

# Chapter 18

## A Reflection on Online Teaching and Learning Through the Pandemic: Revisiting Creativity



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**Abstract** Teaching through the pandemic has revealed critical educational issues related to online learning as well as the importance of considering contextual influences and creative solutions. The purpose of this chapter is to reflect on those issues and discuss creative alternatives in response to the changing social, cultural, and technological systems. The reflection centers around three themes with a focus on recommendations for the future based on what we can learn from the emergency remote teaching and learning (ERTL) experience. The ideas proposed in the reflection themes can help establish the needed mindsets and generate creative approaches to ERTL during crisis times. Creativity is discussed and redefined within the context of ERTL during the pandemic. We should develop creative thinking, creative mindset, and creative design in re-conceptualizing assessment activities and the assessment culture for online learning as well. Recommendations to help sustain the impact of creative solutions include the need for solid network infrastructure, an innovative mindset for assessment, and a need for educational design research on creative solutions to online learning problems.

### 1 Introduction

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) as a global pandemic (WHO, 2020). Since then, school closures (SCs) affected the educational routine of nearly 1.6 billion learners across more than 190 countries on all continents, which became the largest disruption to education systems worldwide (United Nations, 2020). SCs continued to be implemented globally in 2020 and by May 2021, there were still 26 country-wide SCs and over 182 million learners affected with many countries having more than 41 weeks of SCs (UNESCO, 2021). In the worldwide wave of SCs, many schools

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and universities transitioned to virtual environments to ensure the continuity of teaching and learning.

As a result, the term “online learning” became an overnight buzzword that was thought of as the immediate solution available for all schools and universities in countries with proper broadband access. In the U.S., nearly 93% of households with school-age children reported the use of distance learning and online resources by August 2020 (McElrath, 2020). Globally, there have been numerous efforts in improving the use of educational technologies, including virtual learning and other traditional technologies such as radio, television, and texting to support access to remote learning during the pandemic (The World Bank, 2020). Learning technology professionals attempted to differentiate this type of emergency remote teaching and learning (ERTL) from regular online teaching that has been seriously researched and developed based on decades of research on distance education. ERTL has revealed critical educational issues and the purpose of this chapter is to reflect on the issues and the creative alternatives in response to the changing social, cultural, and technological systems.

## *1.1 Critical Questions*

A year after the initial experimentation of ERTL, the debates on the ERTL as a boon or bane and its impact on post-pandemic normalcy are still going on. In addition, there have been various debates and predictions on post-pandemic education: Are we going back to normal (i.e., traditional, in-classroom, and structured education) or a new normal (i.e., flexible, online, and just-in-time education)? Regardless of the different attitudes toward ERTL, there have been research findings showing different degrees of learning loss during the COVID-19 pandemic. Engzell et al. (2021) found that even with the best-case scenario like The Netherlands, with a short SC, strong and equitable school funding, and broadband access, students still made little or no progress in learning from home, especially in disadvantaged homes. Moreover, there have been inequitable effects on different countries and regions or different schools and various degrees of negative effects on students with different levels of economic status or performance (Engzell et al., 2021; Kuhfeld et al., 2020).

Combined with the constantly changing COVID guidelines from the pandemic experts, these different perspectives and predictions can only add to the confusion and unpredictability that have already been agonizing educational leaders who are trying to make school-opening decisions. Various issues related to ERTL have intensified the debates on the business and learning values of online education as well as the overall technology use in education. These issues and debates have challenged technology professionals with critical questions such as: Will the business-focused conceptualization of technology use and online education continue to stay after the ERTL and the pandemic times? What should we do to ensure quality learning, equity, and democracy in educational processes while the world continues to combat the pandemic or other environmental disasters in the future? How can we

disseminate the knowledge base and best practices from the field of learning technology and design to optimize technology-supported learning environments? By no means serving as a direct response to these broad questions, the reflection can hopefully lead to improved design practices that address quality and equity, and establish mindsets for true learner-centeredness during crisis times.

