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CORRESPONDENCE
Ximena D. Burgin
xrecald1@niu.edu
208 GH-208, Northern Illinois University, DeKalb, IL, USA.

AUTHORS DETAILS
Additional information about the authors is available at the end of the article.

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RESEARCH ARTICLE

Teachers' Perspectives on Teaching and Learning during the Pandemic in the United States

Ximena D. Burgin **Mayra C. Daniel** **Teresa A. Wasonga**

ABSTRACT

Background/purpose – As COVID-19 spread around the globe, learning was greatly impacted, with teachers having to pivot to remote delivery. This study documented teachers' perceptions on the transition to online teaching and learning.

Materials/methods – The phenomenological approach was used to gather and analyze responses to open-ended survey questions that solicited teachers' reflections on the benefits and challenges of instructing online, the quality of interactions with families, and the support provided by the leadership in school districts.

Results – Two themes emerged from the data, teachers' challenges adjusting to new circumstances, and the complexities of meeting students' needs remotely while maintaining high academic expectations in pedagogy, instructional content, student outcomes and engagement, and parental involvement.

Conclusion – Student engagement during remote learning indicate the need for educators and technology designers to begin to consider the future of learning in online formats among younger children.

Keywords – COVID-19, inservice teachers, mandated e-learning, digital divide, parental engagement

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1. INTRODUCTION

As COVID-19 became globally widespread during spring 2020 (World Health Organization, n.d.), K-12 schools and higher education institutions in the United States soon closed their doors to face-to-face teaching. The effects of the pandemic on schooling were numerous and unprecedented (Joshi et al., 2018; Rush et al., 2016). The governor of the State of Illinois issued a stay-at-home mandate on March 13, 2020 (Foody, 2020) that echoed the turn of events across the nation. Almost overnight, schooling in the Midwest region of the United States, specifically in the State of Illinois, which includes the city of Chicago and the largest school district in the state, moved from face-to-face teaching to remote learning. The educational community was largely unprepared for the demands of online teaching and learning, and the existing digital disparities created hardships for both students and teachers alike (Harris et al., 2020). The move to e-learning brought unwanted pressure to the educational community and forced teachers to redesign methods of interaction between themselves and their students. Fear of the unknown added stress and increased workloads for teachers (Houlden & Veletsianos, 2020; Houston et al., 2006), who had to prepare and deliver instructional materials from home, despite the challenges associated with online teaching; technical limitations, minimal levels of technical support (Hodge, 2020), and the stresses of coping with the effects of the disease on family life. Teachers' and students' digital readiness at the onset of the pandemic was largely inadequate for the long run and evidenced the need for significant support as they developed a repertoire of technological abilities. As COVID-19 cases increased and e-learning continued, the focus expanded to evaluating educators' instructional effectiveness (Bond et al., 2021; Shamir-Inbal & Blau, 2021).

Even prior to the pandemic, teachers were already challenged by the preparation time needed to develop the necessary pedagogical skills to teach online (Angeli & Valanides, 2005; Ching et al., 2018; Kali et al., 2011). Keeping abreast of emerging platforms, familiarity with tools to deliver online instruction, and acquiring sufficient knowledge of the appropriate methodology to facilitate meaningful online learning experiences requires time (Graves & Bowers, 2018; Rapanta et al., 2020). Technical competence in the operational skills and abilities to find, select, and evaluate resources to use within an e-learning environment became an imminent necessity (Scheerder et al., 2017). Teachers' perceptions of their readiness may have depended on the focus that technology infusion had received prior to the move to e-learning. In addition, the pandemic forced teachers to quickly identify and adopt new platforms, explain assignments differently and yet efficiently, and review homework without the ability to observe students in a face-to-face classroom (CED, 2020). Teachers quickly became aware that the digital divide exacerbated challenges for themselves and their students. The process required all stakeholders to master and quickly use unfamiliar technologies (Foulger et al., 2017; Trust & Whalen, 2020), creating an environment that demanded teachers exhibit high levels of creativity and spontaneity.

