in March 2020 higher education institutions mandated sweeping shifts in educational delivery methods, activating widespread emergency remote teaching methods to replace face-to-face instruction (Hodges et al., 2020). Over a year later the need for ongoing remote or blended/hybrid teaching continues and brings with it ongoing and significant demand for the expertise and support of IDs as a resource to enable faculty instructors to "keep teaching" ("Keep Teaching," 2020, n.p.).

Research Purpose

This literature review seeks to understand what has been learned from and about IDs in higher education between 2000-2020 as a way to contextualize the challenges faced by IDs and the support they need, given the long-term effects on the profession post-COVID-19. Shining light on the holes in this knowledge—critiquing gaps and problems in the literature as advised by Torraco (2016)—can also illuminate areas of study that warrant deeper attention in the future. The following research questions guided this study:

1. What are the roles and responsibilities of IDs in higher education?
2. What are the challenges faced by IDs in higher education?
3. What supports are utilized by IDs working in higher education?

Methods

The literature search was conducted in ERIC, Google Scholar, and a US university library-provided combined search tool that accessed EBSCO, DOAJ, JSTOR, and SpringerLink. The following terms were searched: instructional designers, instructional designer, higher education, college, university, IDs, educational technologists, course designers, learning design, learning designer. These were combined in various ways to cast a wide net. Results included peer-reviewed journal articles, book chapters, dissertations, white papers, and other sources that were collected and cataloged in a spreadsheet. The spreadsheet highlighted key information: author(s), year of publication, study context, publication type, publication name (if applicable), focus, main findings, type of research (qualitative/quantitative/mixed), methodology (when available), and data sources. Additional chain searching and collection was conducted as articles cited potentially relevant studies that had not appeared within search results. The following inclusion criteria were applied to the 76 sources collected:

- Literature that focused on the experiences and/or activities of IDs in their professional roles rather than on design outcomes, training students to be IDs, student learning, or technological implementations was included. Faculty perspectives on working with IDs, though rare, were included.
- Sources that specifically referred to a higher education context for at least half the study participants were included.
- Only peer-reviewed articles, peer-reviewed conference proceedings, peer-reviewed books, and dissertations were included; non-peer-reviewed books and non-peer-reviewed articles were excluded.
- In addition to empirical research, literature reviews, conceptual, and position papers in peer-reviewed journals were included.

The above inclusion criteria resulted in 50 peer-reviewed articles, from 31 worldwide

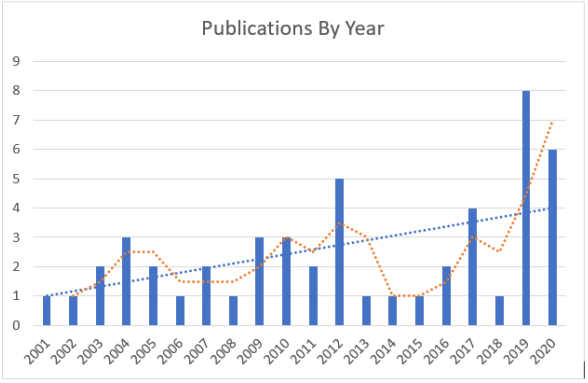
scholarly sources. After articles were read and selected for inclusion, they were re-read closely for powerful and salient ideas surrounding IDs in higher education that addressed the research questions. Direct quotes were collected and first open coded by asking, "What is this about?" As a second stage of analysis of preliminary findings, these codes were grouped by topic, similar codes were merged, and topics were finally organized such that four thematic categorizations resulted: study characteristics and research approaches; roles and responsibilities of IDs; challenges faced by IDs; and what supports IDs in higher education. In this way, the research questions were used as a framework to guide the inquiry into relevant themes and findings within each study. At several points during analysis, articles were re-read for clarification and to ensure that faithful representation of the original study was achieved via the selected quotation(s). Additionally, all data collected in spreadsheet form, including quotes, and themes, were reviewed by both authors for consistency and integrity.

Findings

Publications on IDs in higher education between 2000-2020 have been trending upward overall (Figure 1). Although there were several years in which only a single study was published, the number of publications peaked in 2012 (n=5) and was nearly double that in 2019 (n=8). It appears that between 2015 and 2020, this topic has seen a sharper upward trend than during any previous period from 2000-2020.

Figure 1

Number of Publications by Year, 2001-2020



Graph showing the number of publications per year

The number of publications in publication sources are detailed in Table 1 below, with the exception of four dissertations published by: Capella University (2), Liberty University (1), and the University of Nebraska – Lincoln (1).

