Drawing Inspiration for Learning Experience Design (LX) from Diverse Perspectives

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Editor Note

Abstract

This article was adapted from a keynote lecture given on June 1, 2018, at the Emerging Learning Design Conference in Montclair, NJ. In this

essay, I argue that the emerging practice of learning experience design (LX) affords the opportunity to develop more engaging, innovative, and effective experiences for learners in diverse settings. However, in order to realize this potential, designers must expand our definitions of what counts as a learning experience, for whom, and for what ends. In addition, I challenge us as designers to foreground equity in our designs by beginning with the assumption that whatever learning situations we create will always be usable to some learners (and unusable for others), and will also have unintended consequences (even negative consequences) for some learners.

Introduction

In this essay, I argue that the emerging practice of learning experience design (LX) affords the opportunity to develop more engaging, innovative, and effective experiences for learners in diverse settings. However, in order to realize this potential, as designers we must expand our definitions of what counts as a learning experience, for whom, and for what ends. In addition, I challenge us as designers to foreground equity in our designs by beginning with the assumption that whatever learning situations we create will always be usable to some learners (and unusable for others), and will also have unintended consequences (even negative consequences) for some learners. How might we expand our impact, as LX designers, while making sure to thoughtfully design for the potential harm we do when we create new technologies for learning?

To interrogate this question requires a deeper understanding of what LX design practice affords, how an understanding of equity strengthens our practice as learning designers, and a fuller notion of what we mean by learning and how we see it occur around us. In the following essay, I touch on each of these points from my own experience as an LX designer and researcher. I end with a few

heuristics that have been helpful in my own LX design practice, not as an exhaustive list, but as the beginning of a broader discussion that can help LX as a field evolve in the next few years.

Moving from Instructional Design to Learning Experience

The term LX has emerged only recently, with reports that the term was coined around 2015 (see "Learning Experience Design – The Most Valuable Lessons," 2017). The idea of LX came from practitioners to capture the changing nature of design practice, with the terms instructional design (ID) and learning experience design (LX) symbolizing the shifts in popular thinking. In the past, many learning designers focused on creating curriculum and learning experiences in the classroom, and then in formal online course environments (ID). Now, designers are creating learning situations for a wide variety of settings such as: home, work, museums and libraries, public spaces, and in all types of online and virtual environments that go beyond formal classroom situations (LX).

Beyond recognizing that LX practitioners are designing for more diverse contexts – moving from the classroom to out-of-school settings – I also think about LX practice as an evolutionary synthesis of ideas and techniques that come from different fields. The area of learning design is quite diverse and includes practitioners from instructional design backgrounds to learning scientists who have developed notions of design-based research and design experiments for learning (Anderson & Shattuck, 2012; Bell, 2004; Cobb, Confrey, DiSessa, Lehrer, & Schauble, 2003; Collins, Joseph, & Bielaczyc, 2004; Easterday, Rees Lewis, & Gerber, 2014; Hoadley, 2004). Despite this diversity in research traditions, there is a core notion that is most relevant for LX designers. The field of learning sciences (widely conceived) is moving towards documenting and understanding how

learning occurs in ever more expansive, diverse, and varied settings. These developments bring new ideas about how learning is connected across settings, technologies, and communities (Ito et al., 2013), how people learn using new tools and pedagogical practices, and how we can recognize what learning looks like beyond what we're used to seeing in formal educational settings.

Taking an expansive view of what learning looks like, how we guide it, and what technologies amplify learning practices coincides nicely with practices in user experience design (UX), which has largely come from technology fields. UX also builds from its own research and scholarly communities such as human-computer interaction, where new design methods are developed that take into account the needs of different users (Ahn & Clegg, 2018; Beyer & Holtzblatt, 1999; Carroll & Rosson, 1992; Druin, 1999; Gelderblom & Kotzé, 2009; Quintana, Eng, Carra, Wu, & Soloway, 1999; Soloway et al., 1996). Coupled with this scholarly work is a robust design field, where UX designers work in a variety of industry settings and develop practices for creating new technologies in more inclusive and effective ways. Concepts of human-centered design (Norman, 2013) and recent frameworks such as design thinking, popularized by the firm IDEO and the d.School at Stanford University ("Design Thinking," n.d.), have seen its way into design practice. I take several inspirations from UX fields, but particularly in: (a) deriving techniques to recognize human experiences, needs, and constraints in new ways, (b) to empathize deeply with those who will use our designs, and (c) to take seriously the notion of usability or how people will come to use our designs (see Figure 1).
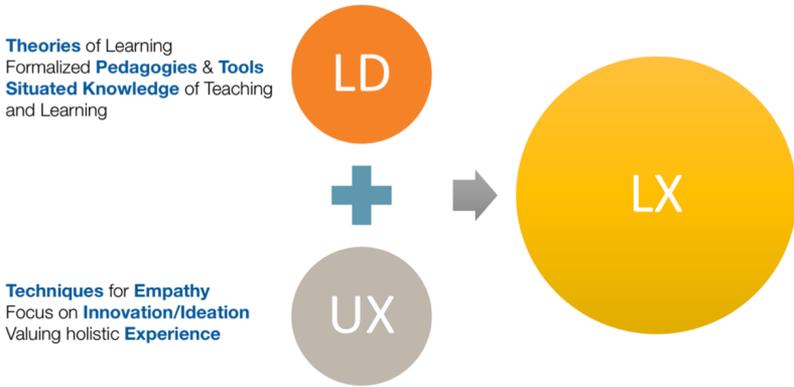
Figure 1. LX is the Synthesis of Ideas from Learning Design and User Experience Design.