This qualitative phenomenological study examined teachers' perceptions of the move to teaching and learning in a 100 mile radius in the State of Illinois. Midwestern inservice teachers ($N = 30$) responded to open-ended questions explaining their perceptions and

experiences with emergency online teaching during COVID-19. The researchers were professors whose work focuses on preparing teachers to deliver culturally responsive instruction at a Midwestern university in the area where the data were collected. Prior to the pandemic, they had more experience teaching face-to-face and hybrid than fully online courses. Just as the teachers who participated in this study, the researchers were exploring new instructional designs for lessons and group work required for remote learning. This study presents an inquiry into how COVID-19 affected education for a select number of participants teaching at the K-12 level. As such, this work is not based on any previously established theoretical framework of recommended ways to react to a worldwide pandemic to ensure continuity in the academic and affective success of learners. Findings from this research are aimed at informing educators of the value of technology infusion in the face-to-face classroom.

2. LITERATURE REVIEW

Schooling before the pandemic

Prior to the COVID-19 pandemic, K-12 schools in the United States offered in-person learning with limited use of technology for teaching, learning, and outreach. Students learned through strategies determined by the teachers in their efforts to educate and differentiate classroom instruction (Authors). Teachers did not teach from their homes, and students were not dependent on technology as the sole medium of instruction. As school funding in the United States is largely based on property taxes, discrepancies existed prior to the pandemic in the resources, and therefore the funding levels that school districts had available depended upon the amount of taxes collected. Although schools located in areas of high property value were more likely to provide greater access to the latest technology; the pandemic changed the need and dependency on technology from being supplementary or optional instruction to the medium of teaching all disciplines (Kaden, 2020; Reich et al., 2020). As such, the task of educating children in areas with low property values during the pandemic became greater.

Challenges in schooling during the pandemic

At the start of the pandemic, there were few course offerings in the state of Illinois for teachers to explore the methods used in online teaching (Fagell, 2020; Middleton, 2020); a situation exacerbated in March 2020 with the Friday afternoon announcement of school being closed to face-to-face education and the following Monday seeing the start of e-learning delivery. DeWitt (2020) and Herold and Kurtz (2020) documented that many educators experienced frustration when they were unable to cover as much material following the move to online teaching. Teachers were reported to question their ability to conduct fair informal and formal assessments online (Gross et al., 2021).

After the academic spring 2020 term, teachers did not know what the fall term would require of them, nor of their students. Decisions about fall schedules were not made until late in the summer of 2020 and varied widely across and within urban and rural areas of Illinois. Schooling modes were in a constant state of flux in reaction to pandemic data that fluctuated daily as details of COVID-19 cases and fatalities were reported (Mineo, 2020;

Newhouse, 2020). Chicago Public Schools, which includes the largest school district in the State of Illinois, remained with fully online instruction from March 2020 through until March 2021, despite reported complaints about deficiencies in digital technology access among poor, mostly minority populations (Wall et al., 2020).

In the same time period, some districts in both rural and urban areas moved from online to hybrid to in-person instruction. However, the instructional mode changed from hybrid back to fully online in response to rising COVID-19 cases after the November-December holidays of 2020 (Anderson, 2020). As instructional delivery was modified, the demands to support learners' socioemotional competencies became a concern for teachers (Collaborative for Academic, Social, and Emotional Learning, 2020; Fagell, 2020; Kendziora & Yoder, 2017; McKown, 2017; Schonert-Reichel, 2017). Teachers knew that it was vital to support students who had relatives at home who were fighting the virus, possibly in a room that was next to their own study area or bedroom. Students also missed their classmates, and teachers doubted that computer-based interpersonal exchanges were able to adequately meet the learners' social needs. Students missed recess and many only had phones through which to connect with their teachers. The provision of culturally sensitive instruction became a greater challenge as emotional stressors increased across communities affected by the increased loss of life, domestic violence, and child abuse, especially in low income and communities of color (Bradbury-Jones & Isham, 2020; Griffith, 2022; Perkins & Grossman, 2021).

