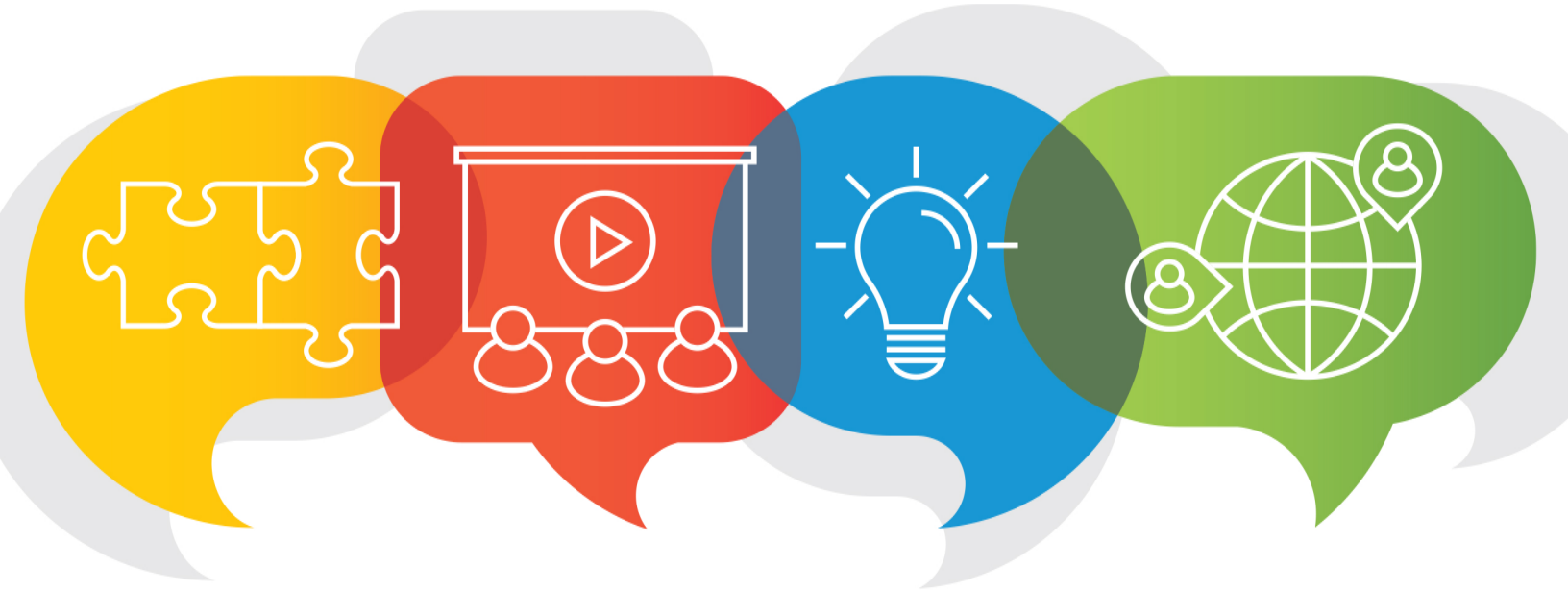
What Teacher Educators Should Have Learned From 2020



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And I applied my heart to what I observed
and learned a lesson from what I saw.

Psalm 24:32 (NIV)

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FOREWORD

Throughout 2020, the COVID-19 pandemic made the invisible visible in education. Critical issues of equity and access were illuminated and exacerbated. The digital divide, for example, became apparent in ways that may not have happened without the abrupt, unforeseen, and unplanned shifts to "emergency remote teaching" (Hodges et al., 2020, para. 5). Students and teachers who had access to personal devices and the Internet *and* were prepared to use technology for high-quality learning were able to continue education at a distance. Everyone else struggled to keep up or dropped out of remote learning, revealing that while the digital divide has existed for decades, closing the divide had not been prioritized in schools, districts, and colleges.

What 2020 made apparent was that many teachers, students, and families were woefully ill-prepared to use technology for educational purposes (Trust & Whalen, 2020). Students and their families struggled to login to and troubleshoot their experiences with learning management systems, digital assessment tools, interactive apps, and other required technologies for learning. Educators with little or no prior experience teaching in blended, remote, or online settings discovered that their teacher-centered, brick-and-mortar practices were not enough to engage students at a distance. As educators tried to adapt their practice by using more digital tools, students and their families struggled with issues of privacy, accessibility, equity, and safety (Trust, 2020). Sonnemaker (2020) noted that the increased reliance on digital tools and apps "forced parents to choose between keeping their kids' schooling on track and protecting their civil liberties" (para. 3). Additionally, students and their families started to question the use of technologies in education that were exploitative and discriminatory, such as plagiarism detection tools which "strip mine and sell student work for profit" (Stommel, 2017, para. 2) and digital surveillance tools that disproportionately harm students of color, female students, transgender students, disabled students, and low-income students (Walker, 2020).

