

**EARLY CHILDHOOD TEACHERS' EXPERIENCES DURING THE COVID-19
PANDEMIC**

by

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Abstract

The COVID-19 pandemic posed unique challenges for early childhood teachers while facilitating the learning and development of young students. This study examined early childhood teachers' (K-2 grade levels) experiences with online/hybrid classes and the transition back to in-person classes from Spring 2020 to Fall 2021, in Pakistan and the US. It comprised of two phases: survey (consisting of closed- and open-ended questions) ($n = 53$) and interviews ($n = 12$). Survey findings from closed-ended items indicated some shared experiences of teachers in the US and Pakistan with regards to student engagement, use of technological tools, support/resources from school administration, peers, and parents, collaboration with parents, and stress during online classes, as shown by t -test results ($ps > .05$). Pakistani teachers reported higher scores within the themes of students' internet accessibility, preparedness (online/hybrid and in-person classes), self-efficacy (online/hybrid classes), and US teachers reported higher scores within the theme of stress (in-person classes) ($ps < .05$). Common challenges with the transition back to in-person classes that teachers in Pakistan and the US reported in the open-ended survey items were the students' learning gaps and the need for social-emotional learning. Following themes emerged from the interview responses of teachers: Online Classes (proficiency in technology-use, challenges of online teaching, limited resources, parental involvement, planning, student engagement, increased workload, positive aspects of online teaching), Challenges of hybrid teaching, In-person Classes (adjustment for teachers and students, learning gaps), Suggestions for School Administrators. Some experiences that were unique to Pakistani teachers and affected their experiences with online classes also showed up, like electricity shortages disrupting online classes, and gender-based expectations of managing household responsibilities, leading to increased workloads for female teachers.

Keywords: pandemic, early childhood teachers, online/ hybrid classes, in-person classes, technology, student engagement, support/resources, internet accessibility, learning gaps, socio-cultural differences

Early Childhood Teachers' Experiences During the COVID-19 Pandemic

The World Health Organization (2020) declared COVID-19 outbreak as a matter of international concern on January 30, 2020. Since then, countries worldwide have struggled to manage the spread of the coronavirus by issuing stay-at-home orders and encouraging social distancing (Reuters, 2020). The COVID-19 pandemic also resulted in a sudden shift towards an online mode of learning that changed the education landscape worldwide. The abrupt closures of schools disrupted education systems. Teachers and school administrators were largely unprepared to shift towards emergency remote learning systems (Donnelly & Patrinos, 2020).

Teachers, students, and parents now had to adjust to this new mode of learning (online) which brought its own set of challenges. Many teachers reported higher levels of stress during this time of online teaching likely associated with increased workloads (Klapproth et al., 2020; Marek et al., 2021) and high demands placed on them during online classes (Crawford et al. 2020; Kinard & Mahaffey, 2020). Teachers also reported their lack of training and experience in using technology as one of the major challenges they faced during online classes (Bergdahl & Nouri, 2020; Marshall et al., 2020).

Young children in K-2 grade levels require additional assistance from parents at home to participate in online classes, as most of them do not have the skills needed to navigate online applications or software to complete assigned activities on their own (Timmons et al., 2021). Online classes that cater to K-2 grade levels have been uniquely challenging as teachers now had an additional responsibility to constantly communicate with parents to meet the learning goals of children (Timmons et al., 2021). Early childhood education teachers struggled to adjust to remote instruction and plan ways to keep young children engaged and motivated during online classes (Bassok et al., 2020, as cited in, Crawford et al., 2020). Teachers showed concern for the

negative social and emotional impact of remote instruction on young children, as social skill development is an integral part of early childhood education (Timmons et al., 2021). As schools now move back to in-person instruction, it has become important to understand teachers' expectations and concerns with this transition, to help school administrations be better prepared to support their teaching staff.

This study included teachers from both Pakistan and the United States, for a cross-cultural analysis of K-2 grade teachers' experiences during COVID-19. This will help in understanding the extent to which socio-cultural influences shaped teachers' experiences with online classes and the unique challenges posed by these influences. For instance, in Pakistan, the use of technology was not a common practice in educational institutes due to limited budget allotted to the education sector (Khalid et al., 2021). Therefore, teachers, school administrators, and even parents had limited experience of using technology and were not prepared for the transition to online education (Khalid et al, 2021). In Pakistan, many teachers who live in a joint family system, in which members of extended family live together in one household, expressed concerns about maintaining a work-life balance and not having a separate workplace, which added to their stress (Said et al., 2020). This is particularly true for female teachers in Pakistan, who are also expected to fulfill household responsibilities alongside work and faced increased workload during remote classes unlike their male counterparts (Abid et al, 2021).

Remote education has also exacerbated inequality in access to learning (Donnelly & Patrinos, 2020). Findings from a study on the impacts of remote education in Netherlands, showed that children from advantaged socio-economic backgrounds had better resources and more parental support to study from home than those from disadvantaged socio-economic backgrounds (Bol, 2020). Parental education had a role to play in the support students received

during remote learning (Bol, 2020). Inequitable access to resources and limitations of parental support to facilitate learning for children at home may have exacerbated the learning gap between students (Timmons et al., 2021).

Hence, teachers will now have to prepare to cater to children with varying learning and developmental needs entering the classroom and help them adjust to in-person classes (Tate, 2021). The social, emotional, and academic impact the COVID-19 has had on both children and teachers will have to be addressed with the transition back to in-person classes.

Purpose

The purpose of this research is to understand K-2 teachers' experiences with online and hybrid (combination of in-person and online) classes and the transition to in-person classes during the COVID-19 pandemic. This study will explore different aspects of teachers' experiences, that includes the use of technology, teachers' perceptions about student engagement in class, communication with parents, support and resources provided by school administrators, how supported teachers felt by peers and parents of students they taught, and overall challenges they faced with online/hybrid classes and the transition to in-person classes. Teachers' experiences in Pakistan and the US will also be compared to analyze the socio-cultural differences that may have shaped teachers' experiences during the pandemic.

Research questions

This study aims to address the following research questions about early childhood education teachers' (for K-2 grade levels) experiences with online/hybrid classes during the pandemic and their expectations for the transition back to in-person classes:

- 1- How were the experiences of K-2 grade teachers, in relation to student engagement, collaboration with parents, and use of technology, during online/hybrid classes during the COVID-19 pandemic?
- 2- How supported did K-2 grade teachers feel by school administration, peers, and parents, during online/hybrid classes during the COVID-19 pandemic?
- 3- How prepared to teach did K-2 grade teachers feel with online/hybrid classes during the COVID-19 pandemic?
- 4- How was K-2 grade teachers' self-efficacy impacted by online/hybrid classes during COVID-19?
- 5- How did online/hybrid classes impact K-2 grade teachers' stress levels during the COVID-19 pandemic?
- 6- What challenges did K-2 grade teachers face during online/hybrid classes during the COVID-19 pandemic?
- 7- What are the challenges that K-2 grade teachers are anticipating or currently experiencing with the transition back to in-person classes?
- 8- How do K-2 grade teachers' experiences in Pakistan compare to those in the US?

Significance

Since the COVID-19 pandemic hit globally and schools moved to remote education, there has been a lot of research centering teachers' and students' experiences with online classes and the challenges they have faced. However, research on early childhood education teachers' experiences with online/hybrid classes is still limited. Learning for children in their early years is largely dependent on engaging with the environment and forming social connections (Timmons et al., 2021). During the COVID-19, teachers had to come up with creative ways to meet learning

needs of young children and keep them motivated in online classes. Parental support is also hugely important when it comes to facilitating online classes for young learners. Therefore, teachers also had to rely on parents to ensure that students' learning goals are met.

As schools now re-open, teachers are faced with the pressures of helping children re-adjust to in-person classes while also addressing possible learning gaps between children in the same grade that may have been created due to unequal access to resources like internet connectivity, or lack of parental support. Previous studies have mostly been limited to teachers' experiences with online classes, mostly during the early stages of the pandemic. This study aimed to not only capture teachers' experiences with online classes during the beginning of the pandemic, but also focus on the experiences during hybrid classes and the transition to fully in-person mode of classes. This allowed the researcher to get a more holistic view of teachers' experiences with different modes of learning during the COVID-19 pandemic.

There is also limited research on Pakistani teachers' experiences with online/hybrid classes during the COVID-19 pandemic. Therefore, this study aims to understand the cultural influences that might shape teachers' experiences in Pakistan and how that compares to experiences of teachers in the US. A cross-cultural analysis will help in understanding the extent of socio-cultural influences in teachers' experiences and capture the unique challenges they may have faced.

This research can help in understanding the challenges and overall experiences of early childhood education teachers which can be used by school administrators to provide adequate support and resources for teachers to address their concerns.

Summary

Emergency remote learning presented teachers with unique challenges of planning lessons for online classes, while also ensuring that young children were motivated and engaged while learning. Early childhood teachers also had to collaborate with parents to ensure that the learning needs of young children were met. This study aimed to understand the unique experiences of early childhood teachers with online and hybrid modes of learning and their concerns or expectations regarding the shift towards in-person classes.

A cross-cultural analysis in this study did not only help in understanding the unique experiences of Pakistani teachers based on their specific socio-cultural context but also how that compares to the experiences of teachers in the US. For instance, due to gender roles and expectations assigned to women, female teachers working from home in Pakistan also had to cater to their families' expectations of fulfilling household responsibilities, alongside work, which made their experiences with online classes more challenging (Abid et al., 2020). This is especially stressful for women in households where members of extended family live together in shared housing, which is a cultural norm in Pakistan (Said et al., 2020).

This study can help in informing recommendations to school administrators and government organizations to address teachers' concerns and provide them the support and resources they need going forward.

Literature Review

Socio-cultural influences in teachers' experiences

Social and economic inequalities across the world have deprived large populations of basic resources and infrastructure such as shelter, or internet services (Mansouri, 2020). These inequalities also limited the capacity for those populations to socially and physically distance during the COVID-19 pandemic (Mansouri, 2020). Pakistan faces these socio-economic inequalities with a lack of adequate health care system, food scarcity, malnutrition and poor governance (Ali & Ali, 2020). Many people live in shared spaces, often in clustered neighborhoods with shared boundary walls, which makes it difficult to physically distance (Ali & Ali, 2020). This has increased the risk COVID-19 poses on large populations in Pakistan. Moreover, many students do not have reliable internet connection at homes to attend online classes (Adnan & Anwar, 2020; Mahmood, 2020; Khalid et al., 2021). Therefore, it is important to acknowledge the socio-cultural influences in remote education which has made it extremely challenging for many students and teachers in Pakistan.

Gender roles and expectations for women in Pakistan creates a uniquely challenging experience for teachers in Pakistan. In a study conducted by Abid et al. (2021) on online teaching experiences in Pakistan during COVID-19 that interviewed eleven teachers, all female participants reported that the lockdown due to COVID-19 increased their household chores and family responsibilities. Along with the online classes, teachers were also expected to fulfill household work duties at home and take care of their kids while working from home (Abid et al., 2021). In addition to that, many people live in the same house as their extended family members, a joint family system which is highly valued culturally (Ali & Ali, 2020). This makes it even

more challenging for teachers to maintain a work-life balance while working from home (Khalid et al., 2021).

Technology

The transition to online classes at the beginning of COVID-19 pandemic meant increased reliance on the use of technology to support learning, which has largely shaped the experiences of teachers and students during the pandemic. A study on Portuguese teachers' experiences with emergency remote teaching pointed out that lack of digital competencies was a hindrance to successful online teaching and teachers believed that teacher training programs need to focus on the development of digital competencies (Seabra et al., 2021). Proficiency in using technology and internet access can be important factors when it comes to teachers' acceptance of technology (Marek et al., 2021; Shechter, 2013, as cited in Cardullo et al., 2021). Since teaching online classes required the use of technology, it is a significant aspect to explore, to understand teachers' experiences during the pandemic.

Unstable internet connection and lack of access to technology have been huge barriers in online teaching/learning, which has affected both teachers and students (Bushweller, 2020; Seabra et al., 2020 Winter et al., 2020; Yang 2020). According to a study that surveyed primary and post-primary teachers' use of technology during online classes in Ireland, in-school support and training, and the accessibility of online teaching equipment has largely influenced teachers' experience during the pandemic (Winter et al., 2020). Adapting the technological and learning resources according to the varying learning needs of the students was also a concern raised by teachers (Winter et al., 2021).

Yang (2020) conducted a survey with 15,438 teachers in China, regarding their perceptions of online teaching. The findings of the survey showed that while majority of the teachers had positive views about online teaching, some of the challenges highlighted by teachers were inability of students to apply self-study skills, unstable internet connection, teachers' unfamiliarity with the technology and online teaching techniques, challenges with controlling progress of their course and limited interaction with students (Yang 2020). These findings provide an insight into teachers' perceptions around technology and can be used to inform steps that school administrators can take to address teachers' concerns so they can provide a supportive learning environment for all students.

