Chapter 19

Two Possible Futures of Online Learning

Punya Mishra[1,*], Melissa Warr[2] and Benjamin Scragg[3]

[1]Mary Lou Fulton Teachers College, Arizona State University, Tempe Arizona, United States
[2]School of Education, University of Louisiana-Monroe, Monroe, Louisiana, United States
[3]eFuse, Chicago, Illinois, United States

> The future is uncertain. Climate change, pandemics, economic crisis, social exclusion, racism, the oppression of women, inter-generational conflict, and more, shatter the conventional images of the future that humans use to plan, to feel secure, to be confident enough to invest in tomorrow — UNESCO Futures Literacy (2019)

Abstract

During the COVID-19 pandemic in 2020, online learning became mainstream, enabling schools to continue operation even with students and teachers physically separated. In this chapter, we extend the trends we observed in pandemic online learning to describe two possible futures for online learning, one dystopian and one utopian. We argue that what differentiates these futures is less about the technological tools used and more about the broader processes, systems, and culture embedded with online learning. We call for deliberate reflection on the dynamic

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*Corresponding Author's Email: punya.mishra@asu.edu.

relationship among technological tools, processes, experiences, systems, and culture as we shape the future of online learning.

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Introduction

It has been the best of times and it has been the worst of times for online learning.

Over the past few decades, advanced and easy-to-use technologies as well as relatively inexpensive access to the internet have resulted in a steady growth of online learning. However, it took a global pandemic to make it mainstream. In early 2020, the world of learning rapidly moved online in an attempt to stem the spread of COVID-19. Although many scholars argued that "emergency remote teaching" failed to reflect quality online learning (Hodges et al., 2020), the online learning genie was out of the bottle and, many believe, is now here to stay. At the same time, the reality of emergency remote teaching—its many challenges and failures—seemed to dent the public perception of online learning. Irrespective of where one stands on the optimistic-skeptical continuum, it is clear that online learning is now an integral part of the educational landscape and will only grow in scope and significance in the years to come.

Online learning is made possible by an array of digital and networking technologies that allow for new types of actions and interactions. It is not surprising, therefore, that any discussion of online learning often focuses on what these technologies are and what they allow us to do. It is important, however, to also recognize that the meaning and use of technology are driven as much by social, economic, and cultural forces as it is by the inherent potentialities in the technology itself. Any given technology provides a zone of possibility (Dirkin and Mishra, 2010), making certain actions easier and more efficient or suggesting new opportunities. In this way, technologies have a form of agency; they influence action, practices, and possibilities. These actions, practices, and possibilities, however, manifest themselves within a broader network of actors which include individuals and organizations as well as the broader economic, social, and cultural matrix within which they are embedded.

This is not to say that technologies do not have a significant influence on online learning. In fact, advances in technology can change the very meaning

of online learning. Even within the past few years, online learning has evolved to include everything from asynchronous web-based courses, to full immersion video conferencing, to engagement via mobile devices, or any number of combinations. The integration of augmented reality (AR) and virtual reality (VR) technologies will likely lead to additional shifts in how we conceptualize online learning. Thus, it is important to acknowledge that what we are calling online learning today may be very different a few years from now.

Ultimately, what online learning is—or, more importantly, what it could be—is yet to be determined and thus, begs the question: What are the possibilities, opportunities, and threats we will encounter in the future of online learning? Though we know that the future is inherently unknowable, we also recognize that the future will be dictated to a large extent by current pressures and trends, and as importantly, by the decisions we take today. That calls for us to both survey the current landscape and seek to creatively imagine and intentionally design the future of online learning. We must consider what it can and should be, and what it can but should *not* be.

As a heuristic for exploring the future of online learning, we explore two possible futures, each at an end of a dystopian-utopian continuum. Specifically, we consider how human-centric, pedagogical values that include access, equity, student agency, creativity, and engagement might play out in these contexts. These contrasting futures, while imaginary, position us on the very real cusp of forking paths where the decisions we make now will have ripple effects on the yet-to-be-realized future of our teaching and learning institutions and systems.

