Teacher Perceptions of Self-Efficacy in Teaching Online During the COVID-19 Pandemic

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To examine the effects of the sudden shift to online instruction due to the COVID-19 pandemic in the early months of 2020, we sought to get a firsthand understanding of the experiences of teachers who were required to make the change to full online teaching. Teaching online requires technological knowledge, but it also requires a different pedagogy in order to keep students engaged and motivated to learn. Many educators indicated that this was a significant challenge. Our goal was to illuminate teachers' experiences in order to include their voices in changes to educator preparation programs. A total of 699 complete survey responses were received representing educators in several grade levels working in nine states in the United States. Qualitative analysis revealed that many responses were related to extant research on teachers' self-efficacy. Thus, this paper will shed light on the experiences of educators during the first semester of 2020 including the months of January through April, and teachers' perceived efficacy. We find that teachers felt more efficacious regarding aspects of online teaching over which they felt an internal locus of control, such as delivery of curriculum and their own skill in the use of technology. For items over which they had less control, such as parental support and involvement, student motivation, and student access to adequate technology, teachers indicated much less efficacy. The majority of responses paint a complicated and somewhat dismal picture of the loss of personal connection with their students. Based on these data, recommendations for both education preparation programs, and policy are discussed such as districts and schools must provide sufficient professional learning opportunities and create a culture of collaboration amongst teachers that can assist them in building internal school capacity for good online instruction for their students. The COVID-19 pandemic should be used as an opportunity to evaluate gaps in digital equity and make positive strides to ensure all students, regardless of race, disability, economic background, or geographic location, have full access to quality online education.

Keywords: teacher preparation, educator preparation, online teaching, COVID-19, self-efficacy

Introduction

In the early months of 2020, the globe was faced with a growing coronavirus pandemic named COVID-19. Initial hopes that the pandemic would be contained to a few hot spots were quickly lost and governments around the world had to simultaneously determine how to best combat the virus and maintain some

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semblance of normal life. Schools in the U.S., in particular, were caught squarely in that fraught conversation. As fears of the virus increased, so too did voices that schools must remain open. Ultimately, many school districts decided that they must indeed close their doors and shift to an online learning environment. Thus, they engaged in a variety of modalities such as synchronous and asynchronous online delivery of instruction. Many had to navigate this shift over the course of a single weekend. What few anticipated was a 100% online delivery of all curricula to all students in all grade levels. With this extreme change in teaching and learning came many difficulties for which teachers were unprepared and left them feeling less than efficacious in their work. To examine the effects of this shift to online instruction, this study sought to get a firsthand understanding of the experiences of teachers who were required to make the change to full online teaching during the first semester of 2020.

The use of technology in the classroom is not new by any stretch of the imagination. In fact, it is an accreditation requirement for most teacher education programs. Thus, its use in one form or another in the classroom, and in educator preparation programs is a requirement (Voithofer & Nelson, 2020). Research suggests that these requirements are typically in the form of facilitating classroom experiences that otherwise would be difficult to accomplish within the four walls of a classroom (Riegel & Tong, 2017). However, Ottenbreit-Leftwich et al. (2011) studied the integration of technology in educator preparation programs and found that teacher educators and teachers had differing views regarding how to utilize technology in the classroom and what tools were relevant. Opinions differ regarding the value of technology as an instructional tool in the classroom. Li (2007) indicates that teachers' beliefs may affect their level of use and typically saw technology as supplemental or as an extension which was often eliminated when instruction was focused on the basics though students believed that technology facilitated learning well. It is possible that many teachers held this belief that technology is supplemental to the "real" teaching and, therefore, struggled with its use in the change to online teaching.

In addition, the digital divide, or the gap between those who have access to technology and those who do not, creates another layer of difficulty in online learning. Factors influencing this gap include income level, age, race, education, and physical abilities (Huffman, 2018). Many students did not have adequate access to online learning technologies, including internet access and devices, to be successful during the shift to online learning. It is estimated that 13.5 million school-aged children in the U.S. lack either broadband internet or a computer (National Education Association, 2020). Homes with multiple students were faced with having to share one computer in the home, perhaps with parents who were also forced to work from home. Despite teachers' best efforts to deliver effective online learning, many students, especially those from low income and minority families (Reddick, Enriquez, Harris, & Sharma, 2020) and students in rural areas (National Education Association, 2020), were unable to benefit due to limited access.