Despite the challenges faced by teachers in adapting to emergency remote teaching, teachers also have positive views regarding the use of technology to facilitate learning (Bushweller, 2020; Seabra et al., 2021; Yang, 2020). Based on a survey by EdWeek Research Center, 87 percent teachers reported an improved ability to use technology and 57 percent reported positive opinions regarding the use of educational technology for teaching (Bushweller, 2020). The exposure to technological tools during remote classes was a crucial factor in developing teachers' proficiency in online learning tools. Research on teachers' experiences with the use of technology during the pandemic are important in helping policymakers and teacher training institutes to address teachers' challenges to ensure better learning environments for students.

Teacher Preparedness

Studies have also looked at teachers' preparedness with the sudden shift towards remote learning and their experiences with using technology during remote classes. In a study conducted

by Trust & Whalen (2020), an online survey was used to look at the experiences of 325 K-12 teachers, most of them from the United States. The findings showed that the majority of the participants felt unprepared for and overwhelmed with online teaching and were concerned about the internet accessibility of students, their lack of knowledge about online teaching tools, and balancing their personal needs alongside work. Participants also highlighted that they would have been better prepared to deal with remote teaching if their prior training had included more experiences with technology (Trust & Whalen, 2020).

Another study by Bergdahl & Nouri (2020) assessed teacher and school preparedness with the transition to remote teaching, in Sweden. Findings from the survey in which hundred and fifty-three teachers participated, showed that teachers were largely unprepared and lacked experience in using digital tools for classes (Berghdal & Nouri, 2020). In another study by Kinard & Mahaffey (2020), thirty-seven teachers reported they had not had prior online teaching support and thirty-eight percent of those teachers did not receive any professional development training from their districts to transition to online classes. Findings also showed that most teachers did not receive increased support from technology specialists during online classes than pre-pandemic times even though the reliance on technology had considerably increased during the pandemic (Kinard & Mahaffey, 2020).

Similarly, in a study conducted by Marshall et al. (2020), survey results based on 328 PreK- K-12 teachers, during March and April 2020 showed that 92.4 percent of the teachers had not taught online before the transition and lacked training from schools or school districts in online teaching. Teachers highlighted some challenges they faced, including lack of access to pedagogical materials they had in school, lack of adequate time, difficulties in keeping students motivated, juggling with personal responsibilities alongside remote teaching, problems with

internet connectivity for both teachers and students, etc. Several teachers also pointed out that the lack of real-time interactions negatively impacted their ability to teach (Marshall et al., 2020).

A survey was conducted by ClassTag, of around 1200 K-12 teachers, comprising of mostly elementary school teachers, to assess the experiences of teachers during the early stages of the pandemic (Newton, 2020). The majority of the teachers reported that they were unprepared to teach online. Around 42.8 percent of teachers reported being solely responsible for deciding which online tools to use, while 36.3 percent reported that school districts made those decisions, while 18.8 percent that the school administration was making the decisions regarding online tools (Newton, 2020). This highlights the lack of consistent policies and teachers' preparedness to deal with remote teaching. Remote teaching brought unanticipated challenges that teachers and school administrations had to face without prior training or planning.

Many under-resourced schools, especially in developing countries like Pakistan, struggle to cater to students' needs during the pandemic, particularly those in low-income areas with limited access to technology or the internet (Geven & Hasan, 2020). This creates a challenge for teachers as schools do not have adequate resources to support remote education and address student inequities.

Teacher Self-Efficacy

Emergency remote education posed unique challenges for teachers that they had not experienced in their careers before. Therefore, it is also important to consider how their self-efficacy beliefs were influenced by their online teaching experiences. Bandura (1997) emphasized four main sources that shape teacher's self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional and physiological states. Mastery experiences are built by past experiences of success and failure, and it determines one's belief in their ability to

overcome challenges or take on new tasks. Since the majority of the teachers who were forced to shift towards remote classes did not have previous successful experiences of online classes before, this could have had a possible impact on their beliefs regarding their ability to teach online classes. Vicarious experiences are those that individuals learn by observing others (Bandura, 1997). In the context of teachers, this would include learning from the successes of other teachers (Khurram & Sajida, 2017). Verbal persuasion involves developing self-efficacy through positive feedback about one's performance (Bandura, 1997). Lastly, emotional states also affect self-efficacy. In the context of COVID-19, teachers might feel anxious regarding the state of uncertainty caused by the pandemic. Teachers may also feel anxious regarding the effectiveness of their teaching through online platforms, which may negatively impact their self-efficacy.

Bandura (1993) also highlighted the importance of perceived controllability of one's environmental factors that shapes one's belief system. Individuals with high self-efficacy believe that through persistent effort, they can overcome challenges presented by the environment despite the presence of constraints or limited opportunities to change the situation (Bandura, 1993). Looking at the context of COVID-19 and challenges presented by resulting school closures from this theoretical perspective, teachers with high self-efficacy would be better able to adapt to this abrupt shift towards online classes because of their belief that they have control over the environment, and they can use persistent effort to overcome the current challenges.

Studies have also shown that teacher self-efficacy has a positive influence on students' motivation and achievement (Khurram & Sajida, 2017; Mojayezi & Tamiz, 2012). A study conducted by Khurram & Sajida (2017), examined secondary school teachers' self-efficacy and its impact on student achievement. Sixty teachers and a hundred students were selected in

Quetta, Pakistan, for this purpose. Teachers' self-efficacy was assessed through a survey and a test was administered to assess students' academic achievement. Results showed that there was a statistically significant positive correlation between teachers' self-efficacy and students' academic achievements (Khurram & Sajida, 2017).

Low teacher self-efficacy has also been linked to an increase in teacher burnout (Zee & Koomen, 2016; Skaalvik & Skaalvik, 2007, as cited in Williams, 2020). A review of literature on teacher self-efficacy conducted by Zee & Koomen (2016) showed that teacher self-efficacy is an important contributor to student's academic adjustment, and influences the psychological well-being, job satisfaction, and burnout in teachers. Since teacher's self-efficacy has been shown to influence students' academic outcomes and also affect their psychological well-being, it is important to look at the effect the COVID-19 pandemic and online classes have had on teachers' perceived self-efficacy.

A study conducted by Cardullo et al. (2021), looked at teacher's self-efficacy and experiences with online classes during the COVID-19 pandemic. Survey results showed that some of the challenges teachers faced included maintaining student motivation and engagement in classes, problems with internet connectivity, lack of support or resources, and teacher's self-efficacy in using technology. Teachers' perceived usefulness of the learning management system they used while remote teaching, significantly affected their self-efficacy (Cardullo et al., 2021). These are important findings because it gives a detailed picture of teachers' experiences with remote teaching and how their acceptance of technologies shaped their perceptions and outcomes during the pandemic.

A study by Dolighan & Owen (2021) examined secondary teachers' efficacy for online teaching during the COVID-19 pandemic. It looked at how teaching experience, teachers'

professional development (PD) experience correlates with teacher self-efficacy as they transitioned to remote learning. The results from the survey showed that teachers with prior experience with online learning as part of their PD sessions, and those who had used virtual technology resources before, showed higher self-efficacy (Dolinghan & Owen, 2021). This shows that past experiences of teachers', particularly with online teaching, affect their self-efficacy. To increase teachers' comfort with technology, it is now becoming increasingly important for professional development courses and teacher training programs to include online teaching as part of the curriculum.

Overall, these studies suggest that teachers faced numerous challenges with remote teaching, particularly in the early stages of the pandemic when they did not have prior experiences of emergency remote teaching. Internet connectivity, students' motivation, preparedness, lack of support or resources, were some of the concerns teachers highlighted in these studies (Marshall et al., 2020; Cardullo et al., 2021; Marek et al., 2021). It is also important to note that not all teachers had prior mastery experiences of using technology as the pandemic posed a novel challenge of school closures, which would have affected their self-efficacy.

Teacher's Emotional and Mental Well-being

Studies have highlighted the negative emotional impact of remote education on teachers during the COVID-19 pandemic (Crawford et al., 2020; Kinard & Mahaffey, 2020). A study examining K-12 teachers' perceptions of using learning technologies and their mental health in the US, found that the majority of the teachers reported feeling overwhelmed (83 percent), disturbed sleep patterns (69 percent), anger, irritability, or restlessness (60 percent), and constant worry (50 percent) (Kinard & Mahaffey, 2020).

Based on a study conducted in Texas in Spring 2020 by Crawford et al. (2020), survey results showed that the majority of the early childhood education teachers reported increased job-related stress, feeling of fatigue, frustration, emotional drain, anxiety, nervousness, and excessive worry during the COVID-19 pandemic. Teachers also reported facing personal difficulties such as financial stress. Most of the teachers also reported difficulties in balancing their work responsibilities (Crawford et al., 2020). Another study by Dayal & Tiko (2020), that looked at early childhood education teachers' experiences in April 2020 on a small island in the Pacific, showed that teachers were worried about their personal and professional lives. For instance, teachers reported fear of getting sick or losing their job and worried about their job responsibilities. Teachers also expressed concerns about their students' health, safety, and overall well-being (Dayal & Tiko, 2020). These studies provide an insight into teachers' experiences with online classes and the challenges they have experienced during the COVID-19. Understanding the repercussions of these challenges on the mental health of early childhood education teachers can help school administrators provide better support to teachers as schools get ready for transition back to in-person classes. These findings can also help inform professional training courses that cater to the socio-emotional needs of teachers, that can help them cope with stressors of emergency remote education.

Pressley (2021) studied K-12 teachers' anxiety and burnout rates in the context of COVID-19 in the US and looked at different aspects of teacher anxiety, such as COVID anxiety, anxiety around teaching, communicating with parents, and administrative support. Findings of this study showed that COVID-related anxiety, teaching anxiety, anxiety communicating with parents, and administrative support were strong predictors for teacher burnout (Pressley, 2021). This study highlights the different factors that are contributing to anxiety and burnout in

teachers, which is crucial to consider for school administrators at this time when schools have started to re-open. School administrators will also have to think about providing emotional support, alongside technical support, to make the transition to in-person classes less stressful for teachers. Moreover, hybrid classes provide a unique challenge that has not yet been explored in previous studies and may contribute to additional stress which this study also seeks to explore.

Summary

Overall, these studies suggest that teachers faced numerous challenges with remote teaching, particularly in the early stages of the pandemic when they did not have prior experiences of emergency remote teaching. Internet connectivity, students' motivation, preparedness, lack of support or resources, were some of the concerns teachers highlighted in these studies (Marshall et al., 2020; Cardullo et al., 2021; Marek et al., 2021). Problems with internet accessibility are even more pronounced in developing countries like Pakistan, where much of the population is from underprivileged communities (Abid et al., 2021). Additionally, gender roles and cultural expectations in countries like Pakistan, where female teachers are expected to fulfill household responsibilities alongside work, meant increased stress for those teachers (Abid et al., 2021). These challenges have shaped the experiences of teachers during remote classes and impacted the emotional and mental well-being of teachers. School administrators will have to consider these experiences, to help teachers manage their stress, and provide adequate support and training, as schools now begin to move to in-person classes. School administrations will need to think of providing necessary support and resources for teachers to address their socio-emotional needs as well, so they can also help address the socio-emotional needs of their students. Therefore, this study will further explore the concerns and experiences of K-2 grade teachers in Pakistan and the US, which will help in informing

recommendations for school administrators to provide adequate support and resources for teachers as they transition to in-person classes.

Methodology

Design

This study used a convergent parallel mixed-methods design to gather in-depth data on participants' perceptions of online and hybrid classes and their expectations regarding the transition to in-person classes, via survey and interviews. This method helped in collecting and analyzing both qualitative and quantitative data individually first and then interpreting them together (Creswell, 2013) to have a more holistic understanding of the teachers' experiences during the COVID-19 pandemic. The survey was administered first, comprising mostly of close-ended questions and a few short answer questions. After the survey, those participants who agreed to be contacted for the interview phase were selected randomly for a short interview lasting approximately 30 minutes.

Participants

Originally, the sample consisted of 58 teachers of K-2 grade levels who are currently living in the U.S. ($n = 32$) and Pakistan ($n = 26$). Five participant responses were removed due to missing responses in the majority of the items in the survey, The final sample consisted of 53 teachers from the US ($n = 27$) and Pakistan ($n = 26$) (see Table 1 for demographic characteristics of the participants).