Scenario 1: Toward Dystopia

We start imagining our online dystopian future by considering the trends illustrated by the COVID-19 pandemic. For example, "emergency remote teaching" often consisted of holding on to students' least favorite parts of schooling and moving them online (Hodges et al., 2020). Students either sat in one spot, listening to teachers lecture over video conferencing technologies or completed independent work, much of which could be automatically graded by a computer. In many cases, test surveillance systems measured where students looked and monitored movements and sounds from others that might be in the same space (see, for example, Harwell, 2020).

If the trends we have seen during the COVID-19 pandemic continue and expand, students may soon spend their days in a lonely digital world, with little to no genuine human engagement, continually monitored by surveillance software and evaluated by automated systems. In this hypothetical world, technological tools monitor each move, glance, and breath, accumulating data about what a student should look like or feel like when they are "learning," and adding penalties for deviations from these behaviors. "Learning" focuses exclusively on responses that can be easily evaluated by computers, typically low-level skills and factual knowledge. Learners are expected to parrot a large amount of information but lack the context for truly understanding that information and applying it to existing or new contexts. Thus, the curriculum becomes less relevant both to learners and to employers who claim that graduates are not prepared for the complex needs of the workforce.

The ongoing COVID19 pandemic has also highlighted society's phobia of "learning loss," that students who have fewer traditional educational experiences will be "behind" (Dickler, 2021). Rectifying this perceived "loss" has led to doubling down on standards, a renewed focus on "basics," and increased instructional time. In our dystopian future, data is constantly collected on student progress, and students who did not behave or perform the same as their peers are labeled as "falling behind." These students are required to spend even more time sitting at a computer and responding to questions, leading to even fewer interactions with others and limited embodied experience. Struggling students spend their days trudging through the least rewarding aspects of learning.

In our dystopia, students completing their work at home have limited contact with others, including adults who could ensure their health and safety. Food insecurity and child abuse skyrocket as critical social safety nets such as physical schools and school lunch programs wither away. In the end, as we have seen in the pandemic, it is the children who need the most support—those traditionally marginalized with limited resources—that are hurt the most (Mervosh, 2021).

What is the role of teachers in this dystopian future where technologies set and deploy the curriculum? Teachers are monitors, responsible for ensuring students are completing a pre-set curriculum. They are responsible for maintaining or raising test scores and blamed when students "fall behind." This makes the job of teaching tedious and stressful, as teachers have limited control over learning outcomes. The lack of a quality relationship with a teacher leads to fewer young people desiring to become teachers, and, if current trends continue, many experienced teachers leave the profession. The

lack of available teachers leads to increased software-based teaching (and monitoring), resulting in even less human contact, perpetuating a vicious cycle.

As we look to the future of online learning, we must also pay attention to the broader social and economic context within which it functions. For example, it is important to ask who exactly is in charge of the technologies—the tools, processes, and systems—that support online learning? In March 2020, many companies took advantage of the rapid move to online learning by offering free or discounted tools for teachers (Giles, 2020). Although it might have started as an altruistic gesture, ultimately many of these companies likely wished to become embedded in school systems with hopes of long-term gain. In our dystopian future, large companies create products that are easy to use and that show the "right" kind of results—those that are easily measured by standardized tests. Multi-national corporations begin to drive the educational system, reducing local control. The resulting products are solely focused on raising test scores, obliterating student agency, and ignoring negative side effects (Zhao, 2017). There is a focus on technical education, while humanities and the arts, the very aspects of education that are concerned with what makes us human, are given short shrift. Although some families might find the resources to create richer learning experiences for their own children, these options are expensive and not accessible to groups that have been historically and otherwise marginalized, further exacerbating the gap between the haves and the have-nots.