Late in the year, as the COVID-19 pandemic continued disrupting education and society, Project Tomorrow in partnership with Blackboard issued a series of "90 Days That Changed K-12 Teaching & Learning" reports (https://tomorrow.org/speakup/2020-90-Days-That-Changed-K-12-Teaching-Learning.html) which refer to the nearly system-wide shift to emergency remote teaching that occurred in April, May, and June 2020. Like the chapters in this book about what teacher educators should have learned from 2020, the 90 Days reports do not shortchange the damaging disruptions and inequities of the past year nor lightly predict a return to the old normal after the pandemic ends. Instead, the reports acknowledge that the traditional before-the-pandemic in-school experience was not engaging or intrinsically motivating for many students, and that re-engaging students with learning is the essential task now facing us all.

This book begins the hard work of synthesizing what the experiences of 2020 can show us about how to remake education for the future. As we look back and look ahead, it is clear that education is not going to return to anything like pre-pandemic schooling. Instead, a workable balance of in-person and digital learning must be found to motivate and educate all students - call it a 21st century combination of "high tech" and "high touch" - terms first proposed by futurist Alvin Toffler in 1970 at the dawn of the computer revolution.

While many people yearn for a "return to normal," the shift to emergency remote teaching, accompanied by a resurgence in the civil rights movement, made clear that "normal" really only worked for the privileged few. We must see 2020 as an opportunity for an educational revolution. We are thinking of 'revolution' from the Latin *revolutio*, meaning "a turn around." We, as teacher educators, must turn around how we envision teaching and learning in schools. Traditional teacher-centered schooling did not work for so many students and bringing those same approaches to online learning did not succeed either. On the other hand, students who struggled to learn in traditional settings, those who were bullied, stereotyped, or faced microaggressions due to their race, gender, beliefs, or other differences, and students who had health issues or other needs that made going to school challenging found that they could excel in online learning settings. There is great value in what we can learn, uncover, unpack, and change from education in 2020, and this book invites us to do just that.

Using ideas and insights from the researchers who wrote the following chapters, teacher educators can now begin the front-line work of reimagining and reconstructing education. Through teacher education classes and professional development opportunities, pre-service and in-service educators can gain the information and inspiration needed to push beyond the status quo to expansive change - to become active, not reactive in their practice, and to chart the course toward new instructional models that will promote education for all students.

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The Four Pillars of Digitally Infused Education: Transcending Modalities in a Post-COVID Learning Environment

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Abstract: Historically, face-to-face and online learning modalities were distinct, requiring teacher educators to use pedagogical approaches uniquely aligned to these modalities. However, as high-speed Internet and technological innovations such as videoconferencing became more readily available, these modalities have blurred. When the COVID-19 pandemic hit, teacher educators were forced to mix and match technologies across learning environments. What the COVID-19 pandemic primarily achieved is to create impetus and urgency on a global scale for teacher educators to continually mix and match these modes to meet changing circumstances, thereby permanently erasing the lines. Post-COVID learning environments are more likely to be digitally infused at varying levels, with the use of technology defined more by the activity, lesson, or student need at the moment rather than the setting in which the learning takes place. Consequently, teacher educators will need to implement four pillars of academic and emotional supports to teach in a digitally infused learning environment: (1) Technology, innovation, and instructional design, (2) Flexibility and adaptability, (3) Building relationships, and (4) Pedagogy of Care.

Lesson Learned: Teacher educators should have learned from the COVID-19 pandemic that the distinction between online and face-to-face learning environments is now blurred, paving the way for digitally infused education that includes academic and emotional supports to ensure student success.

INTRODUCTION TO DIGITALLY INFUSED EDUCATION

Historically, face-to-face and online learning modalities were distinct, requiring teacher educators to use pedagogical approaches uniquely aligned to these modalities primarily because the capacity of the available technology limited these pedagogical applications. However, in the last decade, readily accessible high-speed Internet and videoconferencing systems that students and teacher educators can access on personal laptops or mobile devices has blurred the lines, creating a merging of modalities that are now enmeshed, providing teacher educators limitless options for merging these modes (Irvine, 2020). The current COVID-19 pandemic has further expedited this merger and, although the resulting emergency remote teaching practices implemented out of necessity are not generalizable to online learning per se, they have brought digital learning to the forefront, prompting teacher educators with varying levels of technological knowledge and skill sets to actively engage with technology in new ways to help students learn.