Teaching online requires not only technological knowledge but also a different pedagogy in order to keep students engaged and motivated to learn (Prensky,

2001). In a brick-and-mortar classroom, teachers are able to interact with students face to face on a daily basis. Teachers are able to build relationships with students and families and make instructional modifications, as needed, in real time. Teaching in an online environment often removes the more personal encounters between students and teachers, making it difficult for teachers to receive the student-specific information they need to find success. The perceived self-efficacy of teachers for online teaching is a critical factor in their success because it influences whether coping mechanisms would be initiated by an individual under stress, how much effort they will commit to a given task, and how long that level of effort will be sustained in the face of adversity (Bandura, 1977). If a teacher experiences failure early on in online teaching, they may be more likely to feel non-efficacious overall. Once established, self-efficacy tends to generalize to situations that are similar, which includes not only teaching, but also effectively communicating and working with families, which is critical for student success (D'Haem & Griswold, 2017).

Emotional arousal that occurs during stressful situations can also inform expectations of efficacy. Generally, the greater the stress and anxiety caused by a situation, the less efficacious people report feeling, even if they have had previous successful experiences (Bandura, 1994). Additionally, feelings of ineptitude can cause even more fear and anxiety than the original circumstances provoke. Considering that many teachers had their first experience teaching online during a deadly, worldwide pandemic, it is likely that they were already experiencing a high level of stress and anxiety that affected their feelings of accomplishment with their students.

An additional factor that can have a significant effect on teachers' self-efficacy is perceived locus of control. Heider (1958) defined this as the degree to which an individual attributes what happens to them to their own behaviors versus to outside forces over which they do not have control. If a teacher perceives an internal locus of control, they believe their actions and abilities will influence the outcome. On the other hand, a perceived external locus of control may cause the teacher to attribute success or failure on more powerful forces, such as the school system or family systems. These two competing views are often reported, respectively, as feelings of power or powerlessness in a given situation (Gilmor & Minton, 1974).

Research has shown that teacher self-efficacy can affect students' academic and social-emotional outcomes (Herman, Hickmon-Rosa, & Reinke, 2018), teacher burnout and attrition (Grant, 2006; Yıldızlı, 2019), and implementation of instructional and/or behavioral strategies (Poulou, Reddy, & Dudek, 2019). There is also significant evidence to show that self-efficacy is not static; rather, there are methods by which teachers can increase their self-efficacy in skills that are required to implement evidence-based instruction, including those necessary to teach online (Watson, 2006; Yoo, 2016). Unfortunately, the circumstances under which teachers needed to engage in online teaching during the pandemic may not have allowed enough time for building self-efficacy.

This purpose of this survey study was to determine in what areas teachers perceived struggles and victories. Our goal was to illuminate teachers' experiences with online schooling in order to include their voices in changes to educator

preparation programs (EPP). Thus, this paper will focus three specific survey questions that shed light on the experiences of educators during the first school semester (January – May) of 2020 and teachers' perceived efficacy. The primary research question was, "What are teachers' experiences with mandated online schooling?" Related secondary questions were, "How prepared were teachers to teach entirely online?" and "What significant challenges did they face. Qualitative data analysis revealed that many responses were related to extant research on teachers' self-efficacy. Thus, this paper will focus on survey questions that shed light on the experiences of educators during the first school semester of 2020 and teachers' perceived efficacy. Implications and recommendations for EPPs based on these responses will follow.