## 2 A Mindful Reflection

Following the above discussion, I will reflect on the ERTL and discuss the implications for future online teaching and learning. The reflection centers around three themes with a focus on what we can learn from this experience: (1) There is a need to integrate humanity, care, and empathy into emergency online teaching practices. (2) Using systems thinking to guide the planning, design, and development of online courses and programs while considering technology affordance may provide new insights into the role, characteristics, and preparedness of online learners and instructors (Mao & Shearer, 2019). (3) Embracing the ubiquitous influence of distance learning and creative use of technology should become part of our everyday preparation for the changing educational and global environment. While focusing on establishing responsive mindsets for teaching through the pandemic, the three themes aim to propose creative ideas and guidance for both ERTL and future online education. They are connected and may collectively help educators prepare for times of flux using technology.

### 2.1 *The Need to Integrate Humanity, Care, and Empathy into the Emergency Online Teaching Practices*

SCs have always been one of the nonpharmaceutical measures taken to curb the spread of disease during a pandemic. However, the current wave of SCs has left parents scrambling for alternative solutions, trying to fulfill all duties required of parents, caretakers, homeschool tutors, and various other responsibilities as needed by a household while working from home. Concerns about the pandemic, along with problems such as social isolation, economic vulnerability, increased tensions, and domestic violence unavoidably produce an indirect impact on the home environment, where students are expected to continue education.

Therefore, there is a serious need to integrate humanity, care, and empathy into the ERTL practices. When teaching through a pandemic, educators should not assume that everything is “normal” for students. All personal and environmental conditions that normally support a learner have been more or less changed or even severely disrupted. In such crisis times, survival, safety, and emotional health should come before accountability when learners experience more social or emotional

isolation than usual because of the disrupted social and home environment. Moreover, not only students but also teachers in K-12 education, parents, and faculty members in universities are faced with similar challenges when working from home during the SCs or by hybrid modes afterward. Marshall et al. (2020) found that teachers felt inexperienced with online teaching and unable to make a normal transition to ERTL because of the extraordinary circumstances both at school and at home. Parents in Turkey viewed ERTL as a challenging option due to increased screen time and social isolation and considered it unsuitable for students with special needs and young children (Misirli & Ergulec, 2021). Vanleeuwen et al. (2021) found that higher education faculty members felt as if they were “juggling while blindfolded” when working from home, and experienced “a cycle of never-ending repetitiveness, sadness and loss, or managing life, teaching and other professional responsibilities with little sense of direction” (p. 1306).

Correspondingly, there have been a lot of creative approaches to integrating humanity, care, and empathy into the ERTL. For example, many universities changed course discussions or projects to authentic topics related to the pandemic, provided pass/fail or satisfactory/unsatisfactory as a grade option, and some instructors made due dates much more lenient. Example emerging approaches to ERTL also include Ravitch’s (2020) flux pedagogy that encourages responsiveness, compassion, and adaptability; and Baran and Alzoubi’s (2020) human-centered design that emphasizes empathy and pedagogical problem-solving. Caring for the learners, referencing personal experiences, and considering the learners’ perspectives are the three conceptions of designer empathy in distance learning contexts (Matthews et al., 2017). These examples can help educators model good practices in integrating humanity, care, and empathy into ERTL or future online teaching.

Important findings about the relationship between emotion and cognition owing to the rapid growth in Neuroscience research have provided further guidance for integrating humanity, care, and empathy into ERTL practices. Emotion is defined as “the state of mind a person is in at a particular moment, as well as the psychological response a person is experiencing at that time” (Radvansky & Ashcraft, 2014, p. 471). As part of the umbrella term “affect” (Schunk, 2020), emotion influences memory and intrinsic motivation, and it is crucial to plan and provide the most effective emotional atmosphere to build student confidence and help reduce adolescent stress that may impair effective learning (Willis & Willis, 2020). Such research findings on emotion and cognition can serve as a guidance that helps educators effectively integrate humanity, care, and empathy into ERTL to produce positive emotions and energize the learners during the pandemic. This may help reduce learners’ anxiety and stress and avoid long-term damage to their intrinsic motivation, problem solving, and the ability to learn.