What the COVID-19 pandemic has primarily achieved is to create impetus and urgency on a global scale for teacher educators to continually mix and match these modes to meet changing circumstances, thereby permanently erasing the lines. While the frenzy of the emergency remote education itself will fade, the resulting pedagogical approaches will likely remain, and instead transcend modalities that will not fit neatly into the current descriptors for various types of digital learning (e.g., hybrid instruction, blended instruction, virtual learning, online learning, etc.). Future learning environments are more likely to be digitally infused at varying levels, with the use of technology defined more by the activity, lesson, or student need at the moment rather than the setting in which the learning takes place.

Instead of serving as a temporary "stop gap" in the instructional process until teacher educators can return to the face-to-face classrooms of the pre-pandemic era, emergency remote education in hindsight may actually become a transitional phase for future educational practices which will be primarily dynamic and equip teacher educators with a set of pedagogical tools that are not modality-specific but can be mixed and matched across educational settings and formats to meet student needs. Current research suggests that most of the strategies that appear to be effective in online environments are the same as those considered to be effective in face-to-face environments, including the use of multiple pedagogies and learning resources to address individual student needs (Lockman & Schirmer, 2020). Consequently, teacher educators in a post-pandemic era can expect to apply multiple pedagogical supports more flexibly to accommodate students who may be accessing their learning online, face-to-face, or remote, depending on their circumstances, and further provide learning resources to help these students navigate digitally infused learning environments to construct their own learning.

WHAT WE KNOW

The Constructivist Approach to Digital Education

Constructivism is a widely accepted learning theory that focuses on the student's use of their prior knowledge and experiences to help them make sense of new information by developing meaningful connections that extend their learning. The constructivist perspective also shifts the responsibility for learning information to the student away from the instructor as a primary source of knowledge (Jarvis, 2006). As online, blended, and digital based education continue to grow at the global level, the principles of constructivism theory seem to transfer seamlessly to these new modalities (Hoic-Bozic, 2009). Research indicates that instructors with constructivist orientation are more likely to integrate technology than instructors with a different philosophical orientation (Judson, 2006), and when constructivist learning and the use of technology are combined, the combination produces an effective instructional design that has the potential to naturally transform every aspect of the instruction from the instructional design stage to assessment practices (Rakes et al., 2006) When applied to digital education, constructivism often becomes a socially constructed experience where online learners connect and engage via technologies such as videoconferencing, social media, discussion forums, and chats. The relationships students generate and connections they make build meaningful learning opportunities that strengthen their learning (Jonassen, 1992).

When students are able to interact and have experiences with a variety of online resources, media, simulations and meaningful exchanges with others, they are active in their learning and likely to develop the level of thinking needed to be able to understand and solve the intended complex problems. This active stage is mostly desirable by constructivists and has significant implications from an instructional design point of view. Instructional design for digital learning

requires extensive planning, preparation, and technological expertise in order to be fully realized; however, by utilizing instructional technology with a constructive approach, instructors are able to provide for different learning levels and styles and diversify the range of resources provided to students. Constructivism and technology complement each other and seem to work together to provide the best results from both an application and theoretical perspective (Gilakjani et al., 2013).

Digital Education and The Remote Learning Experience

Digital education has been part of learning environments for more than a decade, and it is well-established in higher education institutions. In 2013, Martin et al. defined it as "learning that takes place in a variety of contexts, within and beyond traditional learning environments, utilising any type of mobile device" (p. 51). While this definition is certainly apropos, the COVID-19 pandemic challenged both teacher educators and students in new ways, primarily because of the external influences that necessitated rapid changes in the teaching and learning environments. Online education, for example, has been generally viewed as a thoughtful, well-planned process where teacher educators have at their disposal learning theories, instructional design approaches, and technologies they can manipulate to create the backbone of the learning experience. However, during the COVID-19 pandemic such planning did not happen due to time constraints which resulted in what is known as "emergency remote education" (Bozkurt et al., 2020; Hodges et al., 2020), now being recognized as its own branch of distance education, which allowed teacher educators to keep learning on the forefront but denied them the ability to "test-drive" strategies prior to implementation. Emergency remote learning/teaching is distinct from online learning because it reflects hurried, ad-hoc, emergency responses guided by faculty to ensure instructional continuity while online learning is web-based and "deployed as a deliberate and well-coordinated effort born out of an overall institutional plan and embedded in institutional curriculum and pedagogy" (Chaka, 2020, p. 6). These quickly planned changes to provide remote education rapidly created both challenges and opportunities that teacher educators were only able to ascertain through periods of reflection afforded briefly before the next semester when remote learning was needed, and further changes were made.