Table 1

Publication Sources and Authors

Publication Source	Count	Author(s), Date
Annual Proceedings of Selected Research and Development Presented at the National Convention of the Association for Educational Communications and Technology	**1**	**McGriff, 2001**
Australasian Journal of Educational Technology	2	Campbell, Schwier, & Kenny, 2005; Schwier, Campbell, & Kenny, 2004
Canadian Journal of Learning and Technology	2	Dicks & Ives, 2009; Kenny, Zhang, Schwier, & Campbell, 2005
Contemporary Educational Technology	1	Schwier & Wilson, 2010
Digitale Medien: Zusammenarbeit in der Bildung	1	Obexer & Giardina, 2016
Proceedings of ED-MEDIA--World Conference on Educational Multimedia, Hypermedia & Telecommunications	1	Keppell, 2004
Education and Information Technologies	1	Ren, 2019
Educational Technology Research and Development	5	Campbell, Schwier, & Kenny, 2009; Hoard, Stefaniak, Baaki, & Draper, 2019; Richardson, Ashby, Alshammari, Cheng, Johnson, Krause, Lee, Randolph, & Wang, 2019; Sheehan & Johnson, 2012; Tracey, Hutchinson, & Grzebyk, 2014
Educause Review	1	Miller & Stein, 2016
Proceedings of E-Learn--World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education	3	Salentiny, 2012; Surrency, Churchill, Sanchez, & Scott, 2019; You & Teclehaimanot, 2010
Handbook of Research on Educational Communications and Technology	1	Sims & Kozalka, 2008
Instructional Design: Case Studies in Communities of Practice	1	Schwier, Campbell, & Kenny, 2007
International Journal of E-Learning & Distance Education	1	Cowie & Nichols, 2010
International Education Studies	1	Park & Luo, 2017
International Journal of Educational and Pedagogical Sciences	1	Brito, 2017
International Journal on E-Learning	1	Kumar & Ritzhaupt, 2017
Journal of Applied Instructional Design	3	Bond & Dirkin, 2020; Mancilla & Frey, 2020; Ritzhaupt, Stefaniak, Conklin, & Budhrani, 2020
Journal of Educational Technology Development and Exchange	1	Pan & Thompson, 2009
Journal of Learning Design	1	Campbell, Schwier, & Kenny, 2006
Medical Science Educator	1	Anderson, Love, & Haggar, 2019
Online Journal of Distance Learning Administration	2	Chongwony, Gardner, & Tope, 2020; Shaw, 2012
Online Learning	1	Drysdale, 2019
Open Learning: The Journal of Open, Distance and e-Learning	1	Fyle, Moseley, & Hayes, 2012
Open Praxis	1	Morgan, 2019
Optimizing Instructional Design Methods in Higher Education	1	Vovides & Lemus, 2019
Performance Improvement	1	Brigance, 2011
Performance Improvement Quarterly	3	Chen & Carliner, 2020; Kirschner, Carr, Van Merrienboer, & Sloep, 2002; Ritzhaupt & Kumar, 2015
Proceedings of the 21st Ascilite Conference	1	Bird, 2004
Qualitative Report	1	Bawa & Wilson, 2017
Quarterly Review of Distance Education	2	Ashbaugh, 2013; Pan, Deets, Phillips, & Cornell, 2003
TechTrends	1	Cox & Osguthorpe, 2003

Thirty-three studies included in this review had a US context, i.e., the context of the study or the researcher (in the case of a position paper or literature review) was US-based. Two studies involved participants in the US and Canada, eight studies were entirely Canada-based, two were conducted in the UK/Europe, four were Australasian, and one was conducted in Hong Kong. education.

Researchers studying IDs in higher education in this review took a primarily qualitative approach (n=29) using a variety of methods (Table 2). Interviews, conversations, focus groups, and emails were most common sources of data, with a few studies using job postings, design tasks, and observations. Mixed methods were used in six publications, primarily consisting of surveys with both quantitative and qualitative aspects; there were only three entirely quantitative studies. Nine position or conceptual papers, which did not indicate a methodology or approach, and three literature reviews were included.