Table 1

Variable	Pakistan		US	
	<i>n</i>	%	<i>n</i>	%
Gender				
Men	0	0%	1	4%
Women	26	100%	26	96%
Age				
18-25 years old	2	8%	0	0%

26- 33 years old	11	42%	5	19%
34- 41 years old	11	42%	8	30%
42- 50 years old	2	8%	7	26%
50 + years old	0	0%	7	26%
Education				
High school diploma or GED	2	8%	0	0%
Undergraduate	11	42%	12	44%
Graduate (Master's, Doctorate)	13	50%	15	56%
Race/Ethnicity				
Asian	23	88%	1	4%
Asian American	1	4%	0	0%
Black or African American	0	0%	1	4%
Latin American/ Hispanic	0	0%	3	11%
White/Caucasian	0	0%	22	81%
Prefer not to answer	2	8%	0	0%

The interview was conducted with six teachers from the US and six teachers from Pakistan, from the sample that participated in the online survey phase. Criterion-based purposive and convenience sampling were used for the survey and random sampling for the interview stage in this study. Inclusion criteria included that teachers are currently living in either Pakistan or the U.S. and are currently teaching K-2 grade levels and taught K-2 grade levels during the pandemic from Spring 2020 to Fall 2021. Initial recruitment of participants for the survey was through the researcher's professional network and teachers' community groups on Facebook.

Instruments

For the first part of data collection, an online survey was administered through Qualtrics and sent to the participants via email. The closed-ended Likert scale items consisted of the following themes: technology, student engagement and students' internet accessibility, supports/resources (provided by schools, peers, and students' parents), preparedness (in the context of online/hybrid and in-person classes), collaboration with parents, self-efficacy, stress/burnout. The survey also included open-ended questions regarding the challenges teachers

experienced during online/hybrid and the transition to in-person classes (see Appendix). Three items in the self-efficacy section were adapted from Teacher Self-Efficacy scale by Tschannen-Moran & Hoy (2001). Two items in the stress/burnout section were adapted from Maslach Burnout Inventory (1997). All other items were developed by the researcher to investigate K-2 grade teachers' unique experiences during the pandemic. Some demographic questions related to teaching experiences, level of education, country of origin, ethnicity, and grade level(s) currently teaching were also included (see Appendix).

The interview was semi-structured with open-ended questions, regarding the challenges teachers faced during online, hybrid and in-person classes during the COVID-19 pandemic. The interview questions aimed at understanding teachers' experiences at the beginning of the pandemic in Spring 2020, and how they feel about online/hybrid classes now. Some questions also aimed at understanding their experiences with the transition to in-person classes and possible challenges they might have experienced or are experiencing with this transition. The purpose of the interview stage was to get a more in-depth understanding of teachers' experiences during the COVID-19 pandemic.

Procedure

The participants were invited fill out the survey via email. The participants were selected based on the researchers' professional contacts and teachers' community groups on Facebook. The emails consisted of a brief overview of the study with an informed consent form attached with the survey link. Informed consent for the survey and interview included the purpose of the study, details about the maintenance of confidentiality (i.e., participants' responses will remain anonymous), and the right to withdraw from the study at any point. All participants' responses

were confidential and their personal information like email addresses was replaced by unique ID numbers, for coding.

Once the survey data collection was complete, twelve participants (six teachers from Pakistan and six teachers from the US) were randomly selected and invited for an interview via Zoom which was the second phase of the study. The online interviews were recorded for transcription later, which the participants were informed about in the consent form. Personal, identifiable information was removed from the transcription before it was used for the study. Each interview lasted between 20-40 minutes.

Analysis

Survey results were checked for normality of distribution for each item by checking whether the skew was within the range of -1 to 1 and kurtosis within the range of -3 to 3. Internal reliability was checked by looking at the Cronbach's alpha for all the categories of the survey: technology ($\alpha = 0.24$), student engagement ($\alpha = 0.64$) and internet accessibility ($\alpha = 0.88$), supports/resources by school ($\alpha = 0.86$) by peers ($\alpha = 0.78$) and by parents ($\alpha = 0.77$), preparedness for online/hybrid classes ($\alpha = 0.74$) and in-person classes ($\alpha = 0.64$), collaboration with parents ($\alpha = 0.84$), self-efficacy ($\alpha = 0.92$), stress ($\alpha = 0.88$). After checking for reliability, composite scores for the following categories were computed: student engagement, students' internet accessibility, supports/resources by school, by peers, and by parents, collaboration with parents, preparedness (online/hybrid classes), preparedness (in-person classes), self-efficacy (online/hybrid classes), self-efficacy (in-person classes), stress (online/hybrid classes), stress (in-person classes) for analysis. Due to a low reliability between items in the theme of technology, items in this theme were analyzed separately. The acceptable percentage of missing items in each scale was set to 20%. In the case of one missing value in the Self-efficacy theme, it was imputed

and replaced by the grand mean of the scale, because it made up less than 20% of the scale. In the case of one missing value in theme of Preparedness, it was left as is in the analysis because it made up more than 20% of the scale. An independent samples *t*-test was used to compare teachers' experiences in the U.S. and Pakistan, to see whether there were differences in their experiences. Before running the independent samples *t*-test, Levene's test was used to check for homogeneity in variances within each scale/theme. The responses from open-ended questions were analyzed post-hoc. Common themes across responses were coded and analyzed

For the interview, the data were analyzed after transcription of all responses. The analysis of the questions was done thematically (themes were decided based on the common trends in the responses), and a comparison was drawn between participants' responses.

Results

Overall, the results from survey and interviews indicated that experiences of teachers with online classes and the transition back to in-person classes, in both the US and Pakistan were largely similar. Therefore, the results from survey and interview were first analyzed overall (aggregating the findings of teachers from Pakistan and the US both) and any differences between teachers' experiences in Pakistan and the US were highlighted where they existed. Few socio-cultural differences were seen in Pakistani teachers' responses, for instance internet accessibility problems due to electricity shortages and challenges associated with living with extended family members and gender-based expectations from female teachers in Pakistani households.

Survey

Closed-ended Questions

Technology. When asked about their frequency of using technology in classrooms before the pandemic, 47% teachers reported that they sometimes used technology while 38% teachers reported that they used it most of the time ($M = 3.23$, $SD = 0.78$) (see Table 1 in Appendix). When asked about the technological challenges, 66% of the teachers reported facing technical difficulties sometimes and 15% reported facing technical difficulties most of the time during online classes ($M = 3.00$, $SD = 0.68$). The teachers reported facing internet connectivity problems sometimes were 55% while those who reported that they faced internet connectivity problems most of the time were 28% ($M = 3.21$, $SD = 0.74$) (see Table 1 in Appendix).

When asked whether they felt confident teachers using technology during online classes in Spring 2020, 34% somewhat agreed while 23% strongly agreed ($M = 3.28$, $SD = 1.43$).

Overall, 77% teachers agreed that they will use technology in classrooms once in-person classes resume ($M = 4.06$, $SD = 1.07$) (see Table 1 in Appendix).

When asked whether they received any professional training to teach online classes before the pandemic, 75% teachers reported that they did not while 25% teachers reported that they did receive training. Majority of the teachers reported that they received training from their school (72%). This was true for both teachers in Pakistan (77%) and the US (67%).

An independent samples t -test result showed no statistically significant difference between the responses of teachers in Pakistan and the US on any of the items about the use of and proficiency in technology ($ps > .05$). For one of the items that asked about whether teachers felt confident in using technology during remote classes in Spring 2020, even though the results were not statistically significant but there was a medium effect size found ($p > .05$, $d = .52$). (see Table 2). On average, teachers in Pakistan agreed more frequently ($M = 3.65$, $SD = 1.16$) that they felt confident about using technology during remote classes than teachers in the US ($M = 2.93$, $SD = 1.59$) (see Table 3).

Student Engagement. The Student Engagement theme was divided into two sub-themes: student engagement with online/hybrid classes in general and internet accessibility as a hurdle to students' engagement. On average, teachers' perceptions of students' engagement were neutral ($M = 2.92$, $SD = 0.83$). However, when asked about whether they felt that student reported internet connectivity problems often and whether students' engagement was affected by it, on average teacher agreed that internet connectivity was a problem with online classes for students overall ($M = 4.12$, $SD = 0.98$).

An independent samples t -test result showed no statistically significant difference between the responses of teachers in Pakistan and the US when asked about student engagement

in general, with a small effect size ($p > .05$, $d = 0.33$). However, there was a statistically significant difference found with a large effect size, when teachers were asked whether students often faced internet connectivity problems and if that affected their engagement in online classes [$t(51) = 2.56$, $p = .01$, $d = 0.71$; see Table 2]. Based on the results, teachers in Pakistan ($M = 4.46$, $SD = 0.90$) more frequently agreed that their students faced challenges with internet connectivity as compared to the teachers in the US ($M = 3.80$, $SD = 0.96$) (see Table 3).

Collaboration with Parents. The Collaboration with Parents theme contained items that asked teachers about their experiences with coordinating and communicating with parents in facilitating online classes and their perceptions of the parental support for students at home. When asked whether it was easy to co-ordinate with parents, 34% teachers agreed while 21% had neutral responses (“Neither Agree nor Disagree”). When asked about whether they found it easy to guide parents to facilitate online classes, responses of 53% teachers ranged between “Disagree” to “Strongly Disagree”. When asked about whether they felt parents gave adequate attention to the students during online classes, responses for 42% teachers ranged between “Disagree” to “Strongly Disagree” while 32% responses ranged between “Agree” to “Strongly Agree”. When asked about whether parents responded well to communicating with teachers, 72% responses ranged between “Agree” to “Strongly Agree”.

These items were combined to form an overall mean score, which showed that teachers' experiences with collaborating with parents with online classes were largely neutral ($M = 3.10$, $SD = 0.99$) (see Table 3). An independent samples t -test result showed no statistically significant difference between the responses of teachers in Pakistan and the US overall, with a small effect size ($p > .05$, $d = 0.24$) (see Table 2).

Support/resources. The Support/resources theme was divided into three sub-themes: Peer support, School support, and Parent support. On average, teachers strongly agreed about feeling supported by their peers in online and hybrid classes ($M = 4.41, SD = 0.81$). On average, teachers also agreed that they felt supported by their school administration during online and hybrid classes ($M = 3.74, SD = 0.97$). Lastly, on average teachers also reported feeling supported by the students' parents during both online and hybrid classes ($M = 3.90, SD = 0.74$) (see Table 1 in Appendix). An independent samples t -test result showed no statistically significant difference between the responses of teachers in Pakistan and the US overall for peer, school, and parent support ($p > .05$) (see Table 2).

Preparedness. The Preparedness theme was divided into two sub-themes: preparedness for teacher for online/hybrid classes and preparedness of teacher for transition back to in-person classes. On average, teachers' responses ranged between "Neither Agree nor disagree" and "Agree" when asked about whether they were prepared for teaching online and hybrid classes ($M = 3.34, SD = 0.74$). As these responses were neutral on average, individual items' percentage distributions were looked at. Results showed that when asked about whether they were prepared to move to online classes when the pandemic first began, 64% teachers' responses ranged between "Agree" and "Strongly Agree" ($M = 3.43, SD = 1.54$). When asked about whether they were prepared for hybrid classes, 47% of teachers' responses ranged between "Agree" and "Strongly Agree" while 34% responses ranged between "Disagree" to "Strongly Disagree" ($M = 3.25, SD = 1.24$). On average, teachers agreed that they were prepared for the transition back to in-person classes ($M = 4.04, SD = 1.33$) (see Table 1 in Appendix).

Levene's test indicated unequal variance for both preparedness (online/hybrid) and preparedness (in-person), so the degrees of freedom were adjusted. An independent samples t -

test result showed that mean scores of preparedness for online/hybrid classes of teachers in Pakistan ($M = 4.08, SD = 0.87$) were statistically significantly higher than the mean scores of teachers in the US ($M = 4.50, SD = 0.99$) [$t(51) = 5.24, p < .05$]. Mean scores of preparedness for the transition back to in-person classes was also statistically significantly higher for teachers in Pakistan as compared to the mean scored of teachers in the US [$t(51) = 2.64, p < .05$; see Table 2 and 3].

Self-efficacy. This theme had two sub-themes: Self-efficacy in the context of online/hybrid classes and self-efficacy in the context of the transition to in-person classes. It captured teachers' perceptions about their ability to deal with challenges with teaching online/hybrid classes and with the transition to in-person classes. On average, most teachers reported high on self-efficacy in the context of online and hybrid classes ($M = 3.73, SD = 1.10$) and they also reported high scores on average for self-efficacy in the context of the transition to in-person classes ($M = 4.08, SD = 0.96$) (see Table 1 in Appendix). This meant that they believed strongly in their ability to overcome the challenges presented with the online/hybrid classes and the transition to in-person classes during the pandemic.

Levene's test indicated unequal variance for the sub-theme of self-efficacy in the context of online/classes ($F = 22.21, p < .05$), so the degrees of freedom were adjusted. An independent samples t -test result showed that there was no statistically significant difference in the scores of teachers in Pakistan and the US for self-efficacy in the context in-person classes. However, teachers in Pakistan had a higher and statistically significantly different mean score in self-efficacy for online/hybrid classes ($M = 4.23, SD = 0.54$) than teachers in the US, with a large effect size ($M = 4.27, SD = 0.79$) [$t(35.48) = 3.70, p < .05, d = 1.02$; see Table 2 and 3].