Methods

Table 1. Participant Demographics

	Number of Responses	**Percent of Responses**
Setting		
Rural – Small Town	381	54.5
Suburban – Middle/Lower Class	126	18.0
Rural – Country (farming, agriculture)	117	16.7
Suburban – Upper/Middle Class	64	9.2
Urban (inner city)	51	7.3
Other	22	3.1
Grade Bands		
PreK	15	2.1
K–2	102	14.6
3–5	118	16.9
6–8	138	19.7
9–12	233	33.3
Other (e.g., alternative school)	93	13.3
Diversity		
0–10% diverse	281	40.2
11–20% diverse	184	26.3
21–30% diverse	76	10.9
>30% diverse	147	21.0
Prefer not to say	11	1.6
Teaching Experience		
1–3 years	111	15.9
4–7 years	112	16.0
8–15 years	199	28.5
16–23 years	155	22.2
24+ years	122	17.5

Note: Definitions of Grade bands:
- Elementary Grade Levels
  - PreK: designation of 'pre-kindergarten' for students aged approximately 4-5 years old.
  - K-2: Kindergarten – 2nd grade includes three grade levels for students aged approximately 7-9 years old.
  - 3-5: Includes three grade levels for students aged approximately 9-11 years old.
- Secondary Grade Levels
  - 6-8: Includes three grade levels for students aged approximately 11-13 years old.
  - 9-12: Includes three grade levels for students aged approximately 14-18 years old.

Definition of Diversity in Demographics: Diversity relates students who identify their race or ethnicity as other than white. Identification may include American Indian/Alaska Native, Asian, Black/African American, Hispanic/Latinx, Pacific Islander, or more than one ethnicity/race.

Once Institutional Review Board approval from Southern Utah University was obtained, an electronic survey was designed using the Qualtrics survey platform and distributed via direct email and social media groups. A total of 699 complete responses were received representing educators in several grade levels working in nine states (see Table 1). The majority of responses came from educators working in Utah.

Two Likert scale prompts were used to measure knowledge and perceived efficacy for online teaching (See Table 2). After initial examination of the responses, two qualitative survey questions, "What insights into teaching have you gleaned from teaching online?" and "Do you believe this online experience will change schooling when you return? Why or why not?", were individually analyzed and coded for overarching themes. Results will be organized and reported according to the ways in which the concept of self-efficacy is demonstrated through these two qualitative survey items. In this section we review the themes that were identified through our qualitative analysis. Where relevant, we include the demographic information to add context to the respondents' words.

Results

Perceived Knowledge and Self-Efficacy

In response to the prompt, "I know how to deliver rigorous instruction online," nearly 50% of the respondents agreed or strongly agreed, while only a quarter of the respondents disagreed or strongly disagreed. Approximately 27% of respondents indicated that they were unsure if they possessed the requisite knowledge to deliver rigorous online instruction (See Table 2). When asked to respond to the prompt, "I am confident in my online teaching abilities," responses were very similar to the previous question. Approximately 57% of respondents agreed or strongly agreed; 17% disagreed or strongly disagreed, and 25% of respondents were unsure. Overall, these responses seem to indicate that most teachers felt they had the requisite knowledge to teach online and that they felt as though their endeavors were efficacious.

Table 2. Perceived Knowledge and Self-Efficacy Responses

	Number of Responses	**Percent of Responses**
I know how to provide academically rigorous instruction online (N=553)		
Strongly agree	46	7.3
Agree	256	40.5
Not Sure	172	27.2
Disagree	137	21.7
Strongly disagree	21	3.3
I am confident in my online teaching abilities (N=556)		
Strongly agree	69	12.4
Agree	251	45.1
Not Sure	141	25.4
Disagree	84	15.1
Strongly disagree	11	2.0

Insights Gained from Teaching Online

This novel experience for teachers was likely to produce a new understanding or provide insights into teaching that otherwise may not have been revealed. To understand what teachers gained from this shift to online instruction and how it might affect their teaching in the future we asked, "What insights into teaching have you gleaned from teaching online?"

To that prompt, there were 544 reviewed and accepted responses. The vast majority of responses ($n = 313$) to this prompt were related to a difference between face-to-face instruction and online pedagogy, in which teachers drew a distinction between their efforts in a face-to-face setting and their efforts in an online teaching setting. Next in quantity were references to the home environment and motivation to complete work ($n = 183$). Following in quantity were mentions of use of technology ($n = 118$), personal connection with students ($n = 92$), preparation to teach in an online setting ($n = 83$), specific training and ability to work in an online setting ($n = 45$), the ability to differentiate in an online setting ($n = 42$), and fewest in number of items coded were references to streamlining instruction ($n = 13$). The topic gaining the greatest number of codes, face-to-face vs. online pedagogy, will be included through the discussions of the other topics for this prompt because they serve to elaborate on what was intended for that main topic.