Table 2

Research Methodologies in Included Studies

Primary Approach	Count	Methodology	Count
Qualitative	**29**	**Case Studies**	**7**
		General Qualitative	**7**
		Phenomenological	**5**
		Narrative	**3**
		Content/Document	**3**
		Analysis	**1**
		Grounded Theory	**1**
		Modified Delphi	**1**
		“Interpretive”	**1**
		“Contextual Inquiry”	
Quantitative	3	Survey	2
		Web Application Questionnaire	1
Mixed Methods	6	Survey	5
		Case Study	1
Position or Conceptual	9	No specific methodology	9
Literature Review	3	Integrative	1
		No specific methodology	2

Roles and Responsibilities

An ID working in a college or university setting serves multiple stakeholders at once: the institution, the faculty/instructor and/or subject-matter expert (SME), and ultimately the learner (Kirschner et al., 2002; Ritzhaupt & Kumar, 2015). The terms faculty/instructor and the subject-matter expert (SME) were found to be synonymous in the literature reviewed and are therefore referred to as faculty SMEs in this article.

Functional Responsibilities

Several studies pointed out the variety of backgrounds and career paths that lead to becoming an ID in higher education. In general, these IDs are highly and diversely qualified, often possess backgrounds in teaching, and frequently consider their professions *found* as opposed to *sought*; rather than taking a path through a degree or other training in order to become an ID, they find their way into those roles as a result of their experiences and skill sets (Anderson et al., 2019; Kenny et al., 2005; Ritzhaupt & Kumar, 2015; Schwier et al., 2004). In a fitting parallel to these entry paths to instructional-design-as-career, the job titles, roles, and functions of IDs in higher education are similarly variable (Anderson et al., 2019; Morgan, 2019; Moskal, 2012; Schwier & Wilson, 2010). Because the practice of instructional design cannot be separated from the environment in which it takes place, the culture of the institution is a strong influence in how and what its IDs do (Dykstra, 2020; Pan et al., 2003; Schwier et al., 2004; Sims & Koszalka, 2008). Pan & Thompson (2003) note there is often a "balance between the prevailing bureaucracy and the implementation of innovative uses of instructional design" (p. 166) which may constrain or enable pedagogical possibilities at a given institution.

Surrency et al. (2019) analyzed job postings for IDs in higher education and found that 90% listed soft skills—especially communication skills--as a required competency; Chongwony et al. (2020) noted in a similar job posting analysis that "the most mentioned competency is communication skills" (n.p.). However, most studies included in this review conceptualized ID responsibilities in the form of what they do for faculty, for learners, and for education and instruction in practice, rather than cataloging their position descriptions. These functional elements of ID roles tend to include predictable responsibilities such as: (a) applying instructional design theory and models to educational projects (Kenny et al., 2005; Ritzhaupt & Kumar, 2015; Schwier et al., 2007); (b) helping faculty teach (Anderson et al., 2019; Hart, 2018; Kumar & Ritzhaupt, 2017; Miller & Stein, 2016; Pan & Thompson, 2009); (c) providing technological support (Kumar & Ritzhaupt, 2017; Park & Luo, 2017; You & Teclehaimanot, 2010); (d) managing projects (Cowie & Nichols, 2010; Cox & Osguthorpe, 2003; Kumar & Ritzhaupt, 2017); (e) collaborating and communicating (Bawa & Watson, 2017; Drysdale, 2019; Hart, 2018; Moskal, 2012; Richardson et al, 2019; Schwier & Wilson, 2010); and (f) providing opportunities for faculty development (Hart, 2018; McGriff, 2001; McDonald & Mayes, 2007; Moskal, 2012). Increasingly, IDs in higher education are also expected to ensure educational quality and innovation (Brito, 2017), and understand how to conduct evidence-based activities using research (Ashbaugh, 2013).

In the context of higher education, instructional design is inherently collaborative, often referred to in terms of being socially-constructed: as relationships or conversations (Campbell et al., 2005; Chen & Carliner, 2020; Drysdale, 2019; Dysktra, 2020), using a "common vocabulary…[or] language" (Chen & Carliner, 2020, p. 482). IDs bring value to the collaborative effort of course design and development, aiding faculty in the transformation of their teaching strategies to incorporate best practices in technology application, pedagogy, ethics, accessibility, and learner-centered design (Brigance, 2011; McDonald & Mayes, 2007). Although IDs are most directly supporting and collaborating with faculty, they nonetheless acknowledge that learners are ultimately whom they serve (Dykstra, 2020; Kirschner et al., 2002; Kumar & Ritzhaupt, 2017). Importantly, IDs use reflective and creative thinking to find new ways of solving problems as a matter of routine (Ren, 2019; Schwier et al., 2007; Tracey et al., 2014). Their role in linking faculty SMEs to learners positions them in a space of unique potential to create a unified connection between the two (Dicks & Ives, 2009). As Fyle et al. (2012) noted, "IDs can be the glue, holding everything together as project manager, as well as providing support and assistance throughout the process – brokering the services of others as needed" (p. 62).

