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Trend

LXD: Ten Critical Differences Between LX and UX

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ABSTRACT

The term "Learner Experience Design" is beginning to gain currency. Yet, there is little agreement over what that term means. Is it just user experience design for learners? In my opinion, LX design differs from UX design in ten important ways. Taken together, these differences make the job of learning experience designers quite distinct from the job of user experience designers.

Keywords: Creativity, Culture of Innovation, User Experience (UX), Design Thinking, Human-Centered Design, Instructional Design, Instructional Systems Design

The term "Learner Experience Design" (LX) is beginning to gain currency. Yet, there is little agreement over what that term means. It is not simply user experience design (UX) for learners. Don Norman, who coined the term UX, defines it as encompassing "all aspects of the end-user's interaction with the company, its services, and its products." (Nielsen & Norman, n.d.). When we speak of LX, we are focused on the experience of a certain type of user and outcome – the learner and his or her ability to achieve a particular learning outcome. In my opinion, the focus on learners signifies ten important ways LX design differs from UX.

Difference 10: The experience is driven by standards, objectives, and outcomes.

According to Robert Marzano (1998), "The simple act of setting clear instructional goals, then, produces significant gains in student learning" (p. 127). Learning experiences are driven by objectives and outcomes that are often defined by disciplinary bodies, require assessment, and may result in certification. Addressing these statements in LX may require the construction of detailed ontologies, reporting, and workflows. Thus, LX designers must be fluent in more instructional systems design methodologies such as the development of goal statements, logic models, and theories of change as well as the overall backward design process to develop associated assessments, instructional elements, and performance reporting.

Difference 9: The context is variable.

Imagine two students, both taking Psychology 101. One student is taking the course in a traditional lecture format being taught by a full-time faculty member with a T.A. over a sixteen-week term. Another is taking the course online at a community college over an eight-week term. These two students experience difference physical environments, different term lengths, and different pedagogical approaches, and they likely use educational technologies in quite different ways. While contextual variability is certainly also true in UX design, in LX the end-user (e.g., the student) may have less control over how she or he interacts with the experience, which is being heavily mediated by an instructor who awards a final grade. According to Kara McWilliams (2017), "the complex ecosystem in which learning takes place makes it nearly impossible to isolate the impact of a tool or intervention on learner outcomes" (p. 10).

Difference 8: Research requires additional rigor.

The best user experiences are based on extensive research with users, rounds of usability research, and analysis of user analytics to provide ongoing optimization. LX requires this research, as well as two other kinds: foundational research in the learning sciences as well as impact research to determine the impact an intervention may have on learner outcomes. Adding these two types of research can be painstaking, rigorous, and create a much more challenging research

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agenda. Moreover, there is an "interactive relationship between applied and basic research, by stressing the role of theory in informing design, and the role of design testing in refining theory" (McKenney & Reeves, 2012, p. 11). For example, an LX designer may incorporate interleaving and spaced practice, but later improve how these are incorporated based on assessment and evaluation.

Difference 7: Iterative testing raises ethical concerns.

A commonplace practice in user experience design is A/B testing, which presents subsets of users with slightly different designs, to see which designs are more effective at achieving specific goals. However, such practices are considered unethical in LX, where students are receiving a grade for their performance. Indeed, in software testing, it's common for users to commit attribution error, where there is a "tendency for people to blame themselves rather than external factors for problems they have [such as] the technology or its design" (Usability glossary, n.d.). In other words, students may attribute usability issues not to a poorly designed experience but to their own abilities, which could be detrimental for struggling students. Thus, any A/B testing must be done in highly controlled ways that neither privilege certain designs (and therefore students) nor pose an inadvertent detriment to student performance.

Difference 6: Timelines are based on the academic calendar.

In conventional user experience design, updates can be made at any time. LX, however, requires that releases and updates get managed, at a minimum, around the academic calendar. Thus, there may only be one or two release dates per year, making hitting these windows critical, which requires detailed project plans and can compromise or contradict Agile software development methodologies.

Difference 5: Data is difficult to gather and analyze.

In LX, student data is often gathered to improve the overall experience – just as it is in UX. This may involve analyzing student performance data (for example, to improve assessment items) or evaluating student behavioral data (for example, to identify usability issues). However, data is often distributed among several systems – a student information system, multiple learning management systems, and multiple digital products – that make accessing and interpreting it challenging. According to Kara McWilliams (2017), "Obtaining these data requires approval by the institution's Institutional Review Board (IRB), or a third-party IRB, and sometimes both. As part of these approvals researchers are required to demonstrate that they have the qualifications and credibility to protect student participants, an infrastructure with appropriate data security, and clear, comprehensive standards for handling data" (p. 14).

Difference 4: Learning science and Human Centered Design can be in conflict.

Once designers begin applying secondary research from the learning sciences to experience design, they may find contradictions between what the literature indicates drives learner outcomes and what actual learners report through design research. For example, the redundancy principle indicates that people learn better from graphics and narration than from graphics, narration, and on-screen text (Mayer, 2001). But what if user testing reveals the desire for more on-screen text? It can be difficult to determine which findings to prioritize, as research published in peer-reviewed journals is often considered the gold standard, but design research is often more recent and more contextually appropriate. In the end, there's no "one size fits all" answer to these issues; indeed, this is where LX can become more of an art than a science. Alex Britez (2018) writes about this in *Design for Outcomes, Not Devices*.

Difference 3: The LX is (often) prescriptive and not elective.

Unlike typical consumer applications, educational technologies are often highly prescribed and the instructor or institution heavily influences the ways in which the technology is used – how often, when, and how it affects student grades. Prescribed experiences require a different understanding of motivation; for example, learners may be extrinsically motivated to achieve a particular grade rather than intrinsically motivated to acquire new knowledge or skills. Thus, designers must consider both how an instructor would

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want to see an experience delivered and how students actually want to use it, both of which are are often uncovered through participatory design methods.

Difference 2: Targeting struggling students is a struggle.

Often, when we design learning experiences, we often seek to diminish the usability issues and cognitive load issues that can put struggling students more at risk. However, understanding, identifying, and recruiting struggling students can be challenging and designing experiences that address multiple types of student struggles requires significant investment in research, design, development and evaluation. In these cases, it may be helpful to review the Universal Design for Learning Guidelines developed by CAST.

Difference 1: It's difficult to overcome our own biases.

The biggest challenge that learning experience designers face is overcoming their own biases. This is known as the false-consensus effect, whereby people "assume that others share their beliefs and will behave similarly in a given context" (Budiu, 2017). Given that most designers have completed many years of education, they may privilege their own experience. It's critical to suspend these biases and to conduct rigorous research into student attitudes and behaviors and let this research guide design decisions. The best way to limit one's own bias is to involve learners in the research and design processes and to rely on that evidence in making design decisions.

Taken together, these differences make the job of learning experience designers quite distinct from the job of user experience designers – and, one that benefits from specific training, mentorship, and experience.

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