Technology Prior to COVID

As the pandemic forced teachers to teach online, their own individual levels of technological and online pedagogical capabilities were brought to the fore. Prior to the pandemic, researchers claimed that educators were "ill-prepared to teach with technology" (Foulger et al., 2017, p. 418). They posited that teachers' knowledge and experience using technology was limited. Trust and Whalen (2020) documented that about 66% of teachers expressed the need for more training and acknowledged their own limitations in designing technology-rich learning experiences for their students. In their study of 325 educators in the State of Massachusetts, Trust and Whalen (2020) found that 52%, 44%, and 43% of teachers had insufficient knowledge about online teaching strategies and communication tools. Their national survey of 1,208 teachers at the K-12 level revealed that 84% had participated in some form of professional development (PD) within their school district; however, Vega and Robb's research (2019) suggested that prior to the pandemic only four out of 10 teachers considered that the PD in their districts had resulted in technology having been effectively integrated into classrooms.

Barriers to teacher's use of technology in the classroom fall broadly into two categories – external and internal (Ertmer, 1999). External barriers or first-order barriers are those related to resources, training, and support, whilst internal barriers or second-order barriers refer to the teachers' confidence, their understanding about student learning, and their beliefs about the value of technology usage (Ertmer, 1999). Research suggests that due to the increased usage of emerging technologies in K-12 classrooms, first-order barriers have been seen to decrease (Ertmer, 1999; National Science Foundation, 2018; Snyder & Dillow,

2013). However, Project Tomorrow (2013) documented that 55% of teachers reported limited numbers of computers being made available for students to use.

Second-order barriers refer to teachers' attitudes and the pedagogical skills they require for the meaningful usage of technology in teaching (Ertmer, 1999). Means and Olson (1997) argued that overcoming second order barriers required affording "realistic complex environments for student inquiry" (p. 9). Such student-centered learning requires students to communicate, collaborate, and solve problems with the support of their teachers (Dexter & Anderson, 2002; Ertmer et al., 2012; Judson, 2006). It may be said that recent graduates of teacher education programs that infused technology experiences focused on online and blended teaching competencies may have had greater exposure to digital networks that support technology in teaching and learning prior to COVID-19 (Foulger et al., 2017; Pulham & Graham, 2018; Trust et al., 2016; Zweig & Stafford, 2016).

Transition to Online Learning

The immediate transition to online instruction precipitated the need to address the first and second order barriers. On the students' side, learning was affected because learners were not accustomed to sitting in front of a screen or sharing limited hardware with parents and siblings. Families were not prepared to support at-home learning. Inconsistent and unequal access to high-speed Internet and to devices varied across communities, impacting teachers' delivery of instruction and affecting students' access to lessons. Teachers had to devote time to teaching the affordances of the Internet (Bowyer, 2017). Trust and Whalen (2020) found similar challenges related to both first and second order barriers; knowledge about online teaching and communication strategies. Ahn and McEachin's work (2017) suggested that "e-school students score lower on standardized achievement tests than peers in charter and traditional public schools" (p. 1) due to online models not yet matching the educational outcomes of in-person learning.

Research during the pandemic indicated that teachers took initiatives in preparing to teach online by asking colleagues for help, reviewing material posted online from the International Society for Technology Education (ISTE) or their school district, using social media, and participating in available PD (Trust & Whalen, 2020). Rapanta et al. (2020) identified discrepancies in what teachers know about online pedagogy, and how they utilize their knowledge in adjusting their teaching. Rapanta et al. also argued that while instruction can be adjusted on demand, there is a need for teachers to first understand students' readiness for online learning and access to technology, before they adjust their delivery. Culturally responsive online learning is only possible when there is equitable access to technology and when learners are prepared to learn and collaborate using a screen.

Apart from challenges of access, Ertmer et al. (2012) and Wozney et al. (2006) reported that e-learning is a student-centered approach to teaching that may lead to greater use of technology in and out of the classroom. Affording students control over their learning, e-learning also helps teachers to differentiate their instruction (Lajoie, 2000). COVID-19 afforded all stakeholders the opportunities to learn and create new methods of communication for learning (Kaden, 2020). Kaden proposed that online teaching provides

students more choices to learn and opportunities to demonstrate mastery, but cautioned educators not to view "online education as a cheap alternative and quick fix to equity in access to education" (p. 11).