Although technological support was noted as a prevailing reason faculty engage with IDs (Kumar & Ritzhaupt, 2017), what they needed more was pedagogical perspective and meaningful instructional problem-solving (You & Teclehaimanot, 2010). Fittingly, IDs were distinguished in the literature from information technologists precisely because their technological perspective is focused on how to use those technologies to teach (Kumar & Ritzhaupt, 2017). Their knowledge is both practical and theoretical, and their value lies in transcending the technology to put it to meaningful use in pragmatic ways, often to reduce the burden and learning curve for faculty SMEs (Ritzhaupt & Kumar, 2015; Schwier et al., 2007; Sheehan & Johnson, 2012). Several studies found that, although IDs report using traditional models of instructional design (especially ADDIE), their application is not universal (Bond & Dirkin, 2020; Kenny et al., 2005; Schwier et al., 2007; Tracey et al., 2014).

Characteristics, Not Roles

Focusing on what "instructional designers really do" (Kumar & Ritzhaupt, 2017, p. 371), studies frequently opted to characterize IDs in terms of who they are as actors and agents. IDs were referred to as:

- brokers (Fyle et al., 2012; Mayes, 2002; McDonald & Mayes, 2007),
- problem solvers (Ritzhaupt & Kumar, 2015; Park & Luo, 2017; Shaw, 2012; Schwier et al., 2004),
- change agents (Anderson et al, 2019; Ashbaugh,

2013; Campbell et al., 2006; Campbell et al., 2009; McDonald & Mayes, 2007; McGriff, 2001; Ren, 2019; Shaw, 2012; Schwier et al., 2004),
- curious or inquisitive and willing to learn (Dykstra, 2020; Keppell, 2004; Ritzhaupt & Kumar, 2015), and
- reflective (Pan & Thompson, 2009; Tracey et al., 2014).

If relationships are viewed as the center of instructional design (Chen & Carliner, 2020; Dicks & Ives, 2009; Drysdale, 2019) and if instructional design is a conversation (Campbell et al., 2006; Schwier et al., 2007), then perceived or enacted characteristics may be a more relevant construct than role when considering how IDs carry out their work in higher education.

"Unsung essential functions" (Anderson et al., 2019, p. 510)

Aside from the responsibilities detailed above and the range of functions they provide to learners, instructors, and institutions of higher education, IDs must also navigate a variety of poorly-defined, yet crucial, demands on their skill sets in order to be successful in higher education (Mancilla & Frey, 2020). They must be able to reflect, adapt, problem-solve, and innovate all while managing and brokering successful interpersonal collaboration with SMEs who hold authority but not necessarily expertise in teaching (Chen & Carliner, 2020).

IDs must be skilled at building and maintaining relationships (Chen & Carliner, 2020; Cowie & Nichols, 2010; Dicks & Ives, 2009; Ritzhaupt & Kumar, 2015), sometimes leading and sometimes supporting, depending on the needs of the interaction (Pan et al., 2003). Listening skills must be coupled with an ability to "tease out" (Dicks & Ives, 2009, n.p.; McDonald & Mayes, 2007, p. 176) the core of an educational problem not only to propose working solutions, but also to convince the faculty SME that the solution is both viable and reasonable to implement. Intuition and sensitivity to multiple levels of interpersonal and professional dynamics is important because IDs' jobs are complex, "involving symbiosis with not only other human beings, but also with technology and content" (Bawa & Watson, 2017, p. 2337). Often, the ID is in a position of needing to impose policy on educational delivery projects, and thus they must have firm grounding in the ethical-, accessibility-, and academic integrity-related expectations and regulations at their employing institution as well as nationally (Kumar & Ritzhaupt, 2017; Sims & Koszalka, 2008). Dicks and Ives (2009) go so far as to describe IDs as the "instructional conscience" (n.p.) ensuring alignment between educational intention and pedagogical practice, but this is sometimes extended to functioning as a socio-political, ethical, and institutional value conscience as well (Campbell et al, 2006; Schwier, et al., 2007).