## ***2.2 Using Systems Thinking to Guide the Planning, Design, and Development of Online Courses and Programs***

Despite the vastly available tools and resources, pandemic-relevant research findings have revealed the consequences for education such as interrupted learning and development, exacerbated gaps, uneven and inconsistent access to the internet and electronic devices, and the aggravated limitations of standardized testing (García & Weiss, 2020). Issues such as inequitable access, learning loss, and mental health can be universal and are not limited to developing countries. These serious issues can be envisioned in Bronfenbrenner's contextual model of human development, which depicts concentric circles around a child's development as illustrated by Schunk (2020). Mao and Shearer's (2019) system-informed framework for technology affordance also provides a holistic understanding of the relationship between technology affordance and context. Using a system modeling approach, their framework conceptualizes the interactions and feedback loops among many variables of an online learning ecosystem including design, infrastructure, and users. Ideally, contextual factors should be considered holistically together with technology affordance so that any negative influences caused by equity, affordability, or accessibility could be reasonably considered and minimized.

This calls for an increasingly important need in providing educators or designers professional learning to develop an awareness of contextual influences and how technology use and learning design can work creatively toward the intended learning gains under such influences. The awareness of contextual influences and how they interact with the planned learning environment by systems thinking may help designers plan instructional and assessment activities in a true learner-centered manner. It may also help educators avoid involuntarily following the accountability requirements from a state of normalcy and leaving no room for creating a flexible, compassionate, yet rigorous learning environment during crisis times. Although examples for implementing systems thinking on a comprehensive scale for online education are yet to be developed, there have been efforts in using systems thinking to analyze inequality and learning loss in ERTL (Belafi, 2020).

## ***2.3 Embracing the Ubiquitous Influence of Distance Learning and Technology as Part of Our Everyday Preparation for the Changing Educational and Global Environment***

The COVID-19 pandemic continues with the recent Delta variant regardless of vaccination status (CDC, 2021). While ERTL has been imposed on every stakeholder by the ongoing pandemic, the ubiquitous influence of technology-empowered distance learning is becoming part of our everyday preparation for the changing educational and global environment. The use of learning technologies should stay as a

foundational and integral part of future pedagogy, and digital literacy should be a basic requirement not only for all citizens.

It is time to rethink if the current online course design, development, and delivery that model good practices from in-person environments are effectively producing the intended learning outcomes and satisfactory experiences, especially with the added physical, psychological, and technological difficulties during the pandemic. Many complaints against ERTL seem to stem from the sudden, unplanned switch to an online delivery mode and the apprehension about ERTL for the first time. Proper instructional planning and good preparation by both educators and learners are key to success when consistent access to the internet and electronic devices are in place. It will only be a partial conclusion to conclude online learning is not effective based on the sudden switch to e-classrooms and ERTL during the pandemic, but we can certainly learn from the problems exposed in this global experience and use them to improve future online learning.

### 3 Revisiting Creativity

Summarizing the reflection on ERTL, it is clear that crisis times demand responsive mindsets and creative alternatives when in-person interaction is limited or even obstructed. The ideas proposed in the reflection themes can help establish the needed mindsets and generate creative approaches to ERTL during crisis times. What is creativity? I will discuss how creativity is defined in both the literature and the context of ERTL during the pandemic.

Hokanson (2018) says, “Creativity will always be in demand because the future will always be different from the present in which we are comfortable” (p. 1). The future is now the reality that we are faced with. Globally, there have been exacerbated disagreements on ideological beliefs, racial strife, equity issues, social justice, and economic disparities in addition to the pandemic effects. All of these have led to an urgent need to generate creative solutions and prepare for uncertain times because of the fast-changing environmental, political, and social factors and their ripple effects on education.