3. METHODOLOGY

This exploratory study utilized a qualitative phenomenological study approach (Stake, 2000) to explore teachers' perceptions teaching during the pandemic. Teachers' perceptions revealed their socially constructed realities, based on their experiences and exchanges with others in their environment (Greene, 1978). Data analysis using the phenomenological approach provided participants' understandings of the phenomenon of teaching during COVID-19, and how this event impacted their teaching at the individual level (Selvi, 2008). The collected data sought to answer two research questions:

- What were teachers' perceptions of online instruction received during the pandemic?
- What did teachers do to overcome the challenges of teaching online during the pandemic?

Participants and setting

In the fall of 2020, i.e., the start of the 2020-2021 school year, 30 inservice teachers from the State of Illinois responded to open-ended questions. Participants represented schools from both urban and rural communities within a 100-mile radius. Nine teachers taught pre-K-2, six taught grades 3-5, eight taught grades 6-8, and seven teachers taught grades 9-12, with teaching experiences ranging between 3 to 27 years. All the teachers shared that they had no previous experience teaching online.

Data collection

IRB approval and participant consent forms were approved in order to comply with research protocols for human subjects. Purposeful sampling using the snowball technique served to gain access to inservice teachers' networks and to invite other teachers to participate in the study (Creswell & Guetterman, 2019). Participants were recruited through email. Data collection began with one-on-one interviews lasting a minimum of 60-90 minutes. After conducting but not finishing three interviews and receiving requests from the teachers to send them the questions via email so they would have more time to share their ideas, the research was completed utilizing open-ended questions on Qualtrics. Once the decision was made to change the method of data gathering, the participant teachers were then sent the Qualtrics survey.

Participants responded to 14 questions (see Table 1) related to lesson planning and the instructional challenges, opportunities, and benefits of online teaching, as well as their learning experience during the pandemic. Questions addressed technology usage and the challenges that teachers confronted in the move from face-to-face to e-learning, the PD offered by school districts, teachers' observations of student achievement in the online medium, administrators' leadership behaviors and the quality of communication, and the provision of resources. The teachers discussed their views on the mandatory transition to e-learning and explained their perspective on the takeaways from the experience.

Table 1. Open-ended Questions

What type of instructional challenges have you faced in your teaching due to the transition to online instruction?
How has your lesson planning and instructional delivery changed due to the transition to online teaching?
What type of instructional opportunities have you experienced in online instruction?
What benefits or positives have you uncovered due to the online medium?
What type of technology limitations have you experienced?
What type of technology issues have you encountered in online teaching?
What type of challenges have you observed in learners during online teaching?
In what ways are the issues that students face in online environments delimiting your teaching and learning?
What type of professional support (PD) have you received to teach online?
What other types of support have you received/are receiving from administrators to teach online?
How would you describe the effectiveness of your school's leadership to lead in this pandemic?
What type of leadership behaviors are supporting your online teaching?
Talk about resources available to you for online teaching.
Share 2-4 takeaways from the online teaching; include both positive and negative thoughts.

Data analysis

Three researchers analyzed the data utilizing a constant comparison technique (Glaser & Strauss, 1999), allowing for the development of codes and emergence of themes (Creswell & Guetterman, 2019; Rossman & Rallis, 2017). The data analysis began with the researchers reading all the responses so as to gain a sense of the information; then the triad met to develop a codebook, including definitions of the codes for further segmentation of the data. The iterative process required several meetings to compare the codes, themes, and definitions in order to ensure there was no bias in the analysis. During the meetings, consensus was reached about overlapping codes and redundant codes to form the themes (Walther et al., 2013).

4. FINDINGS AND DISCUSSION

Data analysis yielded two themes, each with their respective subthemes: 1) teachers' abilities to adjust to new circumstances and 2) the complexities of meeting students' academic and affective needs in e-learning. The first theme included teaching quality vs. quantity and teachers reinventing themselves and their pedagogy. The second theme included students' technological literacy, instructional engagement, and parental involvement. Findings documented the participant teachers' experiences during the pandemic and the efforts they made to overcome the challenges of teaching online.