Because they are the facilitators, the brokers, and even the glue that holds together technology, content, and pedagogical best practice, IDs are integral to the quality and success of education (Anderson et al., 2019; Ashbaugh, 2013; Campbell et al., 2006; McDonald & Mayes, 2007; Schwier et al., 2007). Researchers argue that there is an emerging trend in higher education in which IDs function as change agents, increasingly responsible for facilitating discussions concerning technology-enhanced learning initiatives and challenging the pedagogical status quo (McDonald & Mayes, 2007; Schwier et al., 2004). IDs advocate for quality teaching, contribute to faculty growth and development (Schwier et al., 2007; Schwier & Wilson, 2010), and "their ability to perform as architects and leaders of change is an unsung essential function" (Anderson et al, 2019, p. 510) that perhaps even the IDs themselves do not always recognize (Schwier et al., 2004) and may encounter as expectations in their roles in higher education (Chongwony et al., 2020).

Challenges Faced By Instructional Designers

In a study of 174 IDs who reported having formal education in their field, only 51% felt it prepared them for 'most' aspects of their work in higher education (Bond & Dirkin, 2020). Traditional competency models for instructional design, such as the International Board of Standards for Training, Performance and Instruction (ibstpi) may not provide sufficient frameworks for the professionals who seek to work in higher education (Kenny et al., 2005; Mancilla & Frey, 2020; Salentiny, 2012). Park and Luo (2017) go so far in pointing out that higher education is different as to suggest a new model for ibstpi to include foci on conducting research and academic publication, educating/mentoring, and facilitating training; indeed, despite the increasing prevalence of instructional designers in higher education and other industries, the profession may be considered emerging rather than established given the wide variety of functions, backgrounds, and expertise that instructional designers possess and enact (McDonald & Mayes, 2007). The gap between what they have been trained to do and what they must do to be effective is a fundamental challenge faced by IDs in higher education that frames and underlies more specific challenges.

Ambiguous Status

There is confusion and misunderstanding reflected in the ways IDs are formally classified and positioned in higher education. Naming conventions for IDs have only recently begun to normalize and provide clarity to what is becoming a typical position, but even still, institutions may create these positions without fully defining the role they play within the larger organizational structure (Bird, 2004; Richardson et al., 2019; Schwier et al., 2004).

Studies consistently reported challenges related to this "ambiguity of status" (Chen & Carliner, 2020, p. 20) and confusion or lack of awareness about ID functions, credibility, and the expertise and value they bring to educational development (Anderson et al., 2009; Campbell et al., 2006; Cowie & Nichols, 2010; Drysdale, 2019; Dykstra, 2020; Hart, 2018; Ren, 2019; Richardson et al., 2018; Ritzhaupt & Kumar, 2015; Salentiny, 2012). Put simply, IDs are often underutilized and/or undervalued in higher education, due in part to their positioning as support staff rather than as valid academic partners (Cowie & Nichols, 2010; Dykstra, 2020; Moskal, 2012; Richardson et al., 2018). This is a challenge for the IDs themselves, as they must be their own advocates and constantly defend their credibility, contributions, and value to the stakeholders with whom they are expected to collaborate and serve (Richardson et al., 2018; Schwier et al., 2004; Schwier & Wilson, 2010).

"Pulling tigers' teeth" (Pan et al., 2003, p. 289)

Challenges within collaborative relationships between IDs and faculty SMEs feature most prominently within the literature and are the most frequently discussed; these challenges of relationship are especially complex because they are both caused by, and sometimes lead to, other kinds of challenges. In a recent literature review focused on course design collaborations, Chen and Carliner (2020) identified a variety of factors that hinder the relationship between faculty and IDs in higher education, specifically, lack of clarity of the ID's role; problems with communication; workload pressures; ownership concerns; and status and power dynamics.

IDs struggle for recognition as credible contributors to educational collaborations with faculty SMEs (Dykstra, 2020). They face challenges due to the understandable discomfort faculty may experience upon realizing they must "open the private culture of teaching and learning" (Schwier et al., 2004, p. 94) to collaborators, especially those collaborators who lack faculty status as IDs do (Richardson et al., 2018). As Chen and Carliner (2020) eloquently stated:

> [A] power differential exists between instructional designers and faculty, who often lack formal training in education yet, in most organizational contexts, outrank instructional designers in the relationship by virtue of their faculty status. (p. 20)

For many faculty, working in a team or partnership to produce a course or program is new, and may be uncomfortable and accompanied by fear of losing their academic autonomy (Chen & Carliner, 2020; Cowie & Nichols, 2010; Pan & Thompson, 2009; Richardson et al., 2018). Conflicts may arise out of a faculty SME's resistance to recommendations or changes suggested by the ID (Drysdale, 2019; Hart, 2018; Ren, 2019; Richardson et al., 2018). In some cases, faculty may even resist the very innovation that drives IDs' work (Cowie & Nichols, 2010; Miller & Stein, 2016; Richardson et al., 2018), leading the ID to the additional challenge of convincing the SME of the soundness of their suggestions (Dick & Ives, 2009). IDs thus find themselves poised and expected to provide valuable contributions to teaching and learning in the context of resistance and skepticism, playing "a sensitive but tricky role, as pulling tigers' teeth without getting bitten" (Pan et al., 2003, p. 289).