An LX designer has the double challenge of continually expanding their understanding of how people learn, while also building a repertoire of techniques (often from UX practice) to expand their ability to empathize, understand, and draw inspiration from different users and contexts to somehow create new and innovative ideas. New learning environments have to both draw from a robust theoretical understanding of learning but also be usable, engaging, and impactful for learners to experience.

Seeing Learning from Diverse Lenses and Valuing Different Outcomes

One way that theories of learning and empathy for a broader array of human experience can combine in LX design is to first expand our notions of what learning looks like, and thus what we may design for.

In my own LX practice, I have focused on various facets of learning that capture common experiences one might care about (see Figure 2). First, knowledge is often the most common outcome that instructional and LX designers often think about when creating a new technology or educational environment. I include in this idea, both understanding some body of content (facts and ideas) and also knowing how to do something in a domain. Second, a growing number of scholars also observe that interest is both a factor and an outcome of a learning situation (Renninger, 2009). Some learning environments may foster greater interest in a topic, and that interest can be further developed or halted in future experiences (A zevedo, 2011, 2013; Barron, 2006; Edelson & Joseph, 2001). Some learning environments can encourage interest in the short-term, to be engaging in the moment. Other learning environments deepen interest over the long term, touching on core motivations of learners that layer on over time.

How Might We Think about a Learning **Experience**?
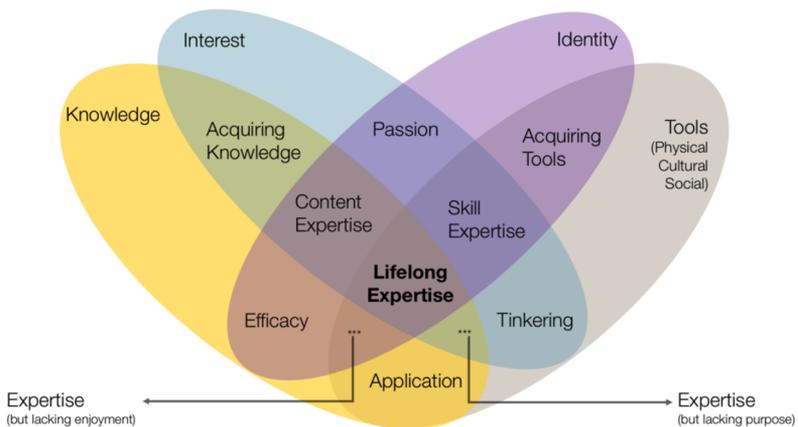
Figure 2. How might we see facets of learning and subsequently design for it?

Third, one's identity is also a deep part of learning. People show their identity through objects and social relationships such as the clothes they wear, the tools they use, or the social groups they publicly show their membership in (Gee, 2000). Over time, people "figure" out their worlds, which include which social groups they want to relate to, what social, cultural, and learning activities they want to attend to, and what goals they value (Holland, Lachicotte Jr, Skinner, & Cain, 1998; Nasir & Hand, 2008). Learners show their identity by the stories they tell about themselves and what they publicly voice as their identity (Sfard & Prusak, 2005). Ultimately, some learning environments are supportive in helping learners further develop their identities as someone who wants to pursue a given field (like science) or to become a certain type of person (like a writer or basketball player), and designing these environments opens up new ways to think about an experience (Ahn et al., 2014; Calabrese Barton et al., 2013; Polman & Miller, 2010).

Finally, an area that is a common focus for LX designers is technology. I like to think expansively about technology, as fundamentally the tools we want learners to use to participate in a given field. This view is inspired from scholars who think about new literacies and recognize that a literacy involves knowing how to use different tools that are valued and important to participate in practices and knowledge creation (Coiro, Knobel, Lankshear, & Leu, 2008; Hull & Schultz, 2001; Jenkins, 2009). When thinking about tools and being "literate", we can also think about cultural and social norms as a form of technology. Rules and norms that a social group as constructed and agreed upon, are tools that make it more effective to communicate, collaborate, and make progress in a field. W e see these tools everywhere we look. Scientists of all sorts use physical

technologies to conduct their work, software to analyze findings or communicate ideas to each other, and institutions to facilitate the scientific community (universities, labs, journals, conferences etc.), and norms of thinking and communicating that define the community.