There were two distinct themes that arose from the teacher responses regarding teachers' locus of control. Teachers gave more favorable and positive remarks regarding elements of instruction over which teachers felt an internal locus of control. Comparatively, they gave less favorable and negative remarks over those elements of which they felt an *external* locus of control. For example, teachers' most numerous responses related to the home environment and motivation to complete work. Very few indicated that there was a positive result or experience with the shift to online instruction. Many commented that parents were unconcerned with schooling. One teacher remarked, "Parents view visual arts as an extra that can be pushed aside and disrespected" (Teaching 8–15 years, 21–30% diverse student population, mix of low- and middle-income community). Another said, "There is very little parent support. Parents truly expect us to do the bulk of all educating, rewards, consequences, discipline, etc. and want very little to do with any of it" (Teaching 16–23 years, 11–20% diverse student population, mostly low-income community). Teachers also expressed great concern with the difficulties to maintain contact with home and ensure students were working and learning. The distance created significant challenges.

Many teachers directly remarked on the physical use of technology. In fact, these responses accounted for the second greatest items coded within this prompt. There were many positive comments from teachers, especially regarding conditions they viewed with an internal locus of control. One teacher related that this has given them an opportunity to reevaluate their curriculum. Others remarked on a newfound value of technology in the classroom in that they could leverage its use to improve their instruction and student learning in areas such as extending the classroom, remediation, and differentiation. However, many others negatively commented on the use of technology. These related to the difficulty of students

navigating a variety of platforms without the support of peers, as is typical in a classroom. Beyond the actual use of technology, teachers mentioned the lack of availability of devices and sufficient access to the internet. One teacher stated, "It is very difficult, and the lack of resources our students have is becoming more prevalent" (Teaching 24+ years, 11–20% diverse student population, mix of low- and middle-income communities).

Based on these responses, though not overwhelmingly, teachers struggled to transition to online instruction and learning. It would appear that teachers tried very hard to deliver meaningful instruction in an online setting, but the unfamiliar setting and lack of preparation for such a move, left teachers questioning their long-held assumptions about teaching. One teacher's sentiment seems to encompass the feelings of many:

> I feel overwhelmed by many of the long-held misconceptions we (especially me) have had as educators. In the past, I never thought class size was as big of an issue as some of my colleagues. I lied to myself and told myself I was really great at connecting with kids, even in big groups. I don't know how to adequately provide 180 students a year with emotional and academic support. They deserve so much more. And, I am capable of so much more, but not with this workload. A builder can build one immaculate home at a time, or even a few, but have you ever lived in tract housing? We're building tract homes. (Teaching 16–23 years, 0–10% diverse student population, mostly middle-income community)

From the qualitative responses to this question about new insights, it is not possible to ascertain to what degree teachers' efforts were successful, only that they were perceived as extremely difficult and teachers only felt efficacious when they perceived an internal locus of control, even though the majority indicated feeling efficacious on the Likert questions.

Expectations for Next Year

There were 562 reviewed and accepted responses to the question "Do you believe this online experience will change schooling when you return? Why or why not?" Many items were double coded to add specificity. The topic with the most codes was titled "Future of Education with Technology" ($n = 432$). In descending order of code totals are, Using Technology, ($n = 229$), Remediation/Academically Behind ($n = 89$), Snow Days ($n = 7$) and Discipline ($n = 3$).

Many of the comments related to this prompt seemed to communicate optimism for the future of education after COVID-19. Generally, educators had the belief and expectation that they would be better prepared in the future if this or a similar situation were to occur again, citing increased awareness of available technology tools and skill in using them. One teacher stated,

> Yes. I will implement some of the online lessons I used when students are back in school. Who knows if this will occur again. Maybe we can help our students feel more prepared for this type of learning by preparing them in the classroom. (Teaching 16–23 years, 0–10% diverse student population, mix of low- and middle-income students)

Without directly mentioning *blended learning*, which is something of a hybrid model "that include[s] some aspect of face-to-face learning and online learning" (Hrastinski, 2019), there were responses that hinted at this modality. One teacher's response included, "I, for one, will integrate some of the resources I have used online in a live setting when we return (Teaching 8–15 years, 11–20% diverse student population, mix of middle to high income community).