Cultural Challenges

Although they are experienced and knowledgeable about the application of technology to teaching and learning, IDs are typically not experts in the disciplines they support (Bawa & Watson, 2017). This presents a basic challenge to IDs because each collaboration they undertake may be in a discipline that is unfamiliar to them, and that may have pedagogical assumptions of at odds with their own, requiring the ID to adapt to the "prevailing culture of the discipline" (Schwier & Wilson, 2010, p. 144) in order to work effectively among a variety pedagogical belief systems. The values and motivations of faculty SMEs or the employing institution (e.g. financial costs or time constraints) may also pose challenges for IDs in higher education if those motivations appear to be misaligned with their own perceived social/moral/ethical responsibilities and commitments to the development of quality learning experiences (Campbell et al., 2005; Schwier et al. 2007).

Operational Challenges

Technology and its campus-wide implementation is an expensive undertaking and resources can be limited as higher education institutions continue to shift towards a blended or online model of technology-enhanced education (Sims & Koszalka, 2008). IDs may advocate for technologies to best meet educational goals, but informed decisions may not always be made regarding which technologies to adopt and why (Cowie & Nichols, 2010; Dykstra, 2020). Despite their roles as experts and critical stakeholders when it comes to teaching with technology, IDs often have no voice in the decision-making that directly affects them (Brito, 2017; McDonald & Mayes, 2007; Moskal, 2012), and may be expected to advocate for initiatives that did not achieve widespread buy-in (McDonald & Mayes, 2007). Beyond this, IDs are often misunderstood to be "techies" (Ritzhaupt & Kumar, 2015, p. 65; Schwier & Wilson, 2010, p. 141) who can be replaced by technology implementations, who are underutilized for course development, or whose responsibilities can be absorbed by non-instructional design staff (Fyle et al., 2012; Ren, 2019).

Time presents an additional challenge that IDs and

faculty SMEs alike struggle with. Faculty SMEs and IDs' perspectives regarding how much time is required to develop a course or program may be out of sync (Cowie & Nichols, 2010; Dykstra, 2020). McDonald and Mayes (2007) point out that "balancing the need to progress the design process efficiently, against structured opportunities to explore and clarify ideas, is a constant challenge for IDs working with time-poor SMEs" (p. 187). The reality that faculty SMEs do not have time or cannot commit fully to the instructional design project is a common challenge (Richardson et al, 2019; Ren 2019). The ID must make demands of faculty—offering training, providing design frameworks, requesting content, input, feedback, and collaboration—yet lacks any leverage to incentivize or otherwise encourage SME commitment (Miller & Stein, 2016; Richardson et al., 2019; Schwier & Wilson, 2010). Without institutional intervention in the form of faculty incentives or support, this is an inevitable challenge for IDs which can lead to an inability to complete projects (McDonald & Mayes, 2007). While not an overarching theme within the literature, IDs' own workloads and deadlines were also noted as a challenge (Pan & Thompson, 2009). Time or other resource limitations coupled with faculty misunderstanding regarding what IDs do can lead to IDs feeling pressured to skip important steps (such as needs assessments) in order to complete projects quickly (Dykstra, 2020; Hoard et al., 2009).

Support for Instructional Designers

Within the twenty years of literature reviewed in this study, there was no data that might clearly or directly answer the question, "What supports IDs working in higher education?" This section includes allusions to structures and ID characteristics noted in the literature that can be construed as supportive of their work in higher education

Supporting Each Other

IDs in higher education struggle for identity, credibility, and agency, and yet as a professional culture, they seem to know exactly who they are (Ashbaugh, 2011; Campbell et al., 2006; Dykstra, 2020; Obexer & Giardina, 2016; Ritzhaupt & Kumar, 2015; Schwier et al., 2004). As reflective practitioners engaging in a socially-constructed, conversational practice, IDs ask questions about the nature of their work and the effects it has on others (Campbell et al., 2005; Kenny et al., 2005), and they seek collaboration. IDs create and utilize Communities of Practice (CoP) among themselves as well as with, and for, faculty, seeking and providing support alongside their peers, colleagues, and collaborators (Dykstra, 2020; Keppell, 2004; McDonald & Mayes, 2007; Schwier et al., 2004; Schwier et al., 2007). In this way, they generate their own support for the varieties of challenges they face. Other forms of professional engagement that provide support are open resources online, professional organizations, and academic literature (Ritzhaupt et al., 2020; Schwier et al., 2004; Schwier et al., 2007).