An important note is that the four facets of learning that I laid out above are by no means exhaustive. One may think of many other facets of learning that we want to foreground when we're designing a learning environment. The core question is, how might LX designers benefit from thinking about learning more expansively? One way that has been helpful in my practice as a design-based learning researcher is to develop conjectures about what I'd want to see or observe, if I were to think about a successful learner. For example, many designers might say that they'd want to see success as a learner who shows that they know a lot of content or skills (knowledge in Figure 2). We might also see a learner who knows a lot and also shows an interest to acquiring even more knowledge (the intersection of knowledge and interest in Figure 2). We might see learners who know a lot and also communicate that they are confident they can be that kind of person; for example, saying that "I am a science person" or "I can do science" (the intersection of knowledge and identity).

With young people and new technologies, we often first see active use of a new tool like a computer or a 3-d printer. We might observe successful learning when young people tinker, and develop deeper practices with tools (the intersection of tools and interest in Figure 2). Another intersection might be a learner that has a lot of interest and identity in a given domain, and thus shows a lot of passion about participating in it (even if they lack knowledge or tools). As we observe learners that exhibit even more combinations, we would expect to observe more advanced learning behaviors. For example, a learner who has deep knowledge, interest, and identity (but no experience with tools) may show a deep level of content knowledge,

but a lack of skills in applying that knowledge. Contrastingly, a learner who has deep understanding of tools, with substantial interest and identity (but less content knowledge), may show a lot of skill expertise, but less understanding of the deeper thought processes involved in a domain. Ultimately, a key challenge for LX designers is to create environments that touch on multiple learning facets that lead to deeper learning behaviors or experiences that we can observe.

Thinking About Equity in LX Design

Seeing learning more expansively also attunes LX designers to imagine the potential downsides of the learning environments and technologies we design. When designers do not anticipate these downsides, inequitable experiences may occur and widen gaps between learners who benefit from our designs and those who are not served well. One common blind spot that LX designers have is to assume that learners are at fault if they do not engage with a tool, or do not gain the intended benefits of some learning experience. For example, one might design an online course that carefully guides learners through a progression of topics or tasks that should effectively educate them about a topic (developing deeper knowledge). But when faced with situations where many learners do not complete the course, or do not engage with it, one can easily revert to statements such as "if only those learners were interested in the content" or "if they were skilled enough to get what we're trying to do". Such deficit-model ways of thinking, illuminate how the design of learning environments may optimize for one facet of learning (knowledge acquisition), but fail to consider broader learning experiences that matter (interest, identity, or tools).

The consequences of designing with major blind spots for the broader learning experience can be substantial. Only learners who are already privileged (e.g., already have the requisite knowledge, already have developed interest, already have a deep sense of self and commitment

to engage, or are already literate and have skills) will engage with and benefit from a newly designed learning experience. Those who lack any of these facets fall through the cracks. And inequitable learning experiences cascade, combine, and accumulate across learners. To break out of this cycle, and overcome these obstacles, we need to not only design pedagogies and technologies, but also for broader experiences. A key question is how do we do that as LX designers?

Some Heuristics for LX Design Practice

In my own experience as a learning scientist and design-based researcher, a few lessons have stuck with me over the years. First, the theories of learning and social behavior are not tools that tell you (as a designer), exactly what to do and what to design. Instead, I find it more effective to utilize learning and social theories to guide my initial thoughts and to act as a check to see if I'm touching as many facets of the learning experience as possible. It's likely impossible for any learning designer to perfectly support every different learner in a given situation, but touching on more aspects of their experience is likely to result in better designs.

A second practice that has deepened my own LX practice has been to continually build up a repertoire of strategies for empathy. A common misconception of UX research is that designers are only concerned about shallow notions of usability such as finding out if the user likes this color, or that button on the interface, or the placement of such and such widget. These aspects of usability are quite important, but a deeper UX practice seeks to systematically understand the user, what makes them tick, and what they seek out of an experience. These heuristics also apply to designing for learners. What does our learner need, what are they interested in, how do they see themselves and others, and what are they seeking in this learning experience? Techniques such as participatory design, interviews, and other UX techniques are designed to help an LX designer start from a deeper

understanding of people and to meet their needs ("Design Thinking," n.d.; DiSalvo, Yip, Bonsignore, & DiSalvo, 2017). These techniques remind us as LX designers, that when we're creating solutions for learners who are not like us, it's good practice to let them lead and guide you in terms of what an experience might look like.

Finally, it's been helpful for me to continuously remember that there are always unintended consequences that arise from one's design. We might have designed a great experience to help learners efficiently gain knowledge, but may detrimentally affect how interested they are in the topic or whether they identify with the subject area or field. We may have created a great learning experience with an effective use of technology, but realize that only some populations of learners would readily use that tool (and not the population we intended to serve). And a technology that may work well for one problem or goal, may exacerbate an entirely different problem. Researchers of technology in the past have found this phenomenon happen continuously, where new tools and experiences amplify certain issues and exacerbate underlying societal

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