For students, the learning environment was interrupted because in-class experiences during periods of lockdown ceased and the physical environments, whether at home or in-residence halls, were not always conducive to learning. Remote learning, whether this included synchronous experiences via videoconferencing or asynchronous learning through online instruction, required students to exhibit greater independence and responsibility for learning as well as feelings of isolation, which increased anxiety (Son et al., 2020). Remote learning also required greater technical expertise and digital pedagogy skills, which was especially hard on those students who had little or no experience with digital technology and who had no expectations of taking classes online. Even when "face-to-face" classes resumed, social distance measures created communication challenges with peers who might be several feet away or who were remote on a screen. Consequently, the pandemic impacted social and societal aspects that affected students both emotionally and psychologically (Miller, 2020).

Teacher educators responded by building learning communities, sharing resources, tools, and knowledge, caring for others by keeping social and spatial distances, and taking advantage of transactional distance (Moore, 2013), which served to keep students psychologically and emotionally engaged and connected. This resulted in a set of pedagogical strategies that complemented the academic supports by creating a social support framework that offered emotional, instrumental, and informational supports while continuing to practice the skills of coaching, caring, and collaborating (Lloyd-Jones, 2020). Students surveyed during the pandemic indicated that these emotional supports were as important as the instructional design elements used to support academic aspects of learning (Mollenkopf & Gaskill, 2020). Given the influential nature of these social-emotional connections in the learning process, students' well-being should be recognized as a priority over the need to only teach the curriculum (Bozkurt et al., 2020).

As teacher educators began to reevaluate the teaching experience during the pandemic, what emerged were several pedagogical strategies that made student learning possible when the instructional environments shifted across multiple modalities that were no longer well-defined. These strategies, which reflect both academic and emotional supports and incorporate digital technologies based on need rather than modality, allow teacher educators to provide both academic and emotional supports and to incorporate instruction on how, as well as what, to learn, with the "how" including a range of digital learning skills as one of the many tools that can be applied to multiple learning conditions. These pedagogical supports can be summarized into four main strands, or pillars (see Figure 1), that will continue to be relevant for digitally infused learning of the future and provide teacher educators with the means to reevaluate the form and function of

student learning through relocating and repositioning (Moorhouse, 2020), and engage students in meaningful learning regardless of where or how the learning takes place.

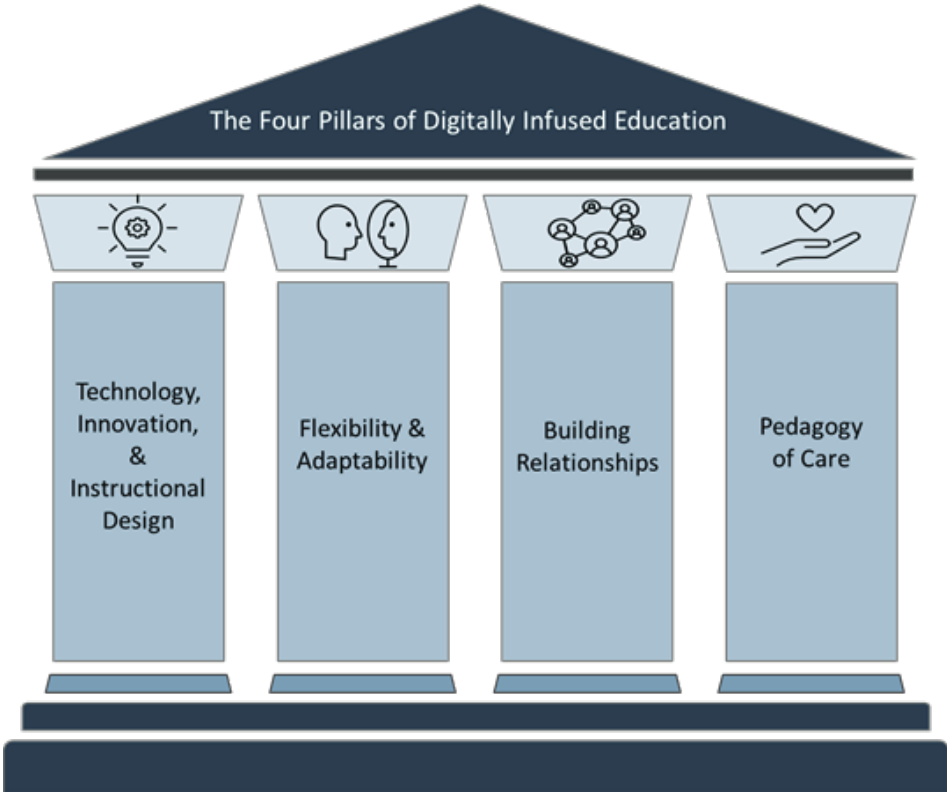

Figure 1. The Four Pillars of Digitally Infused Education.