There were also many responses about how teachers view technology as a resource that can assist with remediation, with students who are absent, and especially with the elimination of "snow days." One teacher also commented on the positive effect this might have on students' physical and mental health, saying,

> I think this could be helpful to help students that are absent to keep up with their class by connecting to lessons and school work online. I hope this helps students to stay home when they feel sick instead of coming to school because they are worried they will miss too much work. (Teaching 1–3 years, 0–10% diverse student population, mix of middle to high income community)

Notably, many teachers admitted that they felt better prepared to differentiate for individual students' needs when they returned to face-to-face instruction since having to teach online.

Many educators remarked that the online learning that was implemented was not effective for many students and that there will be students academically behind and will require remediation. For example, one teacher remarked, "There will be learning gaps. Reteaching will need to occur" (Teaching 8–15 years, 0–10% diverse student population, mix of low- and middle-income community). There were a few comments that focused specifically on lack of mastery of necessary prior knowledge and having to reteach what should have been taught already. Several educators also remarked that many students, parents, and community members would mistake the education that happened as a result of COVID-19 as true online learning when, in fact, it was far less adequate. One participant expressed this well, saying, "If ANYONE THINKS WHAT WE JUST DID FOR TWO MONTHS is Home School, they are mistaken!! We punted! We hit the "Big Rocks" - we tried to do things students can do at home--with little or no support" (Teaching 24+ years, 0–10% diverse student population, mix of middle to high income community).

Several teachers remarked how this glimpse into the homes of their students would impact the way they planned their instruction in the future. One teacher stated,

> Yes, in many ways it taught me to be much more efficient in providing immediate feedback for students. This was only true for problems requiring a fairly low level of cognitive demand. However, seeing the inequities in student's home lives has changed forever the type of homework I will assign. From now on I will assign low level practice that can easily be done at home with little to no support and QUICKLY. I will save the deep, engaging, "good stuff" for the classroom. (Teaching 16–23 years, 0–10% diverse student population, mostly middle-income community)

Another area that garnered its fair share of comments was the treatment of teaching as a profession. Several teachers shared the sentiment that this rapid shift to online learning should show the general public the importance of the work teachers do and, therefore, should increase the respect for the field as a whole. Teachers mentioned factors such as class size, salary, the appreciation of in-person education, and teachers being "taken for granted" as elements they hoped would change for the better after COVID-19, but several remarked that they did not have high expectations this would occur. One teacher lamented,

> I believe it will change public education dramatically. In a perfect world, teachers will get a lot more respect, schools will get more funding, and fewer students will be packed into Utah classrooms. Unfortunately, I don't hold out a lot of hope. (Teaching 24+ years, >30% diverse student population, mix of middle and high-income community)

One teacher's comment captured many of the mixed sentiments expressed whether this experience would change education. They stated,

> Yes. How could it not? Some things have adapted tremendously well to online, and they should STAY online. Other things have been derailed and are basically non-functional. We need to evaluate what actually gets to stay in education after this, and what should be online. (Teaching 8–15 years, 0–10% diverse student population, mix of low- and middle-income community)

Overall, while many teachers intend to take what they have learned from this emergency shift to online teaching and create a better in person learning environment, several of the teachers' comments indicate that this online educational experience has done more harm than good for the future of education.

Discussion

Much can be learned from the educators' responses in this study. This purpose of this survey study was to better understand in what areas teachers perceived struggles and victories during the sudden shift to remote instruction during the initial phases of the COVID-19 pandemic. The pandemic forced unavoidable circumstances onto all involved in the education of students, but the sudden shift to online instruction did not need to cause the angst and emotional stresses that were indicated in respondents' responses. The following discussion will explain what we learned in relation to our research questions and teacher's sense of self-efficacy.

Our primary research question was "What are teachers' experiences with mandated online schooling, and related secondary questions were "How prepared were teachers to teach entirely online?" and "What significant challenges did they face?"