Creativity or creative thinking is generally defined as the ability to generate ideas or solutions that are novel and applicable, and it is different from problem solving and innovation (Hokanson, 2018; Schunk, 2020). Creativity is considered a higher-order thinking skill and creating is the highest level of cognitive process by the revised Bloom’s taxonomy (Anderson et al., 2001). The close yet complex relationship between creativity and technology has been constantly emphasized in education with the advancement of digital technologies, innovation, globalization, and rapid digital change (Henriksen et al., 2018).

In ERTL, creativity is more important than ever to help continue education and keep students engaged. Educators have used many creative solutions including using various technology supported instructional or assessment techniques, or even edutainment (mixing entertainment and education). In some countries, WhatsApp

and Tiktok are used for teaching during the pandemic. In the U.S., a teacher dressed up as more than 30 characters from Jedi Master Yoda to Picasso in her middle school language arts and social studies class Michigan (Blackburn, 2020). Bitmoji classrooms have become many teachers' favorite method to interact with their students virtually. Many school districts used Wi-Fi buses to help students who lacked access to the internet. Inviting guest speakers and using creative online resources have been widely used in both K-12 and higher education during the pandemic. Tapping into star power or creating opportunities to unleash student creativity are recommended innovative ways to make online learning creative and effective (Kurlander, 2020).

Following these examples and the reflective discussions in this chapter, I would define creativity as the ability to identify new approaches to meeting the challenges in teaching through the pandemic by adopting systems thinking and technology affordance views, considering contextual influences, and integrating humanity, care, and empathy into online course design and teaching. According to Hokanson (2018), creative ideas should be novel (new) and applicable (useful). The COVID-19 pandemic presents unique challenges for the world and for education, which make it impossible to replicate past experiences (Engzell et al., 2021). Creative solutions in ERTL can help mitigate various limitations of online delivery such as the digital divide, inequity, isolation, and others. Such creative solutions may even fundamentally change traditional instructional methods to a degree that makes educators and students feel it hard to go back to the old normal after the pandemic.

## 4 Conclusion

In conclusion, the answer to the debate on going back to “normal” in post-pandemic times and the discussion on which type of “normal” we will return to depend on the great impact of creative solutions empowered by technology use during the pandemic. To help sustain the impact of creative solutions, we need solid network infrastructure as the basic support, an innovative mindset for assessment, and a need for educational design research on creative solutions to online learning problems.

First, the success of online or ERTL will ultimately depend on solid network infrastructure. Implementing creative solutions requires not only educators' investment of time, energy, and creativity, but also resources, professional support, as well as support from all levels. However, none of these would be possible without a sound network infrastructure, which requires policy-level support to ensure affordable and equitable access as the basic technology affordance for all.

Second, we need an innovative mindset for assessment after decades of criticism against the positivist assessment culture while education and its relevant ecosystems have been changed by digital technologies significantly. Involving students in assessment and switching to assessment for learning are new perspectives that have been recommended in assessment reforms for years (Mao & Peck, 2013). Digital tools and applications have greatly enhanced the feasibility and impact of this line of assessment techniques, for example, e-portfolios, virtual labs, gaming and

simulations, and digital badging and micro-credentialing. Learning analytics research and practice have made it possible to generate automated, personalized, and adaptive assessment and feedback processes (Ifenthaler, 2017). Using technology-based assessment activities may unlock the full potential of online environments, assessment for learning, and active learning while at the same time reduce test anxiety and inequity for students. It is clear that we should develop creative thinking, creative mindset, and creative design in re-conceptualizing assessment activities and the assessment culture for online learning.

Finally, we are faced with a critical need for educational design research on creative solutions to online learning problems. Using a systems approach, research on contextual factors in combination with technology affordance may provide new insights into the role, characteristics, and preparedness of online learners and instructors (Mao & Shearer, 2019). Furthermore, Reeves and Lin (2020) called for meaningful educational design research to address serious problems related to teaching and learning instead of expecting the newest technical innovation to change education. Globally, the issues from ERTL have accentuated the importance of considering contextual influences in designing and researching technology-supported learning environments. Using educational design research to study these issues and the creative solutions to the issues may lead to significant and meaningful contributions that are critically needed by the changing education landscape globally.

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