Scenario 2: Toward Utopia

Our dystopian future is bleak, but there are other possibilities. Let's flip the switch and consider a utopian future for online learning. Perhaps we start by recognizing that our current educational system is designed for a mythical "average" student and often ignores student individuality and variability. Students are expected to move through the system in lockstep based on externally determined standards, often measured by standardized tests. In brief, the system is too rigid and hermetic to account for variability in learners and changes in society. Thus, in a utopian situation, we reset, erase standards, delete normative testing, and recalibrate the educational system to focus on the genuine needs of individual learners, and of the broader society, taking advantage of carefully designed technological systems.

In our ideal world, rather than focus on standards, we consider the importance of curiosity, play, and the role of social engagement in learning. We realize that when learning is genuinely humanized, it is authentically engaging. In this context, teachers are individuals who work collectively to support, encourage, and guide learning. They are allowed to focus on what they do best: guiding and mentoring, diagnosing misunderstandings, and inspiring curiosity. Teachers are respected for the critical role they play in supporting learners and are renumerated for the value they bring to the educational experience. Society sees an increased interest in the teaching profession, resulting in higher teacher quality.

With high-quality teachers leading the way, technologies become a tool for expanding teachers' ability to support diverse students and reach traditionally underserved learners. We embrace certain affordances of digital technologies: their ability to connect learners across geographical boundaries and engage learners in new experiences. Learning is, thus, naturally embedded in our lives as we utilize digital tools (cameras, GPS, sensors, and more) to enrich educational experiences that are designed for the talents, interests, and propensities of the learners themselves. Technologies offer tools and platforms to assist learners in developing and sharing their knowing, allowing them to be creative and playful even while giving them the power to impact society on a global scale.

Because learning is authentically engaging and embedded in human experience, it cannot be restricted to just specific spaces and ages, and thus naturally spreads across the human lifespan. Schools and universities recognize the need to offer resources and support for all, resulting in a lifelong curriculum that fluidly adapts to the needs of different life stages, breaking the hegemony of the age-differentiated classroom and the one-structure-fits-all curriculum. This curriculum enables us to continually develop new understandings and participate in a rapidly changing society. The lifelong curriculum helps us understand that the difference between teaching and learning isn't as great as we once believed. We see that the core of teaching is learning—yes, about content, but also about people, about technology, and about society.

Conclusion: Dystopia, Utopia, or Something in between

Clearly, the future of online learning that will emerge will be some combination of what we have presented above. In fact, chances are that there

will not be *one* future of online learning; there will be many that co-exist somewhere between the utopian and dystopian futures we have described.

We should point out that our description of these two extreme scenarios does not focus much on the technology itself. In fact, similar technologies can be seen in both futures. Technologies are but one actor in the broader socio-economic, cultural matrix that we live in. And what we do with technologies, or what it does to us, is influenced by—and influences—other pieces of our designed (educational) world.

In this context, it may be helpful to think of education as happening across multiple spaces, each offering possibilities for change through design (Mishra and Warr, 2021; Weiner et al., 2020). Digital technologies generally fall within what we call artifacts. These artifacts afford certain processes, such as the decision trees of intelligent tutoring systems or procedures for disseminating information. Then there are experiences—what we see, hear, touch, smell, and—most importantly—feel as we engage in an activity. Our learning experiences are impacted by technologies, and our experiences also impact how we create and interact with technologies.

As we move from the individual to the societal level, we consider the complex systems that influence and are influenced by artifacts, processes, and experiences. For example, financial and school accountability systems incentivize companies to produce technologies that raise test scores or value certain aspects of learning over others (such as valuing the STEM disciplines over the arts and the humanities). We also consider culture, particularly societal beliefs about what learning can or should be.

Importantly, we can intentionally influence each of these spaces (artifacts, processes, experiences, systems, and culture) to some degree. Whether we intend to or not, the technologies (and processes and experiences) we design have an impact on systems and cultures and vice versa. Thus, it is important that as we look to the future of online learning, and as we design that future, we think not just about the technology, processes, and experiences but seek to better understand and design the broader systems and culture within which online learning in embedded.

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Stephen Paul McKenzie, PhD
Lilani Arulkadacham, PhD
Jennifer Chung, PhD
Zahra Aziz, PhD

Editors