Stress. The Stress theme was divided into two sub-themes: Stress in the context of online and hybrid classes and stress in the context of the transition to in-person classes. On average, teachers reported high stress in the context of online and hybrid classes ($M = 3.56$, $SD = 1.06$). The average mean scores of teachers that reported stress for the transition to in-person classes was neither high nor low ($M = 2.98$, $SD = 1.37$). (see Table 1 in Appendix). An independent samples t -test result showed that there was no statistically significant difference in the mean scores of teachers in Pakistan and the US for stress in the context of online/hybrid classes. However, teachers in the US had a higher and statistically significantly different mean score in stress in the context of the transition to in-person classes ($M = 3.37$, $SD = 1.39$) than teachers in the US ($M = 2.58$, $SD = 1.24$) with a medium effect size. [$t(51) = 0.03$, $p < .05$, $d = 0.60$; see Table 2 and 3].

Table 2*Independent Samples t-test Results and Effect Sizes*

Themes	$t(df)$	Sig. (2-tailed)	95 % Confidence Interval of the Difference		Effect Size d
			Lower	Upper	
Student engagement	1.188(50)	.240	-0.188	0.734	0.329
Students' internet accessibility	2.561(51)	.013*	0.143	1.184	0.709
Collaboration with parents	-0.887(51)	.379	-0.788	0.305	0.243
Peer support	-0.183(51)	.856	-0.495	0.412	0.061
School Support	-0.539(50)	.593	-0.688	0.397	0.154

Parent support	0.440(51)	.662	-0.322	0.503	0.121
Preparedness (online/hybrid)	5.240(48.611) ^a	<.001*	0.892	2.003	1.438
Preparedness (in-person)	2.640(45.640) ^a	.011*	0.215	1.601	0.726
Self-Efficacy (online/hybrid)	3.702(35.481) ^a	.001*	0.447	1.532	1.015
Self-Efficacy (in-person)	1.377(51)	.175	-0.167	0.889	0.378
Stress (online/hybrid)	0.017(46.426) ^a	.987	-0.582	0.592	0.000
Stress (in-person)	1.378(51)	.033*	-1.521	-0.066	0.600
Technology					
How often did you use technology in classrooms before the pandemic?					
	-0.823(51)	0.415	-0.608	0.254	0.230
How often did you face technical difficulties with online platforms while teaching remote classes?					
	-1.219(51)	0.228	-0.600	0.147	0.340
How often did you face internet connectivity problems while teaching classes?					
	1.343(51)	0.185	-0.135	0.679	0.378
I felt confident about using technology to teach remote classes in Spring 2020.					
	1.906(47.629) ^a	0.063	-0.040	1.496	0.517
I am going to continue teaching with technology in					
	-0.627(50)	0.533	-0.79	0.414	0.175

classrooms once in-person

classes resume

^a*Unequal variance*

* $p < .05$

Table 3

Mean and Standard Deviations by Country

Themes	Pakistan			US		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Student engagement	25	3.06	0.72	27	2.79	0.91
Student internet accessibility	25	4.46	0.9	27	3.8	0.96
Collaboration with parents	26	2.98	0.85	27	3.22	1.11
Peer support	26	4.38	0.91	27	4.43	0.73
School support	25	3.66	0.97	27	3.81	0.98
Parent support	26	3.94	0.79	27	3.85	0.7
Preparedness (online/hybrid)	26	4.08	0.87	27	2.63	1.13
Preparedness (in-person)	26	4.5	0.99	27	3.59	1.47
Self-Efficacy (online/hybrid)	26	4.23	0.54	27	3.24	1.27
Self-Efficacy (in-person)	26	4.27	0.79	27	3.91	1.09
Stress (online/hybrid)	26	3.56	0.86	27	3.56	1.24
Stress (in-person)	26	2.58	1.24	27	3.37	1.39
Technology						

How often did you use technology in classrooms before the pandemic?	26	3.23	0.95	27	3.41	0.57
How often did you face technical difficulties with online platforms while teaching remote classes?	26	2.88	0.71	27	3.11	0.64
How often did you face internet connectivity problems while teaching classes?	26	3.35	0.75	27	3.07	0.73
I felt confident about using technology to teach remote classes in Spring 2020.	26	3.65	1.16	27	2.93	1.59
I am going to continue teaching with technology in classrooms once in-person classes resume	25	3.96	1.24	27	4.15	0.91

Open-Ended Questions

The survey asked participants to briefly describe the challenges they might have faced in teaching online classes during the COVID-19 pandemic (Q1). The responses to this open-ended question were then coded based on dominant themes: Internet connectivity and problem outages, Challenges with students (Sub-themes included student engagement, student attention, student

absenteeism, classroom management, use of materials, assessment challenges, and limitations with hands-on activities in online classes), Teacher preparedness, Planning, and Challenges with working from home (Sub-themes included work-life balance, mental health, physical health, suitable workspace, coordinating with other teachers) (see Table 4 for examples for each theme).

Figure 1 shows the percentage distribution (from the total 89 codes) of the occurrence of these themes. Findings show that teacher responses about the challenges they faced with students while teaching online classes made up the majority of the codes. Within this theme, student engagement had the most occurrence in teachers' responses. This meant that during online classes, most teachers experienced difficulties in keeping the students engaged with learning activities and teachers also reported students' lack of interest and motivation in learning during online classes. The second highest emerging theme was related to the challenges teachers faced while working from home. Majority of the codes based on teachers' responses were concerned with work-life balance which meant teachers experienced increasing workload and found it hard to manage their work responsibilities alongside their personal life. Fourteen percent of the codes reflected internet connectivity issues teachers reported. One teacher from Pakistan also mentioned power outages, in addition to problems with internet connectivity, as one of the barriers to online classes, which is a common occurrence in the country. Fourteen percent of the codes referenced coordinating with parents as a major challenge with online classes, which included establishing boundaries with parents, parental interference, lack of parental involvement, etc. (see Figure 1)

Table 4

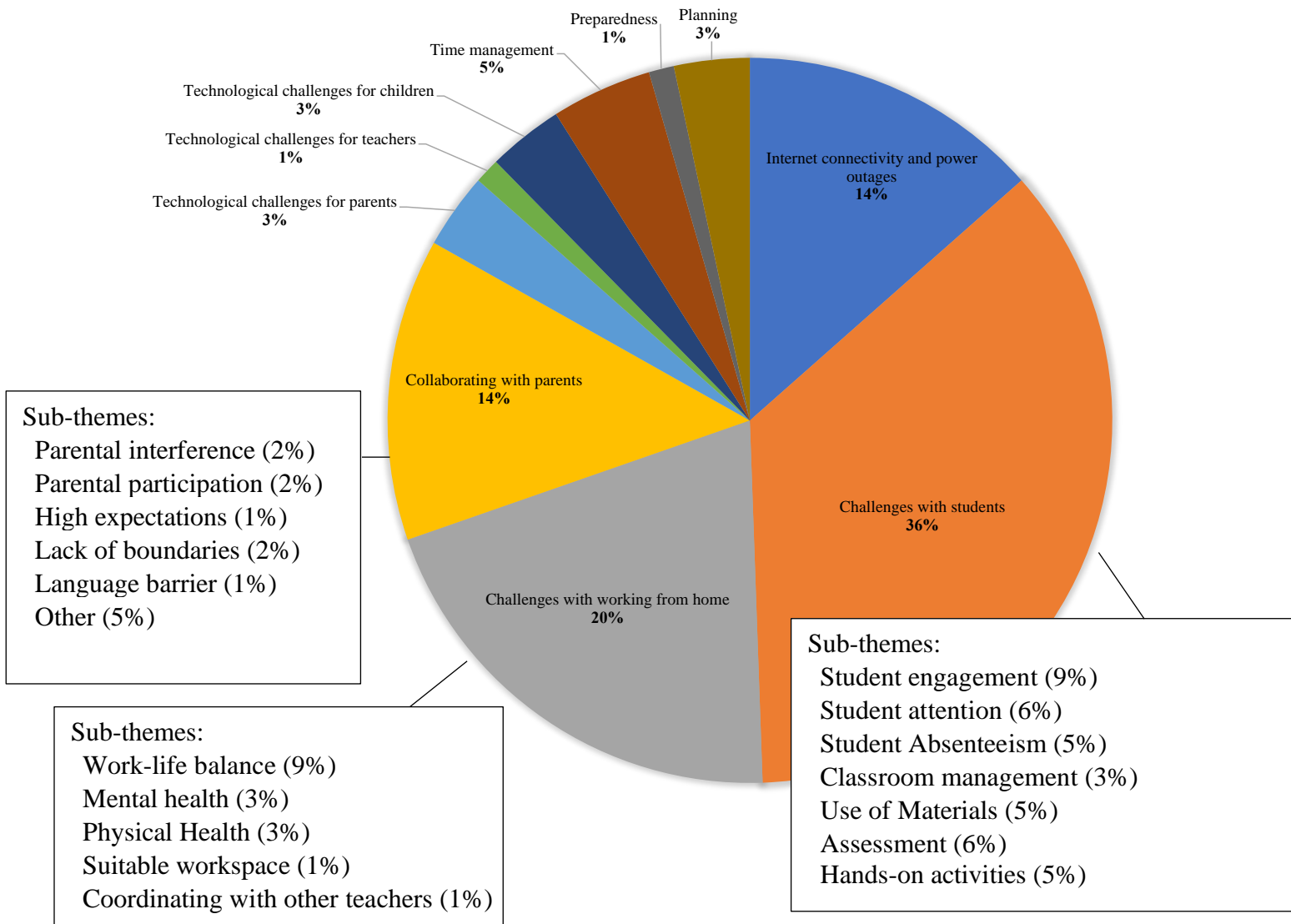
Codes for Q1- What challenges did you face with teaching online classes during the pandemic?

Themes/codes	Examples
Internet connectivity and power outages	

	“Internet issues, glitches, electricity issues...”
Collaborating with parents	
Parental Interference	“...they prompt a lot when we ask students any questions which divert their attention from Zoom screen to their parents sitting next to them.”
Parental Participation	“...level of parental involvement...”
High expectations	“Parent's expectation was too high.”
Lack of boundaries	“I felt like I had no boundaries with parents.”
Language barrier	“Supporting ELL students whose parents did not speak English.”
Other	“Coping with parents.”
Technological Challenges	
For teachers	“Learning the technology was exhausting.”
For parents	“Parents lack the technological knowledge to support their students at home.”
For children	“Teaching little ones who have little to no computer knowledge is difficult.”
Time management	
	“Time management is another major challenge.”
Challenges with students	
Student engagement	“Student engagement and completion of work was the number one challenge.”
Student attention	“Teaching kindergarteners online was difficult, as their attention span is very low.”
Student Absenteeism	“Some students had poor attendance and chronic absenteeism.”
Classroom management	“The students intentionally turned off their internet when they weren't in a mood to study.”
Use of Materials	“Students did not always have their materials.”
Assessment	“Homework checking, assessments...”
Hands-on activities	“...no hands-on activities.”
Preparedness	
	“I came back after a year of maternity leave to teach fully remote. I had absolutely no training.”
Planning	
	“Planning is the major challenge which I face during online teaching.”
Challenges with working from home	
Work-life balance	“Balance between work and home”
Mental health	“...mentally drained off.” “It was very stressful”
Physical Health	“Issues with sleep.”
Suitable workspace	“Finding space/quiet in my home to work.”
Coordinating with other teachers	“It was difficult to coordinate with the hybrid teachers...”

Figure 1

Q1- Percentage distribution for Q1



**Note: The total codes from which the percentages were calculated were 89.*

All percentages are rounded off to whole numbers.

The survey also asked teachers about the challenges they are expecting to face with the transition to in-person classes for those who were still teaching online (Q2) and the challenges they are currently facing with in-person classes if they have moved to in-person classes already (Q3). The responses to these questions were then coded based on dominant themes: Health concerns (related to COVID-19 and in general), Stress, Time Management, Challenges with

students (sub-themes included student attention, student absenteeism, classroom management, adjustment challenges with in-person classes, and learning and development gaps), challenges with hybrid classes, parental support, and classroom equipment (see Table 5 for examples of each theme).

Figure 2 shows the percentage distribution for the question regarding expected challenges with transition to in-person classes (Q2). Findings showed that the theme of challenges with students made up the majority of the codes. Within this theme, learning and development gaps as an expected challenge had the most occurrence in teachers' responses (24%), which is related to teachers' concerns regarding possible delays in the development of learning and social skills. The second highest theme that emerged was related to health concerns of moving to in-person classes (17%) as reported by the teachers. In this theme, teachers reported the challenges they are expecting to face implementing COVID protocols such as physical distancing in classroom and wearing masks. Other concerns reported were time management, stress, and parental support.