Pillar One: Technology, Innovation, and Instructional Design

When the pandemic hit, teacher educators were forced to adopt alternate ways of teaching in order to enable students to continue to learn. Videoconferencing technology (e.g., Zoom, Google Meet), which was not regularly used before, became an essential platform for collaboration and communication, and technology applications such as Google Docs became commonplace. Teacher educators' use of technology, innovation, and instructional design during the pandemic was an important strategy to build student success. Although many students had good working knowledge of different kinds of technologies for personal use, they needed skills to apply these to educational contexts that would enable them to navigate and analyze online resources, self-regulate and manage their learning, and critically analyze the information they accessed (Greene et al., 2014). Consequently, teacher educators had to use instructional design supports that outlined and taught these digital learning skills so that students could raise their skills levels from functional, authentic technology to generalized educational applications to what they needed to learn (Ting, 2015).

Teacher educators also had to take into account cognitive load because the remote learning environment requires increased student independence in the learning process, time to locate relevant material, and processing time to reflect on large amounts of information before they could apply what is learned to the assignment at hand, making this cognitive load more difficult to manage (McClendon et al., 2017). Teacher educators also needed to use an instructional process that helped facilitate students' learning of these cognitive processes (Gutiérrez-Santiuste et al., 2015) and when they intentionally embedded logical reasoning and analytical thinking skills in relevant ways, students could make meaningful connections to what they are learning (Cavanaugh, 2005). In summary, the pandemic challenged teacher educators to go beyond their comfort zones to experiment with technologies which allowed them to innovate to address student needs.

Pillar Two: Flexibility and Adaptability

Even with the best of technology, innovations, and design both teacher educators and students were challenged with an ever-evolving environment during the pandemic that made teaching and learning more difficult. In addition to the uncertainties of whether universities would remain open or how classes would be offered, schools which regularly hosted teacher education students for field-based experiences or student teaching experienced periodic quarantine periods even after lockdowns were no longer occurring. During the times that schools were accessible, students, teachers, or children at any time could be quarantined or ill. Past research has found that students' experiences with sudden transitions in the learning environment affected their level of involvement and motivation to engage with school related activities such as learning new content and completing schoolwork (Pintrich & de Groot, 1990; West et al., 2010). Consequently, teacher educators had to be more flexible and adaptable during the pandemic to help students succeed. Strategies included allowing student to negotiate learning and choose from flexible assignment options that matched their needs (Ting, 2015) or utilizing flexible due dates and alternate assignments (Linder-VanBershot & Summers, 2015) which empowered students to persevere and continue to learn when personal, technological, or environmental challenges made certain learning opportunities inaccessible.

Pillar Three: Building Relationships

Teacher educators also valued the connections they had with their students and recognized that these relationships were essential for learning (Leadbeater, 2008); however, the roles they were used to holding and the strategies they normally used in face-to-face interactions were not readily applicable in remote learning environments which were largely online and differed meaningfully from traditional roles in face-to-face classrooms (Guri-Rosenblit, 2018). Technology, rather than in-person contact, became the venue for the instructor-student and student-information connections, requiring teacher educators to adjust their environment to match (Ladell-Thomas, 2012). One primary way that teacher educators built these relationships was to create a sense of social presence. Research shows that students judge an instructor's social presence by the level to which they perceive the instructor reacting and responding to them in the learning environment (Chen, 2007); consequently, these strategies were particularly important during remote learning when changing environments added uncertainties and increased stress. Teacher educators also found that when they created a social presence and responded promptly, did regular check-ins, provided feedback and interacted with their students, the students responded positively, and their stress level went down (Weiner, 2013).

Pillar Four: Pedagogy of Care

A pedagogy of care had been shown to be an important factor in learning even before the pandemic, but it became particularly critical in remote learning situations where students were experiencing trauma and their lives were repeatedly disrupted (Bali, 2020). This type of care carries a moral element that leads individuals to: (a) demonstrate genuine care through actions and interactions to develop stronger relationships built on trust and respect, (b) engage in dialogue to learn about others and use that feedback to improve the caring experience, (c) provide opportunities for others to participate in a culture of care, and (d) give confirmation to those who exercise those ideals (Noddings, 2016). During the pandemic, teacher educators were able to build a pedagogy of care digitally by: (a) modeling an "inclusive and culturally safe online environment" so that students were able to experience care within the online classroom, (b) creating a "shared sense of connection with the authentic personhood of the educator" so that students could identify with the materials and develop a deeper sense of value through shared experiences, (c) demonstrating respectful and timely communication practices that encouraged continued dialogue to build a sense of community and increase student participation, and (d) confirming and supporting students in their process of building a caring identity as they worked to become future leaders within educational settings where modeling a pedagogy of caring is essential (Burke & Larmar, 2020).