Self-representation

Because IDs' roles and functions are often misunderstood, they must assume the responsibility of advocating for themselves (Morgan, 2019; Schwier & Wilson, 2010). In facing and addressing this challenge, IDs are their own supports, in 'marketing' (Schwier & Wilson, 2010) instructional design and serving the profession (and in turn, themselves) by increasing awareness of the value and expertise they bring to the table. "Designers know that they have a great deal to contribute, and that they make a significant difference in the quality of instruction they influence" (Schwier et al, 2007, p. 31); they seem to generate support for their work and their roles through self-advocacy.

Characteristics and Do-It-Yourself Approach

The literature indicated that IDs often find their roles through non-traditional pathways, presumably because they are inherently well-suited to managing the variety of responsibilities involved in instructional design in higher education. IDs have been described as being adaptable, flexible, and "chameleon" (Bawa & Watson, 2017, p. 2334) in nature (Kirschner, 2002; Moskal, 2012; Ritzhaupt & Kumar, 2015; Shaw, 2012). This adaptability itself may be an endemic form of support; when faced with a challenge or presented with the needs of faculty or learners, IDs seem able to activate the skills best suited to the particular issue at hand. Additionally, problem-solving and the readiness and willingness to constantly learn new skills and evolve with changing contexts (Ritzhaupt & Kumar, 2015; Schwier et al., 2004) are skills that may function simultaneously as unrecognized forms of self-support. IDs expressed a love of learning and a tendency to play to their skills (Dykstra, 2020; Hoard et al., 2019), which can serve to reduce the magnitude and stress of a challenge whether they address it through means that are familiar to them or opt to learn something new.

Feedback

IDs make valuable, high-quality contributions to higher education (Anderson et al., 2019; Ashbaugh, 2013; Brigance, 2011; Campbell et al., 2006; Fyle et al., 2012; McGriff, 2001; Schwier et al., 2007; Vovides & Lemus, 2019). Positive feedback and outcomes, as well as recognition, for their contributions may be another form of indirect support (Dykstra, 2020).

Discussion and Implications

Over the past twenty years (2000-2020), research on IDs in higher education has steadily increased. Researchers have explored the roles and responsibilities IDs fulfill at institutions of higher education, the competencies they need to succeed, the relationships between faculty SMEs and IDs, and the challenges they face. Nevertheless, a significant missing piece in the literature is the existing support (or lack thereof) for IDs that could help them succeed. The focus of this section is thus on possible ways in which IDs can be supported to overcome the challenges outlined in the literature (Table 3).

In addition to their established roles in curriculum design, development and delivery, and faculty support, IDs are beginning to be recognized for the deeper, more expansive, and more transformative potential they offer to institutions: the potential to support strategic missions and bring change at the organizational level (Campbell et al., 2006; Dykstra, 2020; Schwier et al., 2004; Vovides & Lemus, 2019). To alleviate confusion about ID roles and functions and to empower them as credible stakeholders with voices in decision-making (Anderson et al., 2019), IDs should be involved in conversations about redefinitions, revisions, and expansions of their roles in higher education.

Many challenges faced by IDs are created or exacerbated by the positioning of IDs within the institutional hierarchy, while others arise from the nuances of navigating and managing collaborative relationship dynamics. Often due to these intertwined relationships, the challenges experienced by faculty attempting to develop technology-enhanced learning translate directly into the challenges faced by IDs. Institutional support for faculty (e.g. release time or financial incentives for instructional development, faculty development) and scaffolded structures for collaboration and teamwork could help to indirectly lesson or resolve ID challenges. Cowie and Nichols (2010) suggested, “tensions between faculty and instructional design staff can be resolved through a deliberate emphasis on the growing of a new shared culture through careful project management” (p. 89). Important aspects of faculty and ID relationships that could benefit from scaffolds and structure include defining the teamwork process and member roles in advance, establishing the role of technology within the collaboration, building trust through open communication (including about beliefs and pedagogical approaches), and setting clear deadlines and time management expectations.