The integration of technology in education is not new as it has been a focus of EPPs for some time (Riegel & Tong, 2017), yet as we have seen, its use was

neither fully integrated nor were administrators, teachers, students and parents aptly prepared for what they experienced. The lack of prior preparation and integration caused significant stress and emotional cost to teachers and likely academic losses to students. However, the educators surveyed demonstrated confidence in situations in which they perceived an internal locus of control, such as curriculum design and the integration of technology when they resume a "normal" school year. Where their perceived locus of control was limited, such as support at home, student access to technology, learning how to use new learning management platforms, gaps in learning and remediation, they demonstrated concern and doubt in their own efficacy to teach effectively and, in some ways, they were forced to do the minimum.

Teachers also referenced their experiences with varying levels of support by caregivers and state, district and school administrators. Approximately 75% of responses related to home or administrative support were negative. Many remarked that caregivers were overwhelmed, or otherwise unable to facilitate the online learning of their students. As D'Haem and Griswold (2017) found connection to home is critical for student success in an online setting. Similarly, many teachers remarked at difficulties they had reaching students. Some students had never used email as a primary means of communication and other students were never heard from again once the shutdown began. Because of the difficulties contacting and engaging students, many remarked about how they had to streamline their curriculum and cut the "fluff." Time was limited and transitions were difficult, so adjustments were made to ensure that the most critical curriculum was delivered at the expense of some of the fun work that teachers generally employ to make the classroom and learning enjoyable. Similarly, some teachers bemoaned that their curriculum had been reduced to packets.

The suddenness of the shutdown presented difficulties that many respondents struggled to manage. However, there were some who had begun creating a digital curriculum and digital presence long before the shut down, and for them, the struggles were not as prevalent. When asked what they learned from this experience and how they felt this may affect the future of education, many remarked that they will apply some of the successful tools they utilized when they re-enter the classroom in the fall. Among those realizations, some remarked that they see opportunities to better differentiate instruction using technology than they had before, and some remarked that snow days may be a thing of the past because it will be a far simpler thing to shift to online instruction if the weather turns problematic. When answering those same questions, some remarked that they believed parents and community members may have a greater sense of respect for teachers and their work than before the shutdown.

It is incumbent upon educational leaders working with Local Education Agencies (LEAs) and Educator Preparation Programs (EPPs) to address the concerns identified by educators for a number of reasons, including quality of instruction, student learning, student access to instruction, and growth and popularity of online learning. LEAs and EPPs should seek to improve their programs to ensure that inservice and preservice teachers have adequate understanding and practice in delivering high quality instruction in an online

setting, in turn developing an internal locus of control regarding these factors. It is in this light that we make the following recommendations.

Recommendations

Preparation in Use of Technology for Online Learning

When teachers feel that they have sufficient control over their instruction they are likely to feel more confident and thus deliver better instruction (Herman Hickmon-Rosa, & Reinke, 2018). Therefore, teachers need sufficient preparation and practice with online instruction so that they experience the same levels of confidence in an online setting as they do in a face-to-face setting (Lei, 2009). To facilitate this, LEAs and EPPs must allocate sufficient resources of time and money to online instruction preparation. This includes training and encouragement to utilize technological resources as a regular part of instruction whether students are in the classroom or attending remotely. Training should enable teachers to determine which tools and strategies work best for face-to-face instruction and which tools work best for online instruction at their specific grade level (D'Angelo & Wooley, 2007; Ottenbreit-Leftwich et al., 2011) and provide ample opportunities to practice using these during clinical experiences. If the use of technology were a regular part of instruction, teachers would gain the confidence necessary to be successful in both settings (Casey & Rakes, 2002).

Few respondents in this study indicated that they received the majority of their online instruction preparation during their preservice teacher training. For those who have been teaching more than 10 years, that may not be a surprise; however, for those teaching fewer than 10 years, this should be startling to educator preparation professionals. Teaching in an online setting must become a regular and embedded part of preparation programs including learning management systems, planning, assessment, and delivery that are unique to the online setting. For inservice teachers who lack this skill, it must be provided through professional development or other inservice trainings. Without sufficient instruction and practice teachers will not be able to transfer what they have learned for face-to-face instruction into an online setting.