Figure 3 shows the percentage distribution for the question regarding the challenges teachers are currently facing in in-person classes (Q3). Findings showed that the theme of challenges with students made up the majority of the codes. Within this theme, learning and development gaps was the highest reported concern by teachers (37%), which is related to the challenges teachers are facing with students exhibiting delayed learning and social skills development, after a long period of online classes. The second highest theme that emerged was related to health concerns of moving to in-person classes (20%), which included concerns with implementing COVID-19 protocols of distancing and wearing masks. Other concerns reported were challenges with hybrid classes, time management, stress, and managing classroom equipment.

Table 5

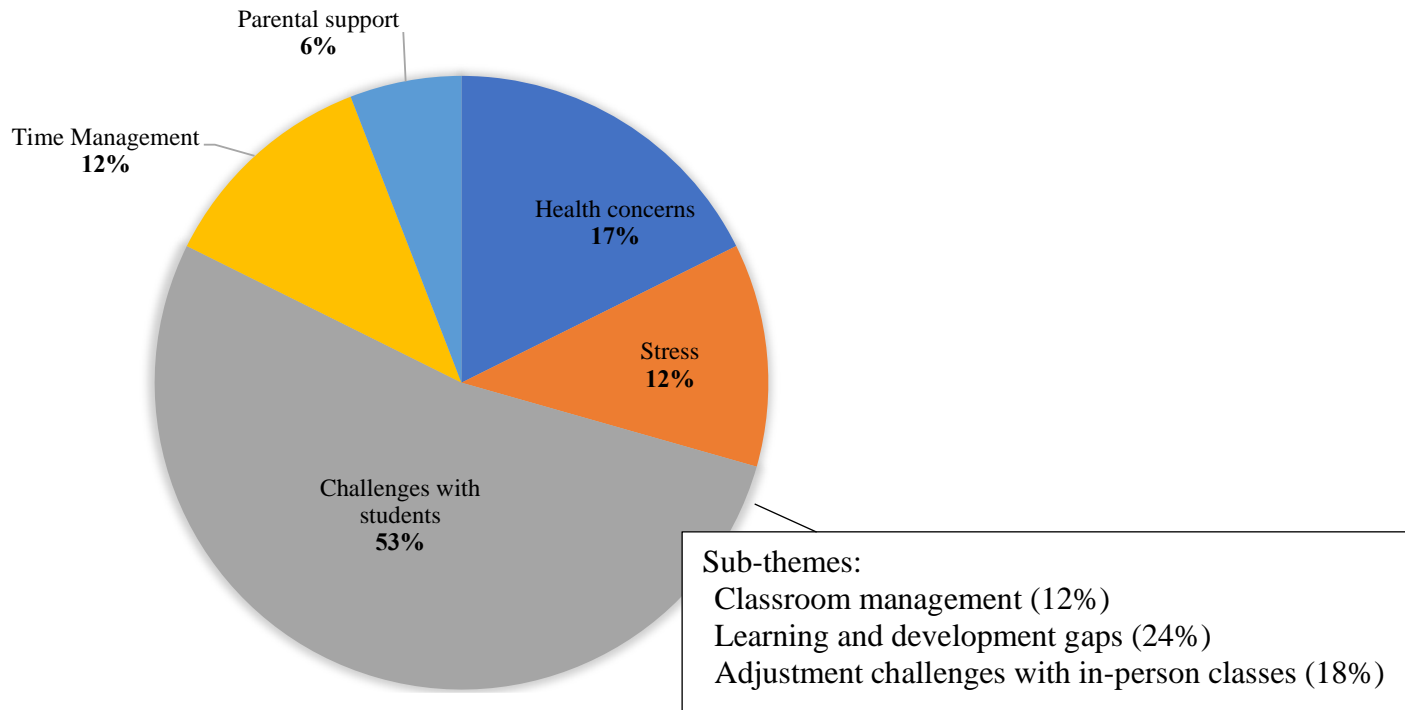
Codes for Q2 (If you are still currently teaching online, what teaching challenges are you expecting to face with the transition to in-person classes?) and Q3 (If you have already transitioned to in-person classes, what challenges did you face with this transition?)

Themes/codes	Examples
Health concerns	
COVID-related challenges	<p>“Maintaining social distancing/COVID protocols in a full classroom of students.” (Q2)</p> <p>“The only challenges to in person is having to wear a mask all day” (Q3)</p>
Other	<p>“...lot of stress because of headache, back ache, eye issues last I had severe pain in eyes because it used to get dried because of screen time” (Q2)</p>
Stress	
	<p>“Mentally stressed” (Q2)</p> <p>“...the pressure to keep my students healthy and safe was insanely stressful.” (Q3)</p>
Time Management	
	<p>“No work limits and timely notification.” (Q2)</p> <p>“I wish I had more time with students and smaller groups in order to better serve their educational and emotional needs.” (Q3)</p>
Challenges with students	
Student attention	<p>“They are easily distracted and has a very little concentration span.” (Q3)</p>
Student Absenteeism	<p>“We are doing it with 50% attendance”</p>
Classroom management	<p>“Having to deal with classroom management again...kids talking, not listening, doing what they want and not following directions.”(Q2)</p>
Adjustment challenges with in-person classes	<p>“Adjusting in a new environment for students attending school for the first time. Sitting in one place for extended period of time.” (Q2)</p>
Learning and development gaps	
Learning and academic development	<p>“The writing capabilities of students has become slow.” (Q2)</p> <p>“Students behind with skills- academic, writing, fine motor.” (Q3)</p>
Social skills development	<p>“We are spending more time teaching social skills...” (Q3)</p>
Challenges with hybrid classes	
	<p>“I was taught in-person and remote students simultaneously. It was hard to provide adequate attention to both groups of students at once.” (Q3)</p>

Parental support	"Parental support and seriousness" (Q2)
Classroom equipment	"Issues with district facilities and technology management" (Q3)

Figure 2

Percentage distribution for Q2

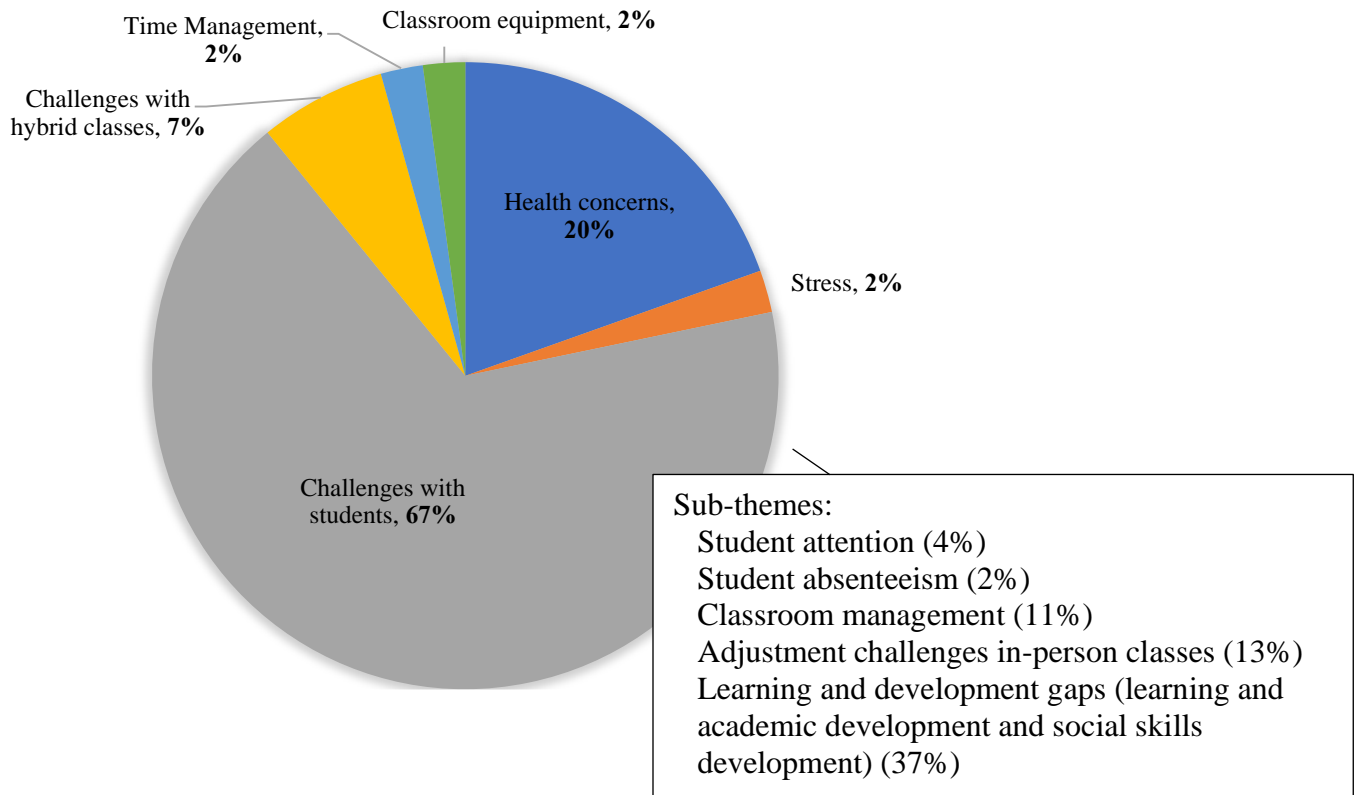


**Note: The total codes from which the percentages were calculated were 17.*

All percentages are rounded off to whole numbers.

Figure 3

Percentage distribution for Q3



**Note: The total codes from which the percentages were calculated were 46.*

All percentages are rounded off to whole numbers.

Interview

Online Classes

1- Proficiency in technology use. All teachers felt that using technology to teach online classes was a learning experience for them. Even though majority of the teachers mentioned they had used technology in classrooms before ($n = 8$), they felt that teaching online classes required a different skill set they had to learn over time. Seven out of the twelve teachers who were interviewed mentioned using Google applications for their online classes (Google classroom, Google meet, Google Jam board, etc.). Five teachers mentioned that they used Zoom to teach online classes. Teachers also reported exploring and learning through YouTube videos and using

other applications such as Padlet, Kahoot, Kinder blogs, etc. Overall, teachers reported that the online classes were a learning experience for them in terms of improving their technological skills to facilitate teaching and learning. Teachers also mentioned having support of their colleagues during this learning process of facilitating online classes ($n = 6$). Three teachers mentioned receiving official training for facilitating online classes through school and one teacher mentioned enrolling in external training workshops for online teaching.

“With the technology we had to learn to teach online, that was like a whole different set of technology skills, like creating things that the kids could do on a computer”

(Participant 12).

“We were already using technology a lot, even in the face-to-face learning, even before the COVID. So, we were comfortable in using technology but not to the extent that we were using in the online classes, definitely” (Participant 2).

“...there were absolutely student components that we've never used before. So those things took a little bit of time and I was really lucky to have a first grade team and have time every single day with the team online to talk about that so we could say like I figured out how to create an assignment or I figured out how to create a bookshop, that kind of thing” (Participant 8).

“The best part is that everyone is working as a team. I think team was very, very good.” (Participant 6).

2- Challenges of teaching virtually. During the interview when asked about their experiences with online classes in Spring 2020 when the pandemic first began, all teachers expressed that they struggled initially with adapting the curriculum for online teaching which required different teaching methods than in-person classes. Teachers expressed challenges with

determining students' understanding of what is being taught and assessing their progress towards learning goals ($n = 7$). All teachers mentioned coordinating with parents on some level as part of the process of online teaching. Two teachers said that they chose asynchronous mode of teaching and met students a few days in a week to check in with them. Some tasks teachers reported struggling with in online classes included reading/writing ($n = 2$) and implementing group activities ($n = 1$). Two teachers reported that they had to reinforce classroom management practices differently in online classes (for example, when and how to mute/unmute and how to turn on/off video). Teachers also mentioned low class participation and engagement of students in online classes ($n = 3$). Three teachers from the US mentioned that when students were in day-care centers, it was harder for them to concentrate in classes. Teachers also reported that children struggled to turn in assignments or parents helped a lot in completing the assignments for the child, which made evaluating their progress more difficult ($n = 4$).