Teachers' abilities to adjust to new circumstances

Teaching Quality vs. Quantity

Thangeda et al. (2016) stated that "quality education equips one with the capability to interpret things correctly and apply the gathered information in real-life scenarios" (p. 9). Under normal circumstances, teachers evaluate quantity vs. quality by interacting with students in a face-to-face format, observing behavior and adjusting instruction to student needs. Quality education involves the engagement of learners, the learning environment, the content/material, and the processes leading to quality outcomes (OECD, 2019).

Study participants acknowledged that e-learning created an environment that required new teaching methods to meet students' learning needs. The teachers analyzed and considered how the online environment would affect instructional delivery, e-learning and interpersonal interactions, and also familial needs. The feeling that teaching changed was expressed in the following statements: "I have noticed that I have been able to do more self-reflection with students," "It [online teaching] has led me to examine how I do things in my classes," and "It forces you to take a step back and re-examine and create new and interesting lessons." The preparation process prompted teachers to reflect on changing needs. Several teachers explained that "Online instruction has forced me to go out of my comfort zone to create new and engaging learning opportunities for my students" and "I've had to revamp many of my lessons…for our current situation, or completely change units that I had designed." As the teachers reconsidered their teaching practices, they recognized that "the opportunity to use online tools is nice," "we [teachers] probably are using more manipulatives now," and "I was introduced to many apps and websites that are useful for our ESL [English as a Second Language] students." Novel thinking enabled teachers to improve their curriculum, as they incorporated new knowledge, pedagogies, and instructional materials to engage students and align their competencies to circumstances and academic objectives.

Teachers shared positive and negative experiences adjusting lesson plans. They stated that "some of the activities I used to do, do not work in this setting…It is hard to think creatively when you are just facing a screen." One teacher said, "Everything takes longer to do." Five teachers mentioned that lesson planning had doubled the work, before the pandemic "weekly lesson plans took around 4 hours to complete. Presently, I spend up to 15 hours per week planning and creating online lessons to meet my diverse group of learners' needs." Participants shared that face-to-face strategies were not working or less engaging for students in e-learning.

The teachers addressed students' ability to share ideas within the safe confines of the face-to-face classroom. With students sharing learning spaces and computers with parents and siblings, the home environment posed challenges in terms of concentration. Teachers indicated that "students are sharing their thinking with a much larger audience, as students are at home with many family members," "the audience is more intimidating, and I believe causes hesitation with the students to freely share," "students are feeling timid and shy to share their thinking due to a larger audience," and "some students are not showing up

to any live Google Meet sessions, and are not turning in any work." This situation varied among students with many from a higher socioeconomic background having their own rooms and computers to those sharing study spaces and computers with parents and siblings.

A third of the teachers indicated the importance of adjusting content for the online format. One teacher of grades 9-12 students stated that, "Less is more" regarding quantity and quality of instruction. Others indicated, "I've found success in focusing on the most important tasks while allowing for 'fluff' to be put to the wayside." One middle school teacher said that, "I decided to do less content and focus more on the standards," whilst a teacher of grades 9-12 noted that "as a district, we have been able to boil instruction down to the most important things."

Teachers' Reinventing Themselves

Sherer (2006) argued that in the expansion of online learning, schooling should not lose sight of ensuring equitable, realistic, and accessible learning opportunities for all. The data indicated that teachers were reinventing themselves, learning on their own, and working with students and their families in shifting to the online environment without loss of value. Teachers reconsidered their technological skills, computer literacy, as well as how to collaborate with other teachers, parents, and school leaders to enrich content delivery.