In summary, these pedagogical supports: (a) technology, innovation, and instructional design; (b) flexibility and adaptability; (c) building relationships; and (d) pedagogy of care allowed teacher educators to provide both academic and emotional supports and infuse digital learning skills that could adapt to the continually changing learning environments, even while teacher educators themselves might be learning the technology. These pillars of supports have the capacity to extend beyond the remote learning experience to inform digitally infused learning of the future and provide implications for both research and practice.

LESSONS LEARNED FOR RESEARCH

Even before the COVID-19 pandemic, the blurring of online and face-to-face modalities was redefining delivery modes and combining these in new ways that did not reflect either face-to-face or online learning. Although the shift from binary thinking has resulted in improvements in educational instruction and delivery, it has created a variety of evolving models (e.g., blended or hybrid learning, HyFlex learning, multi-access learning) that are not well articulated which, in turn, present semantic challenges that limit shared understanding (Irvine, 2020). The imposed restrictions that the pandemic has placed on educational delivery and the remote education models that have resulted out of necessity have accelerated the modality merger and further muddied the semantic waters by creating endless combinations that are difficult to define. Furthermore, the speed at which the stories, literature, and resulting research have come together have made it difficult to ascertain what worked and what did not, and how to categorize what worked so that emerging best practices can be replicated.

Given the complexity and limitless possibilities for combinations of teaching models, teacher educators conducting research on their teaching practices or that of their colleagues during and beyond the pandemic will need to label and clearly describe the conditions and related design components in which they implemented their strategies. What is normally thought of as online learning, for example, may include both synchronous and asynchronous elements, and face-to-face teaching may include multi-access options with some students attending class physically while others attend digitally via videoconferencing software. A blended or hybrid class may use the same multi-access option to allow concurrent modality mixing of both online and on-campus students simultaneously or it may offer a combination of online and in-person learning sessions that all students participate in consecutively via the same modality (e.g., all students meet in person on Tuesdays and online on Thursdays). Some classes may have high levels of flexibility and choice for how students access their learning and others may not. Knowing the conditions teaching practices were implemented will not only make it possible for teacher educators to replicate a study, but it will allow them to better understand a study's results and the conditions under which certain teaching practices were effective. Future research should help define which practices are specific to a limited number of teaching situations and which may be generally applied.

In an era of digitally infused learning, teacher education researchers may want to test teaching practices to see how they hold up under multiple digitally infused learning conditions. It many cases, the function may be more important than the form. For example, if students collaborate on a project and create a video to display the end project, does it matter whether the students met in person and used pencil and paper, met online using multiple electronic devices to type on a Google doc, or met concurrently in-person or via telecommunication software to create a document in Pages while sharing a screen? Future research will need to capture the dynamic nature of the learning environment while teaching practices occur and the most effective teaching practices will be those that allow teachers to use pedagogical tools that can be mixed and matched across educational settings and formats to meet student needs and produce similar student learning outcomes regardless of how they are applied.

One unique research aspect arising from the pandemic is the number of anecdotal, case-study, qualitative, and quasi-research studies that were created and published in record time primarily because there was insufficient time to create studies with methodological and design rigor and getting some information on promising practices out rapidly was more important than verifying best practices that would need to stand the test of time. Given the value that this body of emergent research can provide in a post-pandemic digitally infused educational setting, teacher education researchers should analyze this research, identify patterns of promising practices, and develop future studies that can test these practices more thoroughly with rigorous methodologies and research designs under a variety of learning conditions and environments, taking into account multiple types and levels of digitally infused learning. Teacher educators could then apply the resulting best practices to ensure student learning regardless of setting, condition, or modality.

Although teachers educators should continue to expand current research on specific forms of technology, innovation, and instructional design, they will also want to go beyond those that directly provide academic supports to better understand the emotional supports students need and how to best apply these to encourage student success. More research is needed to determine what types of flexibility and adaptability best promote student learning and under what conditions these are most effective. Researchers will also want to more closely examine the elements that influence the instructor-student and student-student relationships and how teacher educators can effectively cultivate those relationships to improve learning. Finally, teacher educators will need to more closely document the strategies and practices used to create a pedagogy of care that will allow students to persevere, stay engaged, and utilize resiliency that will enable them to demonstrate positive long-term student learning outcomes. Knowing how to engage all four pillars of support in a digi-

tally infused learning environment will enable teacher educators to successfully enable students to learn effectively in a post-pandemic era.