"I am catering to children beginning from around two years till about 7 years or 7.5. So, this was a very difficult period where they had to learn to do all these things. And the teachers...we would have to repeat every instruction every now and then. So, and then this period, this is this video, you have to do like this, you have to stay silent, you have to mute, you have to unmute, you have to turn on the video, turn off the video, what options you can use and all that, depending on what software you are using." (Participant 3)

"...we were trying so hard and we're not getting any results in the beginning. People were reluctant to join the online classes, students were not getting anything. We were new to it, we were used to using the hands-on resources more. So switching to the online and virtual resources was a big challenge initially..." (Participant 2)

"...And it's harder for kids to explain things, especially if they're having to type it out, which I have second graders and, you know, they're not good typists yet, so it was a little harder to, you know, gauge what they've truly understood and what not. It's hard for some kids to get things done and so I had a few kids who just couldn't turn things in, and then subsequently they failed because their work wasn't being submitted. So I had to try my best to gauge their skills from what I see in class because they would show up on my Google meet sessions. But I wasn't getting their work." (Participant 11)

3- Limited resources. One of the emerging themes in teachers' responses regarding their online teaching experience were those of inequitable access to devices and a stable internet connection ($n = 6$). One teacher who taught students from an underprivileged community at a public school in Pakistan, mentioned that students' parents did not have smart phones or internet which meant that students in the same neighborhood had to share devices to attend classes, which resulted in low attendance in online classes. One teacher from Pakistan also pointed out that students living in joint-family systems (where extended members of the family live in a shared house), shared devices which made it difficult to attend classes. Two teachers in Pakistan also pointed out that students did not have electricity sometimes (due to an on-going electricity shortage in the country) which made it difficult to attend online classes. In Pakistan, electricity shortage is a common problem which means many households do not have access to electricity for long periods of time. Two teachers from the US also mentioned limited access of internet and devices as a challenge for students.

"Some parents that didn't have internet access or devices, iPads or computers. They even took their kids the library if it was open. And they were able to, you know, find a way to get them to do things in the classroom." (Participant 11)

“There were so many students who didn't have smart phones so we had to make buddy system. So when we asked parents for the buddy system, as we did it before buddy system, when there was no pandemic, there were normal regular schools, students used to sit together in the evenings and work together. But because of that chaos of pandemic parents were not allowing their children to go to some other students' house to take the class. So, our whole attendance was like 30%, in some classes... Some of the students, I think, were facing difficulty because of the electricity problem because of the load-shedding so it was really difficult.” (Participant 5)

4- Parental involvement. During the interview, teachers were also asked about their experiences of working with parents to facilitate online classes. Teachers reported struggling to help train parents to use online programs or upload homework ($n = 3$). Some teachers struggled with setting boundaries with parents in terms of communication ($n = 2$). Teachers reported that some parents sat in classes with the child and helped the child more than it was needed ($n = 6$). On the other hand, some teachers also reported lack of involvement or participation of parents ($n = 4$). Overall, a majority of the teachers highlighted how important healthy support and communication with parents was in facilitating learning for students at home ($n = 9$).

“When we asked a question in the online class, so it was the whisper that we hear first. So, I think that was the thing that we are seeing in the children that they wait for someone to whisper in their ear to tell the answer to the teacher. So, I think that was the part where parents were going overboard with it...the, you know, the helping hand.”
(Participant 2)

“I didn't like the personal space of the teacher was being invaded. Like the personal life was disturbed because the teacher was there 24 hours. Parents thought that because the

WhatsApp groups were made and all...So the parents thought that the teacher is always there to facilitate us.” (Participant 4)

“parental involvement was there, right there. And then they would know what their child is doing. They would take the ownership, they took the responsibility. When we say, parent-teacher, or parent-school partnership, that was the very essence of that, in online classes present there.” (Participant 3)

“...communication with parents was probably the most important part of making this work.” (Participant 11)

5- Planning. Another emerging theme that was found in participants' responses was the planning or preparation of materials and learning content in online classes. All teachers mentioned that planning online classes required a lot of time. Teachers reported that planning involved recreating the entire curriculum to adapt to the digital mode of learning, which also included researching online tools they could use ($n = 6$). Other teachers mentioned planning the materials and worksheets and coordinating with parents with regards to those materials as one of the challenges of preparing online classes ($n = 5$). Four teachers also had a managerial role apart from their teaching roles which involved supporting and training other teachers as part of the planning process.

“...we had to prepare our things way before we could actually start delivering or start telling students in a way that if there is something we would want them to...like some kind of hands-on experience to give them, we would inform parents to kindly arrange for things, anything related to that particular concept.” (Participant 3)

“Planning was a monster in itself. There's some things that were easy to plan. But it was my goal for the year that I wanted to make it as real school-like as possible. So I would

spend hours and hours putting materials together in the classroom, and I'm talking about science experiments, crafts for holiday-type stuff that we had, because I wanted them to have fun, make sure they had all their, you know, phonics papers that they needed."

(Participant 11)

"I did spend more time with like having to change assignments that we normally would have in, in paper pencil, doing a lot, we had at first there was a lot of heavy lifting and how to digitize assignments that for the three other years before we had been doing paper and pencil, that was, it was like, how can I get this same goal of what I want the kids to accomplish in digital form." (Participant 12)

6- Teaching strategies for student engagement. During the interview, teachers were asked about the strategies they used to keep students engaged during online classes. Teachers used multiple strategies to keep children engaged during online classes which included learning activities that incorporated singing and music ($n = 3$), interactive white boards to encourage participation ($n = 5$), using online tools to reward students ($n = 3$) and other online activities (example: watching short videos, break out rooms and other applications) ($n = 6$). Most teachers mentioned giving students some break which involved activities outside of learning ($n = 7$). These activities could be physical to encourage some movement or just unstructured time to talk to peers and teachers. One teacher also mentioned incorporating mindfulness exercises and yoga in classes for students' emotional and mental well-being.

"We did a lot of movement and a lot of like get up and find this in your room and like...to do clues." (Participant 10)

"We also do a little bit of brain breaks for our students so that makes it, you know, more entertaining for them...Brain breaks is when, you know, that your children get tired so

you give them a small activity that is usually not related to the curriculum, not related to whatever the task they are doing so brain breaks are basically to refresh them. It's like an energy booster for them.” (Participant 2)

“I gave them a break right away and then for like five minutes or something had a timer, which was so funny. Just a side note, some kids would like turn off their camera and just go, which is kind of what I encourage them to do, get up, move around, wiggle. Some kids use that as time to like chat with me or chat with each other.” (Participant 8)

7- Increased Workload. Teachers also pointed out the increased workload they had to deal with during online classes in the interviews ($n = 7$). They mentioned that they spent a great amount of time planning and exploring online resources. This also affected their personal lives as they struggled to manage both work and home responsibilities together ($n = 6$). Some socio-cultural differences were also seen as one teacher from Pakistan mentioned that her family expected her to manage house chores while working from home (because of the culturally assigned gender roles), which increased her workload. Another teacher mentioned that some of her colleagues were restricted in their homes and not permitted to teach virtually during the pandemic by their families (which also reflects the gender roles women are expected to adhere to in Pakistani households). Constant communication with parents also meant being available outside work hours for teachers ($n = 2$). Some teachers also mentioned the negative impact online classes had on their mental and emotional well-being ($n = 3$).

“24 hours we would just sit in front of our screens and try to explore new resources for our children, so that learning becomes easier for them. So that was really a difficult time for us, I wouldn't say it was easy.” (Participant 2)

"It was a difficult day because being at home, you had to manage the house chores as well, because people in Pakistan, the families, do not take it easy. They think that we are at home, so we are at home, they don't realize that staying at home and working from home is a concept which I think that for teachers, it was very difficult to manage. Because the family people did not realize this, they just said, "You are home, so you can do anything. We can ask them (teachers) to serve us food as well."" (Participant 4)

"And also usually teachers were Baloch (ethnicity) so they were restricted from their homes, they were not allowed to leave and to send those videos to students." (Participant 5)

"...so normally after school like my work responsibilities in here for about an hour and then in the morning about 20, but my work responsibilities when I was remote, it was just like, constantly planning and constantly communicating with parents..." (Participant 7)

"I had some really low moments of depression while teaching online. Because all I did was sit in front of the computer. I didn't have interaction with my peers." (Participant 11)

8- Challenges of hybrid classes. Some teachers also mentioned their experienced of teaching hybrid mode of classes and reported that they struggled to teach both online and in-person classes simultaneously ($n = 3$).

"Initially, the teachers did find it difficult because they were at school, and they had to take online classes plus face-to-face classes. So the workload had increased to a great number." (Participant 4)

"In March we taught simultaneously so you know I sat here at my table and then I had 12 students in-person and 13 at home so that was pretty crazy so even when the kids came in-person, It wasn't like they got me fully, it was very like 50-50." (Participant 7)

"...then we were hybrid, so we had to figure out how to do in-person and online and then we finally came back all together but then there were still some kids who chose to stay home and do online so just the amount of flexibility and change." (Participant 9)

9- Positive aspects of online teaching. When asked about what they liked about online teaching, teachers expressed the positive aspects of teaching they enjoyed ($n = 10$). Teachers mentioned that they enjoyed the learning aspect of online teaching, which includes exploring online learning tools, making presentations, etc. ($n = 4$). Teachers also said that online classes gave them an opportunity to build a stronger relationship with students and their families/parents ($n = 6$). Two teachers mentioned that it gave them an opportunity for more one-on-one time with students.

"I am planning to bring those online resources because it's the best thing, what we have learned through online teaching, it's the best, we have to bring it to the face-to-face classroom." (Participant 2)

"Teachers would be reluctant enough to use technology, were forced to use technology and they had different experiences. And they learned a lot. Now some of them come up and say, "okay, it was the better way of teaching rather than teaching face to face"."
(Participant 3)

"I just feel so connected to those kids and those families. Like I said before, I really, I feel like they treated me like this honored guest in their home, which is, you know, really an honor, I thought, how I felt about the experience." (Participant 8)

"I felt like I became a part of their family I got to see the kids dynamic, and I enjoyed for the most part." (Participant 11)

In-person Classes

1- Adjustment for teachers. During the interview, teachers were asked to share their experiences of how the transition back to in-person classes have been like for them and their students. Some teachers struggled with adjusting to in-person mode of classes again and changing their teaching strategies to suit in-person class modality ($n = 3$). Teachers mentioned that in-person classes required different protocols now due to the pandemic, such as mask mandates and implementing social distancing which was an aspect they had to adjust to ($n = 2$). Some teachers mentioned the flexibility required of them to constantly adjust to different class modalities and student being quarantined due to COVID-19 was stressful ($n = 2$). Some teachers expressed that they feel good about being back to in-person classes ($n = 8$). Two teachers mentioned that it is easier to assess students now that they are back to in-person mode of classes.

“So now that we are in-person, the teachers are more confident that the students are with them and they can judge them better.” (Participant 4)

“...being in-person is great and just hope we can always stay this way.” (Participant 7)

“how the kids you know they were masked, they were cleaning their hands. They were walking only one way in the hallways, they were sitting at assigned places in the cafeteria. We didn't mix other classes at all. So, that was bizarre too, um, and we weren't used to that we hadn't done that online, of course, but that made coming back kind of interesting.” (Participant 8)

“So the first couple of weeks were interesting because I'd be like, you know, I know what to do I know what I need to teach them, what kind of procedures and stuff. But then you're like, oh yeah and I used to do that and I used to do that. You forget, even though it's just a little over a year ago. Yeah, you did that. So, but once I got in the swing of things and it's just, you know, normal” (Participant 11)

2- Adjustment for students. During the interview, teachers were also asked about how the transition to in-person classes has been for their students, in their perspectives. Teachers mentioned the social and emotional learning needed for students who are back to in-person classes ($n = 5$). Three teachers mentioned that students had difficulty adjusting from online to in-person classes. Two teachers mentioned that they introduced outdoor activities to keep children engaged and make the transition to in-person classes easier for them. Some teachers mentioned that young children who have not been to in-person classes before the pandemic or were in kindergarten before the pandemic are struggling with understanding classroom norms ($n = 3$). One teacher mentioned struggling with students' behavioral problems in classrooms. Three teachers mentioned that the students are happy to be back and interact with their peers in-person.

“They were reluctant to come to school, they were not settling in the first week, we had to try lots of things to you know settle them. And it took us a little time to make them, you know, used to the school and make them used to the five-day coming back to the school. So that was challenging” (Participant 2)

“...mostly the kids were so excited to come back in-person, because especially for little ones, it's just, it's not as effective teaching over the computer they need to hold things and touch things and be around other people that they can talk to about their learning. So, most of them were just so pumped to be back. And I was too.” (Participant 9)

“I think the social emotional has been really heavy on myself, heavy on the kids...but I think it's been great.” (Participant 10)

“But there's still some gains to be made, in their social and emotional learning, part too.” (Participant 11)

“They don't know how to function in classrooms with other kids. They talk back, like I've never had so many kids talk back to me, than this year.” (Participant 12)

3- Learning gaps. Most teachers mentioned that they noticed learning and developmental gaps in students after they came back to in-person classes ($n = 7$). Teachers mentioned that students' language development suffered, which includes their reading and writing skills ($n = 4$). Three teachers mentioned that students are not used to working independently because of parental support at home ($n = 3$). One teacher mentioned that students' critical thinking has suffered because of the parental support and their concentration span has decreased because of online classes.