Instructional processes using new technologies (such as Zoom, Canvas, Google Classroom, Seesaw, and Screencastify Recorder) became part of all lesson planning. The teachers shared that it was somewhat overwhelming to determine the best platform to use to fit each circumstance/need. Irrespective of grade levels, teachers used videos to deliver the content they created or found online. They also decried the gaps in PD which would have helped to select and manage online instruction. Four teachers described district-wide PD initiatives as "3 days at the beginning of the school year," "institute days at the beginning of the year," and "10 hours of PD before the school year started." Two teachers mentioned there had been "optional PD during times when I need to plan for classes" and "we have learned about dozens of platforms – so many that it is overwhelming." Three teachers identified PD needs that were not addressed, including "socioemotional PD using the multitier school system," "instructional strategies," "SEL and making connections with students and Implicit Bias training," and "how to use platforms like SeeSaw and Zoom." Other teachers described PD experience ranging from none to online; "I received no PD from my old school last year or my new one this year," "I attend online tutorials to learn best practices and tech tools to support my remote instruction," and "We've received Google Slides to work through at our own pace." One teacher contended that she had searched for PD "independently through Twitter and the Association of Illinois Middle Schools." Although participants experienced limited PD from their districts, individual teachers took the initiative to learn how to teach online utilizing a variety of apps and platforms.

Teachers learned to depend on each other. More than half of the respondents indicated that collaboration among teachers was helpful during the pandemic. For example, "Teachers creating and sharing online instructional tools and resources." Through

collaborative ventures, some teachers discovered that they could not continue with teaching as usual. One teacher summarized this by saying, “Trouble arises when teachers and administrators try to fit what they were already doing into an online format instead of creating dynamic new lessons that fit the current teaching situation.” Another stated that “Online teaching should NOT look the same as a traditional classroom setting.” Collaboration helped teachers in terms of emotional and pedagogical support. In their words, “We [teachers] lean on each other, teach each other, and guide each other through the process,” “Without teachers supporting one another we would not make it through this,” “We meet as a professional learning community to share ideas and lessons,” “I have some colleagues that check-in with me,” and “We support each other when we have difficulty.” Some noted that “support from administration is vital to teach in a remote learning world.” In other words, in such circumstances, there is value in working collaboratively to learn and lean on each other.

The support or lack thereof of administrators in supporting online teaching was impactful. Eight teachers mentioned support from school staff and administrators as having “provided the best learning environment for our students.” They noted, “My principal is truly doing the very best he can,” “My principal is always there to help and answer questions,” “The principal is understanding, supportive, and caring,” “Administrators are doing the best they can in a situation that none of us was ever prepared for,” “My administrator has been great through this whole process,” and “The administration is trying very hard.” In contrast, 12 teachers indicated the leadership they witnessed was ineffective due to their limited support provided during COVID-19: “They dictate what they want us to do and then blame us,” “They don’t know what they are doing,” and they provided “some vague guidance about what is expected but no real help.” The data does not validate the role of administrators in supporting teachers to achieve the desired academic outcomes, but highlights the detriments of the lack of such support having been received by teachers during the pandemic.

The value of in-person learning, not only to learn content, but also to offer interpersonal support was acknowledged. The teachers indicated that, “Students learn better when they interact in person with their peers and a teacher,” “Face-to-face learning is obviously the best way to teach students,” “Students and teachers need community,” and “School is a powerful place where students are provided with learning, social services, exercise, health services, and so much more.” Empathy created through the absence of face-to-face learning was captured in one teacher’s positive stance: “I have been learning to give myself and my students much more grace and understanding. We are all in this together.” Although the transition to online learning brought about many challenges for teachers, it also brought new perspectives as claimed by one teacher, “We will be much better teachers than we were when this started because of all the new knowledge, technology, and pedagogies that we have developed in the process of pivoting to teaching online.”

Complexities of meeting students' needs remotely

Students' Technological Literacy

Lowes and Lin (2015) and Miron et al. (2018) acknowledged that students need to be proficient in the use of technology in order to succeed in e-learning. Although students' technological literacy increased with online teaching and learning, the digital divide posed problems and software insufficiency exacerbated disparities in learning outcomes. While some students had limited access to Internet connection, others were "creating videos on their own using the newest platforms." Teachers noted issues with access to devices and broadband Internet, specifically among low-income students. Flexibility was needed to support these students in order to keep them at grade level. Teachers' concerns were reflected by the following, "It's pretty common for myself or my students to get disconnected or [experience] lag on Zoom," there are problems with "failing Wi-Fi hotspots, dropped Zoom connections," and "Students not knowing how to use technology for learning." Technological issues affected instructional delivery as highlighted by one teacher of grades 9-12: "There will be many concepts I won't be able to teach this year. I never know how much we are going to get through due to technology issues and pacing, I can't plan out beyond today and tomorrow."