Preparation for Effective Online Engagement

Research has long demonstrated that fostering active student engagement is positively correlated with student achievement (Council for Exceptional Children & Collaboration for Effective Educator Development, 2017; Lei, Cui, & Zhou, 2018). Teacher education devotes a considerable amount of time teaching educators how to build relationships with students, use appropriate questioning strategies, and implement collaborative strategies, all which have been shown to increase student engagement in learning. Unfortunately, almost all of this instruction is based on students and teachers being in the same physical classroom space and little attention is paid how this may be accomplished in an online setting. Teachers need to learn which engagement strategies differ in the online environment and be

fluent in using those that work best for students. Bond and Bedenlier (2019) identified four important factors in student engagement: teachers, curriculum and activities, peers, and family.

Teachers. First, student engagement is more likely when students view teachers as effective in using technology for teaching and when they appear supportive to student needs. As stated above, teachers need to be effective in using technology tools, but of equal importance is that teachers reach out to students to build relationships and offer assistance in the online environment. As this study showed, teachers found difficulty in maintaining a connection with students. Teachers and students were unfamiliar with how to engage with each other in a remote setting. Teachers need to be present in online courses, providing regular and personalized feedback to students (Ma, Han, Yang, & Cheng, 2015), and students also need practice with how to maintain this connection with the teacher and each other. Further, teachers need to be clear with their expectations for assignments and make themselves available to students if they encounter difficulties and to be clear with students how to request help. If teachers consistently encourage students to ask questions and reach out when they need assistance, and then follow-up with students to ensure understanding, students are more likely to be more engaged (Bao, 2020).

Curriculum and Activities. Second, the curriculum and activities chosen for online use need to be relevant and challenging to students (Mahmood, 2021; Mayer, 2019). Assignments that involve collaboration and that are related to real life are more likely to create active student engagement. Teachers must be careful to avoid "busy work" and assignments that seem redundant, both of which promote disengagement. Mayer (2019), referencing a constructivist model, includes recommendations for online delivery that carefully designs instructional content by reducing cognitive load for extraneous tasks in order to maximize learning on generative tasks. In sum, the recommendations amount to wisely including materials and designing assignments that keep the focus on the learning through natural uses of language and gestures while simultaneously minimizing wasted efforts like searching for relevant information, links, or cluttered interfaces.

Peers. The third factor, peers, is closely related to the factor of curriculum. Using instructional strategies that promote active learning with peers, in both face-to-face and online settings, is valuable for student engagement (Rands & Gansemer-Topf, 2017) and students need to feel a sense of community with peers and instructors (Lear, Ansorge, & Steckelberg, 2010). Students need to be able to see and have meaningful social interactions with each other, even in an online environment. Classes need to be structured so that, even if a student does not have video capabilities, there is a picture of each student visible to the rest of the class. Also, interactive activities need to focus on true interactions centering on investigation of authentic problems, not just rote responses to a discussion topic (Martin & Bolliger, 2018). Teachers can utilize cooperative learning outside of classroom instruction to promote student connections, as long as they are attentive to grouping structures and reliability of group members (Kupczynski, Mundy, Goswami, & Meling, 2012). LEAs and EPPs need to ensure that all of the above

factors influencing student engagement in online settings are encompassed in the curriculum for teachers.

Family. The fourth factor, family, is one that was mentioned by teachers as critical to the success of online teaching and learning. Parental involvement in student learning can have a large impact on student engagement (Bond & Bedenlier, 2019). Teachers perceived that many parents were not supportive of teachers' efforts during the beginning of the pandemic and this contributed to less student success and increased teacher frustration. Given that many parents were also quarantined at home during the early months of 2020 due to business closures and work from home orders, the pandemic most likely created additional stress for them in addition to having their children learn from home. Since research shows that parental expectations towards education are a contributing factor in students' motivation and self-efficacy toward learning (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018), teachers must be prepared to facilitate parents' involvement, whether learning takes place inside the classroom or online.