“If I talk about Urdu language, as a subject, most of the children do not even come to the level of...if I talk about grade one, they do not come up to the level of kindergarten, which was the previous level.” (Participant 3)

“Over here, at schools, they are dependent on teachers, but the teacher is trying to make them independent, whereas at home, they were dependent on parents and parent were also making them dependent.” (Participant 4)

“well when we first went back after being all online, I would say that it took a while for my students to regain some of their independent skills, you know, even though I asked parents not to be right there while we were meeting. When they would do assignments, they were used to having someone sitting right by them and they'll be make sure they could do a write and spell words and figure out the math problems but then we get back to class and there's only one of me and there's, you know more than 20 of them. And so all of a sudden they're like oh I need to do this by myself.” (Participant 9)

Suggestions for School Administratos

During the interview, teachers were asked about any recommendations for school administrations they would like to share. During the interview, teachers were asked about any recommendations for school administrations they would like to share. Four teachers said that they would want more emotional support for teachers. Some teachers also mentioned that they needed more time ($n = 3$) and a reduced workload ($n = 4$) whether it was overall ($n = 1$) or by cutting down on expectations of trying out new programs ($n = 1$) or by cutting down on repetitive trainings ($n = 1$) or by not being expected to work on days off ($n = 1$). One teacher mentioned that she would like to see more interventionists hired for reading and math. One teacher mentioned that she would like the school to invest in more technological devices in classrooms. Four teachers also mentioned that they were satisfied with their current school administration in terms of the support they received with online and in-person classes during the pandemic.

“...mental well-being and support should be there from the administrative side. Secondly, understanding- maneuvering of basically curriculum and lesson plans. So that we know that if the child is not being able to... there should be extra support given to that particular child. If a teacher is not being able to cope up there should be support for her.” (Participant 3)

“I think teachers are always asking for time, it's nice. It's important to gather and it's important to have professional development and meet. But at the end of the day, what we all really need is time and maybe that time looks like physically setting up things in your classroom or meeting with people or whatever but yeah I guess having a connection with somebody” (Participant 8)

“So, I think that emotional support part too where administration can say hey, we see you trying your best we know that you don't always feel good about what you're doing or feel like you're being successful, but we recognize that you are giving your best effort, and that's all that we ask that you do.” (Participant 9)

Summary

Survey

Closed-ended Questions

Based on the teachers' responses on the closed ended items, 83% teachers reported facing internet connectivity problems during online classes, but 57% teachers also reported feeling confident about using technology during online classes in Spring 2020. Most teachers (77%) also reported that they would use technology in their in-person classes. Majority of the teachers (75%) reported that they did not receive professional training to teach online before the pandemic. However, for the teachers who received training for online teaching, 72% reported that they received it from the schools they are employed in. On average teachers reported internet connectivity problems as a challenge to maintain student engagement in online classes. 72% of the teachers felt that parents responded well to communication with teachers during online classes. However, 53% teachers disagreed when asked whether it was easy for them to guide parents to facilitate online classes. On average, teachers also reported feeling supported by their school administration, peers, and their students' parents during online classes. Teachers' responses on average also showed that they felt prepared for the transition to in-person classes and reported high self-efficacy in the context of online/hybrid and in-person classes. On average teachers reported high stress levels in the context of online/hybrid classes but their reported stress levels for the transition to in-person classes, was neither high nor low.

An independent samples *t*-test was used to compare the experiences of teachers in Pakistan and the US across following themes: Technology, student engagement and internet accessibility, collaboration with parents, support from school, peers, and students' parents, preparedness, self-efficacy, and stress. Statistically significant differences with medium to large

effect sizes, were found between scores of teachers in the Pakistan and the US within the themes of students' internet accessibility, preparedness (in the context of online/hybrid and in-person classes), self-efficacy (in the context of online/hybrid classes), and stress (in the context of in-person classes). ($ps < .05$). Teachers in Pakistan reported more problems with internet accessibility for students during online classes than teachers in the US. Teachers in Pakistan reported a higher preparedness in the context of online/hybrid and in-person classes and a higher self-efficacy (in the context of online/hybrid classes) than teachers in the US. On the other hand, teachers in the US reported higher stress levels for the transition to in-person classes, than teachers in Pakistan.

Open-ended Questions

Based on the teachers' responses on the open-ended question regarding challenges they faced with online classes, challenges faced with students during online classes made up majority of the codes (36%), which included sub-themes of student engagement, attention, and absenteeism, classroom management, use of materials, hands-on activities, and assessment. Within this theme, majority of the teachers (9%) seemed to have struggled with maintaining student engagement in online classes.

Based on the responses on the open-ended question regarding challenges teachers expect to face with the transition in-person classes for those who were still teaching online, challenges with students, which included sub-themes of classroom management, learning and developmental gaps, and adjustment challenges for students, made up majority of the codes (53%). Within this theme, Learning and developmental gaps in students were the most common concern raised by teachers, which included academic and social-emotional skills development (24%).

For those teachers who had already transitioned to in-person classes, challenges with students again emerged as the dominant theme for transition to in-person classes (67%), which included student attention and absenteeism, classroom management, adjustment challenges for students, and learning and developmental gaps. Learning and developmental gaps in students were the most common concern raised by teachers, which included academic and social-emotional skills development (37%).

Interview

Overall based on interview responses, teachers seemed to have initially encountered challenges incorporating technological tools and adapting to online classes in the beginning of the pandemic but became more proficient over time. Planning online classes and researching online tools that could be incorporated in classes required a great amount of time and preparing worksheets and classroom materials was another challenge, as indicated by teachers' responses. Some other challenges teachers mentioned were assessing students' progress towards learning goals, coordinating with parents on assignments and conducting online classes, implementing classroom norms in online classes, student absenteeism, and decreased class participation. To maintain student engagement in online classes, teachers incorporated a lot of different activities, which included planning breaks between their lessons and encouraging movement-based activities, incorporating mindfulness exercises, etc. Teachers also mentioned that online classes had increased their workload and affected their ability to manage work and home responsibilities effectively, and some mentioned that it also affected their emotional and mental well-being. Some cultural differences emerged regarding working from home, as some female teachers in Pakistan reported that they were expected to manage household responsibilities during their work hours by their family members or discouraged to work from home, which reflects the gender-

based roles and expectations governed by the socio-cultural norms largely followed in the country.

Inequitable access to internet and devices to facilitate online classes was also an emerging theme in the interview responses, which was more commonly reported by teachers in Pakistan than in the US. One of the common problems faced in Pakistan, electricity shortage, was also pointed out as a barrier to online education by a teacher in Pakistan.

Most teachers pointed out the importance of collaborating with and healthy support of parents to facilitate online classes. However, parental interference was a common concern raised by teachers that influenced students' performance in classes and created challenges for teachers to evaluate students' understanding accurately. Training parents to facilitate online classes for students at home was also a challenge reported by teachers.

Teachers also mentioned some positive aspects of online classes, from which the common responses were ability to learn to teach using technological tools through online classes, and an opportunity to build a stronger relationship with students and their families.

Overall teachers' responses related to the transition back to in-person classes indicated that they feel good being back to school from online classes. However, most teachers mentioned the learning and developmental gaps they have noticed in students after being back to in-person classes, which also includes the social-emotional aspects. Teachers also mentioned struggling with classroom management and helping young students understand classroom norms, especially for those who have either never been in class before or are returning to class after a long time. Teachers suggested some recommendations that they would like school administrators to practice, which included more emotional support and understanding from the management,

better management of teacher training workshops, and more time given to teachers to plan and teach effectively.

Discussion

This study used a mixed-methods approach to look at early childhood teachers' (for K-2 grade levels) experiences with online/hybrid classes and the transition back to in-person classes during the pandemic from Spring 2020 to Fall 2021. There were two phases of this study: survey (consisting of closed-ended questions and open-ended questions) and interview. The sample for the survey consisted of 53 teachers from which 26 were from Pakistan and 27 from the US. Out of this sample, 12 teachers were selected for the interview (six teachers from Pakistan and six from the US). A comparison was also drawn between experiences of teachers in Pakistan and the US, to investigate the socio-cultural differences within early childhood teachers' experiences during the pandemic.

Based on the survey's closed-item results, overall, across samples of teachers from Pakistan and the US, 75% teachers reported not having received training to teach online classes before the pandemic. Previous studies have also shown that majority of the teachers reported having no prior training for online classes before the COVID-19 pandemic (Kinfard & Mahaffey, 2020; Marshall et al., 2020). On average, teachers reported facing internet connectivity problems during online classes ($M = 3.21$, $SD = 0.74$). On average, teachers also reported that they felt supported by their school administrators ($M = 3.74$, $SD = 0.97$), peers ($M = 4.41$, $SD = 0.81$), and their students' parents ($M = 3.9$, $SD = 0.74$). On average, teachers also reported high stress levels in the context of online/hybrid classes ($M = 3.56$, $SD = 1.06$). Independent samples *t*-test results for the abovementioned themes revealed no statistically significant differences between teachers from Pakistan and the US. This suggests that some aspects of online teaching experiences were shared for both teachers in the US and Pakistan.

On average, teachers reported that student engagement was affected by internet accessibility problems. Results from independent samples' *t*-test indicated teachers in Pakistan reported more problems with internet accessibility for students during online classes than teachers in the US. Similar to the results from closed-ended items on the survey, a trend can also be seen in the open-ended question and interview responses regarding challenges of online teaching, where the majority of the teachers who reported internet connectivity problems were from Pakistan ($n = 7$). Inequitable access to technology also came up in survey and interview responses of teachers from the US but not as frequently. Responses from the open-ended survey items and interview of teachers in Pakistan also indicated electricity shortages as a challenge of facilitating online classes. Moreover, one Pakistani teacher also explained that their students lived with extended family members (joint-family system) and shared devices with multiple people which made it difficult to attend online classes. Similar findings can be seen in a study by Adnan & Anwar (2020), where undergraduate students reported facing limited access to internet because of technical or monetary problems. Major regions of Pakistan like Baluchistan, Gilgit-Baltistan, and Khyber Pakhtunkhwa have limited to no internet access making online education extremely challenging (Mahmood, 2020). Other studies have also pointed out inequitable access to internet as a major barrier in online classes (Cardullo et al., 2020; Marshall et al., 2020; Seabra et al., 2021; Timmons et al., 2021)

Although, 72% teachers agreed that parents responded well to their communication during online classes, there was a divide in responses when asked about whether they found it easy to guide parents in facilitating online classes (53% disagreed) and whether they thought parents gave adequate attention to students during online classes (42% disagreed). Previous research shows that online classes required parents to actively participate in their child's learning

process which was challenging for them especially if they are working too (Timmons et al., 2021). This could explain the mixed responses from teachers regarding guiding parents to facilitate online classes and giving students adequate attention. Independent samples *t*-test revealed no statistically significant differences in responses of teachers from Pakistan and the US within this theme. The interview responses revealed that teachers regarded healthy communication and support from parents as integral for facilitating students' learning at home.

Results from closed-ended survey items showed that overall, on average teachers reported high stress levels in the context of online/hybrid classes ($M = 3.56, SD = 1.06$) but their reported stress levels for the transition to in-person classes, was neither high nor low ($M = 2.98, SD = 1.37$). Based on previous research (Abid et al., 2020; Crawford et al., 2021), the additional responsibilities associated with planning for online instruction may have led to increased feelings of stress among teachers. Prior research has linked teachers' stress to increased workload and time-management (Abid et al., 2020). Based on the survey's open-ended item and interview responses, majority of the teachers reported facing increased workload during online classes, with most of their time spent on planning and managing work and home responsibilities. Early childhood teachers have reported stress and burn-out while meeting work responsibilities as a major concern during the COVID-19 (Crawford et al., 2021). Results from independent samples' *t*-test indicated teachers in the US reported higher stress levels for the transition to in-person classes, than teachers in Pakistan. Future studies can further explore the factors of the transition back to in-person classes that were particularly stressful for teachers in the US.

Based on closed-ended survey items, overall teachers' responses from both Pakistan and the US, showed that on average, they felt prepared for the transition to in-person classes and reported high self-efficacy in the context of online/hybrid and in-person classes. Independent

samples *t*-test results revealed that teachers in Pakistan reported a higher preparedness in the context of online/hybrid and in-person classes and a higher self-efficacy (in the context of online/hybrid classes) than teachers in the US, in the closed-ended survey items. One possible reason for high preparedness and self-efficacy reported by teachers in Pakistan could be that the most of the sample consisted of teachers from private schools, that may have provided them better resources to facilitate online classes. Future studies can explore the supports/resources available to teachers in private schools in Pakistan. Another possible reason could be social desirability bias, or the need for participants to portray a positive image of themselves. This could explain why overall teachers from both the US and Pakistan had mean scores of 3 or above (out of 5) across all themes in closed-ended items of the survey, indicating positive responses, except for the items related to stress and internet accessibility. Cross-cultural studies of social desirability have shown that participants' social desirability scores may vary based on cultural values (Randall et al., 1993) and is influenced by factors such as affiliation, conformity and need for approval (Johnson & Vijver, 2003). However, responses from open-ended survey items and interviews did not indicate similar social desirability bias as teachers from both Pakistan and the US provided more details on their concerns and challenges with online/hybrid teaching and the transition back to in-person classes.