LESSONS LEARNED FOR PRACTICE

Implications for Technology, Innovation and Instructional Design

When higher education institutions closed to help slow the spread of COVID-19, many approaches to continue the education process emerged with technology as the front and center of the educational experience. Regardless of the format or approach used by different institutions, education became dependent on access to the Internet, online databases, and ultimately on access to reliable devices, requiring teacher educators to be strategic, innovative, and open to experimenting with different digital tools and options available to them and their students, even while their students experienced technical complications and educators did not have sufficient training (Mouchantaf, 2020). While not ideal, the situation helped to build tolerance for technological disequilibrium as instructors and students worked to engage in the learning process. In post-COVID classrooms, teacher educators will need to continue to accept a certain level of technological disequilibrium as they experiment with and implement an array of technologies and teach their students how to problem solve the use of technologies to became facile users of these tools for learning.

Teacher educators will also need to continue to be open to using technologies they have not yet mastered because those technologies will be essential to the functionality of digitally infused learning environments. For example, during the pandemic, as educators worked to shift their classes to a blended digital learning environment, many adopted cloud-based technology such as Google Docs to collaborate on assignments and Google Drive to share resources and files. The advantage was that these technologies could create digital classroom learning spaces and allow students to access with more than one type of device if one became unreliable. However, the implementation was not without its challenges and the process was not always smooth. In post-pandemic classrooms where digital and physical classroom learning spaces are fused, cloud-based technologies will become commonplace and evolve to further integrate the learning environment. Consequently, development and training will need to be a priority in order for cloud-based technology to fully evolve to the needs of post-pandemic classrooms (Khan et al., 2020).

Another technological innovation that became widespread during the pandemic was videoconferencing systems that could readily be accessed on multiple personal devices. This allowed classroom learning spaces to become multi-faceted, extending traditional physical classroom spaces to "Zoom Rooms" which instructors and students accessed from wherever they were located on whatever device worked at the time. Video technology not only allowed synchronous remote connections, but it also enabled instructors to post video tutorials, announcements, or video-based learning content to help guide student learning asynchronously to review, enhance, or even replace synchronous connections as needed. In some instances, video-based options replaced in-person experiences that could not occur during the pandemic such as video-based case studies in lieu of actual field experiences or tutoring activities via videoconferencing vs. in-person classroom settings. Video technology also made it possible for instructors to personalize learning according to student need rather than presenting a "one-size-fits-all" model for student engagement with learning materials. In a post-COVID learning environment, teacher educators will need to utilize video technology to enable students to experience learning that they would not be able to otherwise personally experience and engage with others in learning spaces that transcend physical walls. Even when in-person classroom settings for field-based and student teaching experiences become readily available again, teacher educators will likely continue to use video-based case studies and simulations to supplement those experiences.

Although digital literacy has been recognized as one of the most important factors making technology-related education effective (Adam, 2020), it became even more critical during COVID-19 partly due to the amount of Internet and social media information that requires sufficient analysis to ascertain what is both accurate and relevant to what is being learned (Depoux et al., 2020). Consequently, instructors found themselves adding instructional design elements such as tutorials, screenshots, video demonstrations, or written examples, to help students not only understand the material for learning, but also how to apply the digital literacy skills needed to actually learn. In a post-COVID digitally infused learning environment, "how to learn the material to complete an assignment" will be just as important as learning the content knowledge and applying it to the assignment itself. Teacher educators, then, will need to plan assignments that will take into account the time students need to locate relevant material, the cognitive load necessary to process the in-

formation, and the time needed to do the actual assignment once the requisite knowledge has been acquired (McClendon et al., 2017). Educators will also need to facilitate students' learning of these cognitive processes and intentially embed these in relevant ways so students can make meaningful connections to what they have learned. (Cavanaugh, 2005).

Implications for Flexibility and Adaptibility

When the COVID-19 pandemic began, flexibility became a crucial factor in instructors' efforts to survive while providing their students with the best possible educational scenario that could be created. Initially, face-to-face classes were quickly moved online to create disembodied spaces, but educators were able to "innovate around previous practices and values to navigate the transition from 'initial pedagogic discomfort' to 'pedagogic agility' within the new spaces (Kidd & Murray, 2020, p. 552). This concept of "pedagogic agility" became key to maintaining a flexible and adaptable learning environment which included strategies such as flexible deadlines, multiple access options for attendance and participation, alternate assignments, and student choice in how assignments were completed. The constant need to adapt to instructor-student circumstances because of personal, social, and environmental factors created a culture of flexibility and adaptability that allowed the educational experience to be more accessible, equitable, and empowering because it was responsive to learner and societal needs, thereby creating "radical flexibility" that was dynamic, relational, and student-centered (Veletsianos & Houlden, 2020).