Preparation for Working with Families

Many teachers in the study took exception to parents who appeared to be unconcerned about their student's education once instruction shifted completely online. Extant research has shown that parent-teacher collaboration is a critical factor in school success, both in academic and social skills (Carter, 2002), but successful partnerships did not appear to be the norm for the teachers in the study. It must not be assumed that families know how to be involved in the education of their children. Teaching is one of the only professions in which it is expected that those receiving the service (families) have an understanding of how to assist the professional. Effective teachers know how to communicate expectations to parents in a non-threatening manner and are able to teach parents how to create a home environment that encourages learning (Carter, 2002).

Of all the factors mentioned by teachers in the survey, working with families is most likely the one area in which teachers are least prepared when they graduate from EPPs (Epstein & Sanders, 2006). Although EPP faculty and preservice teachers both name communication with parents as being important, they also voice concern about the lack in depth of preparation for developing actual partnerships with parents (D'Haem & Griswold, 2017). If EPPs are only training future teachers how to write newsletters and conduct non-confrontational parent-teacher conferences, those teachers will be ill-prepared to discuss concerns with parents or to cultivate family partnerships to ensure student success. Preservice and inservice teachers must be given the necessary tools for working with diverse families and have ample opportunities to witness how skilled inservice teachers and administrators gain the trust and cooperation of families.

Recommendations for Policy

Raising Up the Teaching Profession

Education has seen years of falling enlistment into the teaching profession and years of rising attrition. A sense of failure or inability to perform well contributes to this problem (Herman, Hickmon-Rosa, & Reinke, 2018). As we have seen in this study, teachers neither felt prepared for, nor sufficiently supported in, their endeavors to teach online. Research has shown that school-based teacher networks, opportunities for collaboration, teacher input and decision-making power, and participation in school mentoring programs are all related to lower teacher attrition rates (Borman & Dowling, 2008). All of these factors depend upon adequate funding for schools and the advocacy of school leadership for changes in these working conditions that matter most to teachers. In order for teachers to be better prepared to teach online, schools must provide sufficient professional learning opportunities and create a culture of collaboration amongst teachers that can assist them in building internal school capacity for good online instruction for their students. Without sufficient investment in resources for online instruction, efforts to move to a virtual setting may worsen these already negative trends (Borman & Dowling, 2008; Darling-Hammond, 2003).

Access to Resources for All Students

Many respondents in this study remarked that students "disappeared" once school was fully online or that they had issues accessing the intended online resources. Many students, because of financial or geographical reasons, are unable to participate in their education in an online setting (National Education Association, 2020) and this is something over which teachers have no control. Online instruction can be a digital solution for those who are unable to attend in a regular setting, but many areas lack sufficient access to make this a reality. In order to move toward digital equity for all students, several policies and practices need to be enacted at the federal level. Affordable high-speed broadband should be available to all in the U.S., similar to a public utility like electricity, and every student in public school should have provided, at public expense, a device with the necessary software to complete schoolwork. The federal government should provide adequate funding and technical support for collaboration between schools, state departments, and other stakeholders to collect and evaluate data on students who need additional technological assistance. Additionally, that assistance should be provided both during and after school hours to ensure access to all families, regardless of work schedules and daytime availability. The COVID-19 pandemic should be used an as opportunity to evaluate gaps in digital equity and make positive strides to ensuring all students, regardless of race, disability, economic background, or geographic location, have full access to online education.

Conclusion

Open-ended survey responses provided an insightful look into teachers' experiences as they prepared for or thought about the unusual close to the 2019–2020 school year due to the abrupt COVID-19 closure. The majority of responses paint a complicated and somewhat dismal picture the loss of personal connection with their students. Some indicated a resigned understanding that the closure was unavoidable, and that students and teachers' safety was paramount. Others indicated that those involved did the best they could under the circumstances while also worrying about the academic and social losses their students would likely experience. These concerns were expressed only second in quantity to the negative emotions described by teachers.

This shutdown event has provided teachers, parents, caregivers, educational leaders, and policymakers an opportunity to review the use of technology to enhance education and to ensure equal educational opportunities for all students. EPPs should use the experiences of teachers to expand the provision of knowledge and skills to preservice teachers so that they are better prepared to teach in all environments. Likewise, policymakers should listen to the voices of teachers to learn of the triumphs and struggles faced during the COVID-19 pandemic and provide the necessary resources and supports to close the gaps in digital equity.

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