Responses from open-ended questions regarding challenges of online teaching showed that most teachers who reported challenges with managing their time ($n = 4$) and maintaining a work-life balance ($n = 6$) were from Pakistan. Other studies have also shown teachers' concern with workload and time management during online classes (Abid et al., 2020; Crawford et al., 2021; Seabra et al., 2021). The interview responses of teachers from Pakistan and the US reflected their concerns with the time spent on planning resources for online classes and

communicating with parents. Moreover, based on the interview responses, a teacher from Pakistan explained that she was expected by her family to manage household chores while working from home, which also involved doing chores for extended family members, as part of the strictly defined gender-based norms in Pakistan, that increased her workload. Another teacher also brought up the restrictions placed by families on female teachers to work from home, another indication of culturally defined gender roles than women in Pakistan are expected to follow. These findings are consistent with the prior research in the context of Pakistan where gender roles and expectations were found to be a challenge for female teachers working from home, who had increased workload due to managing household responsibilities alongside work (Abid et al., 2021).

Findings from the interview and open-ended items in the survey indicated the challenges teachers faced with students during online classes which included student engagement, attention, and absenteeism, classroom management, use of materials, hands-on activities, and assessment. In the interviews, teachers also mentioned incorporating different activities to maintain student engagement, which included planning breaks between their lessons and encouraging movement-based activities, incorporating mindfulness exercises, using interactive online applications, etc. Previous studies have also indicated student engagement as a major concern for teachers especially for young students who often do not have the technical skills to learn in a remote setting and need physical presence of the teacher (Cardullo et al., 2020; Timmons et al., 2021).

Learning and developmental gaps was the most common concern raised by teachers (which included academic and social-emotional skills development) as indicated by open-ended survey items and interview responses. Three teachers explained that students are not used to working independently anymore because of the extra support of parents during online classes.

Similar findings can be seen in a study by Timmons et al. (2021), where teachers reported concerns of parents helping their children too much with learning tasks at home, which also made assessing students' progress a challenge. These concerns were also raised by teachers in interviews and open-ended survey items, as a challenge for assessing students' progress during online classes.

Teachers also reported an increased need for social-emotional learning for students at this stage, which came up in both open-ended survey question and interviews. Social-emotional learning is important for young learners as they learn social skills through their interactions with other people (Cardullo et al., 2020; Timmons et al., 2021). Classroom expectations and social norm may need to be re-taught because of the learning gaps young students have experienced during the COVID-19 pandemic (Tate, 2021).

Another important aspect of the interview responses was teachers' recommendations for school administrators, which included more emotional support and understanding from administrators, better management of teacher training workshops, and more time given to teachers to plan and teach effectively. Crawford et al. (2020) discusses the implications of professional expectations like professional development, placed on early childhood educators, while they are struggling to manage work demands during the COVID-19 pandemic. This was also a concern raised by teachers during interviews, where they explained the challenges of juggling work responsibilities while also meeting expectations of professional development trainings by school districts and administrators.

Limitations

One of the major limitations of this study is small sample size. Since schools had recently transitioned to in-person classes at the time of data collection, a lot of teachers struggled to find

time to volunteer for the research. There was also limited time for data collection. There is also a possibility of sampling bias because the sample was not chosen at random for the survey but through the researchers' professional networks. This limits the generalizability and replicability of the results in this study. The sample for this study mostly consisted of all female teachers except for one male teacher. Future studies can incorporate samples with diverse gender groups to improve the generalizability of the research.

Lastly, inter-rater reliability for the interviews could not be established because only the researcher coded the interview responses. This may have affected the reliability outcomes of the research.

Conclusion

Early childhood educators faced unique challenges during online/hybrid teaching and the transition back to in-person classes while facilitating the learning and development of young students. This study showed some shared challenges teachers in both Pakistan and the US faced, like keeping young learners engaged during online classes, evaluating students' progress towards learning goals, internet connectivity or technological challenges faced by students and teachers. Commonly reported challenges with the transition back to in-person classes that teachers in Pakistan and the US reported were the learning gaps students are facing and the increased need to focus on social-emotional learning for students. Some experiences that were unique to Pakistani teachers also came up and affected their experiences with online classes also showed up, like electricity shortages disrupting online classes, female teachers juggling with work responsibilities and managing household responsibilities that came with living with extended family members. The recommendations that teachers in Pakistan and the US suggested for school administrators mainly involved increased emotional support and empathy for teachers

especially with regards to their workloads. These are important findings for school administrators to consider for providing better resources/tools to support teachers.

Appendix A: Results table**Table 1**

Mean and Standard Deviations by country

	<i>N</i>	<i>M</i>	<i>SD</i>
Student engagement	52	2.92	0.83
Student internet accessibility	52	4.12	0.98
Collaboration with parents	53	3.1	0.99
Peer support	53	4.41	0.81
School support	52	3.74	0.97
Parent support	53	3.9	0.74
Preparedness (online/hybrid)	53	3.34	1.24
Preparedness (in-person)	53	4.04	1.33
Self-Efficacy (online/hybrid)	53	3.73	1.1
Self-Efficacy (in-person)	53	4.08	0.96
Stress (online/hybrid)	53	3.56	1.06
Stress (in-person)	53	2.98	1.37
Technology			
How often did you use technology in classrooms before the pandemic?	53	3.32	0.78
How often did you face technical difficulties with online platforms while teaching remote classes?	53	3	0.68
How often did you face internet connectivity problems while teaching classes?	53	3.21	0.74
I felt confident about using technology to teach remote classes in Spring 2020.	53	3.28	1.43
I am going to continue teaching with technology in classrooms once in-person classes resume	53	4.06	1.07

Appendix B: Survey Questions

General Demographic Information

1- What is your gender?

Man

Woman

Genderqueer

Non-binary

Transgender

Other: _____

Prefer not to answer

2- What range includes your age?

18-25 years old

26- 33 years old

34- 41 years old

42- 50 years old

50 + years old

Prefer not to answer

3- What is/are your racial and ethnic group(s)? Select all that apply

American Indian or Alaska Native

Asian

Asian American

Black or African American

Middle Eastern or North African

Latin American/ Hispanic

Pacific Islander

White/Caucasian

Other: _____

Prefer not to answer

4- Please select the highest level of education completed:

High school diploma and/or GED

Undergraduate degree

Master's degree

Doctorate degree

Other: _____

7- How many years have you been teaching K-2 grade level?

6- Which of the following countries are you currently residing in?

Pakistan

United States

Other: _____

7- Which grade levels are you currently teaching?

Kindergarten

Grade 1

Grade 2

Other:

8- For how long did you teach online classes since the pandemic began in Spring 2020?

(Format: MM/YYYY – MM/YYYY)

9- For how long did you teach hybrid classes (combination of online and in-person)

since the pandemic began in Spring 2020? (Format: MM/YYYY – MM/YYYY)

10- When did you transition back to in-person classes? (MM/YYYY) (Please leave blank

if this does not apply to you).

Technology

11- How often did you use technology in classrooms before the pandemic?

Never Rarely Sometimes Most of the time Always

12- How often did you face technical difficulties with online platforms while teaching remote classes?

Never Rarely Sometimes Most of the time Always

13- How often did you face internet connectivity problems while teaching classes?

Never Rarely Sometimes Most of the time Always

14- I felt confident about using technology to teach remote classes in Spring 2020.

Strongly Disagree Disagree Neutral Agree Strongly Agree

15- I am going to continue teaching with technology in classrooms once in-person classes resume.

Strongly Disagree Disagree Neutral Agree Strongly Agree

16- Which online platforms did you use for remote classes? (For example, Learning Management Systems, Zoom, Microsoft Teams, etc.)

Student engagement

17- I felt that students actively participated during online classes at the beginning of the pandemic (Spring 2020).

Strongly Disagree Disagree Neutral Agree Strongly Agree

18- I felt that students were motivated to learn during online classes at the beginning of the pandemic (Spring 2020).

Strongly Disagree Disagree Neutral Agree Strongly Agree

19- I felt that students were motivated to learn during the hybrid (combination of in-person and online) mode of classes?

Strongly Disagree Disagree Neutral Agree Strongly Agree

20- Students often reported problems with internet connectivity during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

21- I felt that students' engagement in class was often affected by unstable internet connection.

Strongly Disagree Disagree Neutral Agree Strongly Agree

22- I felt satisfied with my interaction with students in online classes as compared to in-person classes

Strongly Disagree Disagree Neutral Agree Strongly Agree

Collaborating with parents

23- I felt it was easy to coordinate with parents during online classes

Strongly Disagree Disagree Neutral Agree Strongly Agree

24- I felt it was easy to guide parents on how to conduct learning activities at home.

Strongly Disagree Disagree Neutral Agree Strongly Agree

25- I felt that parents gave adequate attention to engage their child at home.

Strongly Disagree Disagree Neutral Agree Strongly Agree

26- I felt that parents responded well to my efforts of communication.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Support/Resources

27- I felt supported by the school administration during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

28- I felt supported by the school administration during hybrid mode of classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

29- I felt supported by my peers during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

30- I felt supported by my peers during hybrid classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

31- I received support from parents during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

32- I received support from parents during hybrid classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

33- I felt that I could rely on my school administration to provide resources necessary for
online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

34- I felt that I could rely on my school administration to provide instructional support for online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Preparedness

35- Did you receive any professional training to teach online classes before the pandemic?

Yes/No

36- Did you receive any training via school you're employed in to teach online classes during the pandemic?

Yes/No

37- Did you receive any training outside of the school you're employed in to teach online classes during the pandemic? Yes/No

38- I felt that my prior training or experiences prepared me to use online platforms for teaching during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

39- I felt prepared to transition to a hybrid mode of education.

Strongly Disagree Disagree Neutral Agree Strongly Agree

40- Has your school transitioned back to in-person classes?

Yes/No

41- A- If Yes, please answer the following question

I felt prepared to move back to in-person classes when they first began

Strongly Disagree Disagree Neutral Agree Strongly Agree

B- If No, please answer the following question

I feel prepared to move back to teaching in-person classes once they resume

Strongly Disagree Disagree Neutral Agree Strongly Agree

Self-Efficacy

42- I felt I could easily adapt to remote classes during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

43- I felt confident in my ability to use technology for remote classes during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

44- I felt confident in my ability to help parents in assisting their children with online classes

Strongly Disagree Disagree Neutral Agree Strongly Agree

45- I felt that I was able to motivate students who showed little interest during online classes

Strongly Disagree Disagree Neutral Agree Strongly Agree

46- I felt that I was able to effectively teach online during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

47- I felt that I was able to help students adapt to remote learning during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

48- I felt that I was able to successfully manage online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

49- I felt that I was able to meet students' learning needs during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

50- I feel that I will be able/was able to easily adapt to the transition to in-person classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

51- I feel that I will be able/was able to meet students' needs with the transition to in-person classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Stress/Burnout

52- I felt stressed about my job during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

53- I felt isolated from my peers and school administration during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

54- I did not have to worry about my work responsibilities during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

55- I felt emotionally drained from work-related responsibilities during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

56- I felt worn out after teaching online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

57- I did not feel stressed about planning content for online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

58- Were you laid off or furloughed during the pandemic? Yes/No

59- If you answered No, please answer the following:

I felt stressed about the possibility of being laid-off from my job due to school closure.

Strongly Disagree Disagree Neutral Agree Strongly Agree

60- I was successfully able to maintain a work/life balance during online classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

61- I looked forward to teaching online during the pandemic.

Strongly Disagree Disagree Neutral Agree Strongly Agree

62- I feel/felt stressed about the transition back to in-person classes.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Short answers

63- What other challenges did you face with teaching online classes during the pandemic?

64- If you are still currently teaching online, what teaching challenges are you expecting to face with the transition to in-person classes?

65- If you have already transitioned to in-person classes, what challenges did you face with this transition?

Appendix C: Interview Questions

- 1.** How did your teaching practices change after schools first closed during the pandemic?
- 2.** How comfortable were you with using technology to teach before and during the pandemic?
- 3.** What did your work responsibilities look like during the pandemic?
- 4.** What strategies did you use to keep children engaged during online classes?
- 5.** What aspects of teaching online classes did you like and/or dislike?
- 6.** How did you feel about teaching online at the beginning of the pandemic?
- 7.** How do you feel about the transition to in-person classes now?
- 8.** How well do you think the children are adjusting with the transition to in-person classes now?
- 9.** What problems (if any) are you facing/expecting to face teaching children in-person?
- 10.** What kind of support/resources would you want school administrators to provide with the transition to in-person classes?
- 11.** Is there anything else that you would like to share about your experiences teaching during the pandemic?

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