Teachers reached out to help their students use technology. Pre-K-2 teachers found themselves "going into students' homes and supporting the student and the family." They realized that "more flexibility and help with technology was needed." They repeated that "the amount of time it took to understand the technology and all the pieces that went along with it required an incredible amount of time and energy to learn." They noted that "as technology was changed, we had to problem solve issues that came up with students, staff, and the Internet, despite our own inadequacies related to technology." One teacher noted that, "I couldn't walk parents through tasks step-by-step" due to time constraints. Teachers prepared online materials and provided technical support to help both parents and students access the educational materials they posted. This new task added to the teachers' already busy schedule.

Positive outcomes were reported once students overcame technology issues. According to a music teacher, after students "learned new technology tools" and "regularly recorded themselves practicing and making music, they were able to self-evaluate and critique themselves rather than relying solely on my feedback." Another music teacher said that, "Students developed stronger music technology skills, and I have been able to explore musical genres, artists, and techniques that motivate students outside of the classroom." Additional comments included, "Students who are secure in their skills are doing fine – they enjoy the freedom of online learning" and "Students who are shy or anxious about school – some are doing better than they were with in-person instruction." Because of these experiences, "our students will be very adaptable to new situations" as they continue their education. Although technological barriers were slowly eliminated, the process of becoming comfortable with technology for online teaching took additional time.

Students' Instructional Engagement

Student engagement refers to the level at which students participate in the classroom, and includes their paying attention, and demonstrating curiosity, interest, and passion while learning (Education Reform, 2016). Every teacher in the current study bemoaned challenges regarding students' instructional engagement. Pre-K-2 teachers indicated that many of their students did not consistently participate in synchronous meetings making it difficult for them to observe students' developing skills: "It is hard to evaluate fine motor skills such as how students hold pencils and form their letters" and "provide activities and supplies to practice cutting, gluing, coloring, and writing on actual paper." Teachers of grades 3-5 expressed noting "Lack of student participation in online sessions," and that "Many students are not participating or turning in work." Middle school teachers indicated that "Students are becoming passive, in the sense that they are not interested in what they learn, neither are they actively engaged," so "engaging students is a challenge." All of the study's grade 9-12 teachers mentioned experiencing issues with engagement: "Student engagement seems to be at an all-time low," "It is extremely difficult to support students with special needs. There isn't the natural flow of lessons that normally happens," "Many students are not doing the work assigned during the asynchronous days, so they are falling further and further behind," and "Students don't participate. They don't turn on cameras or speak." Lower levels of student engagement highlighted the importance of face-to-face interaction between teachers and students, as well as among peers (Azevedo et al., 2020; Linden & Gonzalez, 2020; Trinidad, 2020). Two teachers of grades 9-12 shared that they found themselves extending due dates and providing make-up days in order to ensure their students learned and practiced the targeted skills. Four pre-K-2 teachers identified a "lack of student participation and work completion [in that] the same students are consistently struggling" and "there is not enough time to cover material with integrity, so I have to choose what to teach."

Parental Involvement

Parental involvement with children's academic learning and other aspects of education is essential (Georgiou, 1996), but it was seen to change during the pandemic. Teachers from pre-K-8 grade levels indicated varying degrees of parental involvement. Pre-K-2 teachers stated that the online modality increased communication with parents and propelled teachers and parents to communicate more frequently. One pre-K-2 teacher indicated that "it's now easy for parents to join Zoom for the first 5 minutes of the lesson for community time." This process provided opportunities for parents to be involved in their child's learning. They were allowed to ask questions and get schedule updates. Four teachers acknowledged that meetings via Zoom with a parent and a child allowed them to get to know the student and the student's family better. Due to the increased communication, one teacher said, "I have been able to guide parents through questions and explicitly teach a skill with the parent and child working together…Parents hear how I encourage children and reinforce behavior in a positive and uplifting way." An issue mentioned by all pre-K-2 teachers was that "parents are often near students during our teaching time, which can also lead to inaccurate assessment if a student is helped by a parent." Nevertheless, these findings

suggested that pre-K teachers collaborated with parents in supporting the learners. As the teachers became a daily fixture in students' homes, they confronted challenges together. Teachers acknowledged that students and parents at the lower grade levels (pre-K-5) had to overcome a steep learning curve in order to gain the technological literacy needed to function within an online environment. Teachers were uncertain if the results of students' assessments and tests were valid evaluations of academic learning.