Given the importance of allowing student to negotiate learning and choose from flexible assignment options that matched their needs (Ting, 2015) or providing flexible due dates and alternate assignments (Linder-VanBershot & Summers, 2015) to give students more control of their learning, teacher educators in a post-COVID learning environment can expect to utilize greater levels of flexibility and adaptability than they did prior to the pandemic. Function wil be more important than form, so having students accomplish things the same way will be less important than accomplishing the same goal. For example, a student who cannot attend a physical class in person will have the means to either digitally attend simultaneously or asynchronously watch a video of the class interactions they missed and then digitally respond to document their participation. In a digitally infused learning environment where students have more responsibility for their learning, teacher educators will be able to provide assignment options that are functionally equivalent and allow students to negotiate the options that maximize their learning. Flexible due dates can allow students more time to process cognitive load when completing assignments or accommodate personal circumstances a student may encounter.

Implications for Relationship Building and Providing a Pedagogy of Care

Although the instructor-student relationship has always been an integral part of the learning process, relationship building became even more critical during the pandemic where "social distancing" and remote education made it difficult for instructors and students to interact in person or interpret nonverbal cues such as body language, tone, and interpersonal interactions. However, instructors and students learned to use technological means to connect. Instructors created social presence by responding promptly to student concerns using email, phone, or videoconferencing, creating video and written announcements, providing regular "check-ins" with students, and communicating clear expectations—strategies which students found positively helped them persevere and stay engaged (Mollenkopf & Gaskill, 2020). Research shows that high instructor presence and social support correlates with student persistence (Gering et al., 2018) and immediate, timely, and useful feedback has a high impact on improvement in student achievement on assigned tasks (Zimbardi et al., 2017). Although these strategies are important regardless of modality, they become particularly critical in online learning environments where students may be less likely to persist (Lockman & Schirmer, 2020).

Teacher educators in a post-COVID learning environment will need to use a variety of technologies to build relationships with students and create a social presence. Using video technologies to create introductions and orientations to the course, offer welcomes and announcements, or meeting with students via videoconferencing can be important for students who cannot be physically present. Teacher educators should also check in regularly with students via options such as texting or email, and make sure students get frequent, quality feedback on their performance. Teacher educators will also want to strategically use social media such as Facebook and WhatsApp as tools for interaction to increase digital community-building and student support (Sobaih et al., 2020).

When teacher educators demonstrate genuine care through their actions and develop relationships with their students built on trust and respect, they began to impement a pedagogy of care. Althought critically important during the pandem-

ic, teacher educators in a post-COVID learning environment will want to continue to teach and implement a pedagogy of care where all of the students they teach feel they are in a safe environment to learn. The first step may be to starting "caring about care" (Feldman, 2020, p. 16) and to intentionally adopt a student centered approach to learning that promotes collective success (Karakaya, 2020). Teacher educators can model an inclusive and culturally safe environment, create a shared sense of connection with their students and be authentic in their interactions, communicate respectfully and in a timely manner, encourage the type of dialogue that builds a sense of community and increases student participating and supporting students as they themselves learn to care for others (Burke & Larmar, 2020). Although more difficult to measure, building relationships and providing a pedagogy of care are critical emotional supports that enable teacher educators to be flexible and adaptable and to intentionally use technological innovations and instructional supports to help students academically succeed, particularly in a digitally infused environment with challenging academic demands.

Implications of Transcending Modalities for Digitally Infused Education

As the lines between online and face-to-face modalities become increasingly blurred and teacher educators enter a post-COVID digitally infused learning environment, they will be challenged to make learning meaningful in new ways. By integrating lessons learned from the pandemic, they can maintain a sense of openness in experimenting with technologies that support student learning beyond the physical classroom space and allow students to engage and participate through multiple access formats. Teacher educators will be able to incorporate resources and strategies into lessons and assignments that build digital literacy skills so that students will know how to learn as well as what to learn, and by providing flexible deadlines, assignment options, and staying responsive to student needs, teacher educators will enable students to be more responsible for their own learning and build meaningful connections to the content. Since student learning will also be socially constructed, teacher educators will intentionally build relationships with their students by creating a social sense of presence, providing timely feedback, doing frequent check-ins, and communicating clear expectations. They will also model safe and inclusive environments, build a sense of community, and encourage students to care for one another. As teacher educators blend both academic and emotional supports into their teaching, they will be able to transcend modalities and teach effectively in a digitally infused educational environment and successfully prepare future teachers for the learning environments of tomorrow.

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