Table 3

Possibilities for Supporting Instructional Designers in Higher Education

Challenges	Possible Supports
Identity and credibility (misperception of roles, underutilization, undervaluation)	**Include IDs in the reconfiguration of their roles. Generate communication campaigns for awareness about ID roles. Recognize IDs publicly for their contributions. Involve faculty and IDs in mixed Communities of Practice (CoPs). Provide IDs with opportunities to conduct research.**
Disconnect between role and educational preparation (hidden or undefined responsibilities, missing competencies)	Update ID degree programs based on current research and practice (consider apprenticeships). Seek ID input on job postings and position descriptions. Provide support for CoPs and professional organization membership.
Faculty Concerns (losing autonomy, resistance to innovation)	Engage in change management processes. Communicate with faculty about ID roles.
Resources (workload, faculty workload, time)	Provide faculty with incentives or release time when working with IDs. Utilize project management and structured collaborations.
Power Dynamics (position/status ambiguity, exclusion from academic culture)	Position IDs as members of the academic community. Recognize IDs publicly for their contributions to teaching and learning. Provide IDs opportunities to conduct academic research. Encourage and support ID expansion into leadership roles.

The literature indicates that issues of power and agency remain unresolved for IDs even after decades of their presence on higher education campuses. There are greater numbers of IDs and increased awareness of what IDs do, but the misconceptions, underutilization, struggles in relationships, and lack of status or influence in an institution persist according to the literature. Interviews with IDs described scenarios in which a strategic plan for online learning at their institutions supported their validity and credibility (Dykstra, 2020). Yet changing the status quo of an institutional culture is a significant undertaking and cannot be achieved without buy-in from all stakeholders (e.g., administrators, faculty) and the inclusion of IDs in decision-making.

Limitations

The limitations and delimitations of this review include the search terms, the databases searched, the exclusive inclusion of English terms and literature, and the timeframe for the inclusion of literature (2000-2020). In addition to search parameters and characteristics, the literature review process was guided by specific research questions focused exclusively on IDs working in higher education. This excludes literature on IDs in other contexts who may or may not share similar roles, challenges, and supports.

Conclusion and Future Directions

The field of instructional design in higher education is both mature, having originated over fifty years ago (Reiser, 2001), and emergent, undergoing constant adaptation as technologies and the landscape of higher education evolve. This review sought to understand what has been learned from and about IDs in higher education over the past twenty years. The roles and responsibilities of IDs are well-described, as are their experiences working with faculty, and their challenges in higher education. Despite this depth of knowledge regarding the what and how of instructional design, the literature continues to overlook "important and emerging questions"—the why—for IDs: questions of personal and professional identity, cultural participation, and what it means to be an ID in higher education (Kenny et al., 2005, n.p.). It is important to emphasize that research on the supports utilized by IDs was found to be lacking, as well.

Still more questions remain unexplored. Chen and Carliner (2020) criticized that the faculty perspective is not captured in most research on instructional design in higher education: how do faculty feel about working with IDs - before and also after these collaborations? What do faculty think about the positioning of IDs and their role in higher education? What suggestions do practicing IDs have relative to the modification of their field's professional or educational competencies?

The landscape of higher education teaching and learning continues to change, not only as a result of innovations in technologies for teaching and learning, but also due to the need to respond to global events such as COVID-19 which may alter the operational standards and expectations of colleges and universities for the foreseeable, long-term, future. IDs are unavoidably impacted by changes of this nature and are called upon to use their flexibility and expertise to help institutions and faculty adapt to new ways of educating students. As IDs become increasingly essential to the fabric of higher education institutions, there is an imminent need for research on the emerging challenges they face and the kinds of support they need to be successful.

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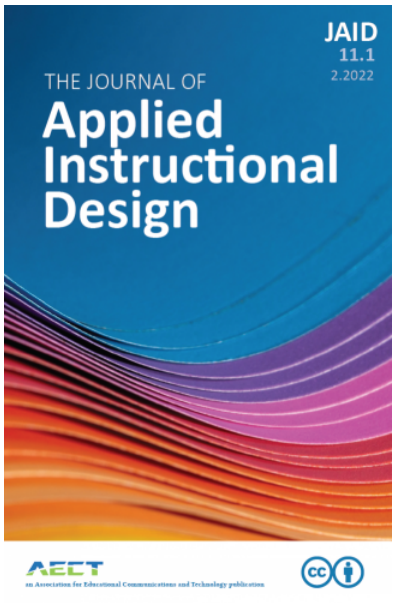

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