Four teachers of grades 3-5 shared their sense of frustration with parental engagement, stating that, "Students don't have parents at home to push them through the school day and keep them motivated, so many struggle with the completion of tasks." When parents were not involved, teachers often had to re-teach the material so that students did all the assigned tasks. Another teacher of grades 3-5 indicated that some parents were already struggling with parenting; thus, having the child "at home 24 hours a day just exacerbates the situation." Three teachers of grades 6-8 explained that the PD provided information "to support parents during this stressful time." Another teacher stated that, "Parents, many of them, reached out to teachers for help and were available to listen to the teacher feedback in how to help their kids succeed in school, which made a difference for some students." The teachers acknowledged that parental involvement was critical for students, so investing in increasing parents' skills and knowledge supported students' academic success. Notably, those teachers who taught grades 9-12 did not mention parental involvement.

5. CONCLUSION

The process of change can be traumatic, especially when it is sudden and complicated. Teachers in the United States understood that the thrust to a new world was unavoidable. They may not have known it, but successful schooling during the pandemic came about because teachers confronted and addressed first and second order barriers (Ertmer, 1999; Snyder & Dillow, 2013). Teachers maintained a positive posture in the midst of a crisis that affected their families and their students' communities. They adjusted, pivoted, and developed pedagogical skills that enabled them to teach remotely. They were creative, installing whiteboards in their homes, they sat at the computer dressed in costumes on Halloween to bring levity to a serious and frightening time, and advised parents on how to help their children. Preparing to teach took more time but the teachers adjusted to increased workloads. They strove to create engaging environments and spent time finding and creating resources fit for the online classroom. Comments revealed teachers' power to revolutionize methods of teaching, and even those who expressed frustration with the limited support from school administrators made efforts to teach via an online medium.

Keeping learners engaged during group work was challenging. Teachers struggled to adjust instruction to engender collaborative interactions among students online. Lowes and Lin (2015) and Miron et al. (2018) acknowledged that even when students effectively use technology, at the early primary grades, young learners may not be able to retrieve materials. These authors emphasized that students need higher levels of metacognitive skills to learn and interact with materials online. Many of the teachers noted learners' inability to work independently on a tablet or desktop computer. Overall, comments regarding student

engagement during remote learning indicate the need for educators and technology designers to consider the future of online learning aimed at younger children.

Teachers' responses indicated the value of addressing first and second-order barriers. They acknowledged the value of flexibility including planning time to ensure learners' academic and socioemotional competencies (Collaborative for Academic, Social, and Emotional Learning, 2019; Fagell, 2020; Kendziora & Yoder, 2017; McKown, 2017; Schonert-Reichel, 2017). While the transition to e-learning with little preparation time was unprecedented, teachers acted, they took time to reflect on the challenges, revamped their pedagogies, and demonstrated professionalism. One participant middle school teacher voiced the need to embrace flexibility in an uncertain future, saying that, "Successful online teaching does not look the same as a traditional classroom setting." Therefore, both teachers and learners needed to be open to learning differently, and did so effectively with insufficient preparation time. The teachers knew the pandemic was an emergency situation that did not allow school districts to address issues of Internet access as efficiently as they wished, nor to provide PD prior to placing teachers in the position of teaching fully online. In the future, it seems apparent that the United States' educational system should invest in preparing teachers and students to avail themselves of current technologies as an integral part of teaching and learning.

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ABOUT THE CONTRIBUTORS

Ximena D. Burgin; Email: xrecald1@niu.edu

Mayra C. Daniel; Email: mayra.daniel@gmail.com

Teresa A. Wasonga; Email: twasonga@niu.edu