Education Faculty Publications   School of Education

2021

Chinese Parents' Perception of Emergency Remote Teaching-learning in COVID-19 Pandemic in China

Tianhong Zhang Dr.

Asian Journal of Distance Education

Chinese parents' perception of emergency remote K-12 teaching-learning in China during the COVID-19 pandemic

Tianhong Zhang

Abstract: After Chinese government firstly released COVID-19 outbreak news in the world, the Chinese educational system launched the emergency remote teaching-learning (ERT) as the response to COVID-19 as new virus pandemic with the mission of "suspending schools without stopping teaching-learning". The challenges that teachers, students and parents encountered and the ed-tech strategies that teachers and schools used in terms of effective remote teaching-learning has got the attention from the countries around the world. Since parents are the significant stakeholders of K-12 education, for better understanding the challenges in emergency remote teaching-learning from parents' lens, their reactions are worth a word. In this qualitative case study, parent participants (N=741) from 16 provinces in mainland China gave responses to four open-ended questions in the web-based questionnaires released on wjx.cn (问卷星). The themes emerged from the thematic analysis. The participants emphasized that online teaching-learning can't replace face-to-face one in the brick-and-mortar classrooms in terms of "no learning atmosphere" from the perspectives of students' behavior, cognitive and emotion engagement. Parents held a pessimistic attitude towards the quality of online teaching. Parents argued that remote teaching-learning would be a disaster for students with poor self-regulation and learning autonomy. In depth, the parent participants' concerns about emergency remote teaching-learning mirror the challenge of accountability in remote education. The current study suggests the school administrations to develop the systematic professional development programs for training the collaboration among in-service teachers, students and their parents how to develop online learning community and keeping student engagement in remote learning.

Keywords: emergency remote teaching-learning, COVID-19, parents' attitude, face-to-face teaching-learning, learning atmosphere, student engagement

Highlights

What is already known about this topic:
- Emergency remote teaching as a temporary shift of face-to-face instruction to a fully remote mode due to the emergent circumstance is not delivered with well-planned instructional design.
- People are concerned about the quality of teachers' teaching and students' learning in remote mode.
- The challenges that teachers, students and parents encountered and the ed-tech strategies that teachers and schools used in terms of effective remote teaching-learning has got the attention.

What this paper contributes:
- Parents as the significant stakeholders of K-12 education, their reactions to emergency remote teaching-learning enrich the literature about emergency remote teaching-learning from parents' perspective.
- The research findings provide the factors which have been the most influential impact on parents' perception of remote teaching and learning.
- The empirical research findings project Chinese parents' pessimistic attitude towards online education in China.

16

Implications for theory, practice and/or policy:
- It is imperative for teacher education programs to develop the necessary skills among preservice and in-service teachers to provide a quality education in hybrid or online mode.
- Schools should develop a checklist of considerate perspectives and actionable strategies for preparing students and their parents for learning success (such as role change, class schedules, explanation of difference between online and face-to-face learning, communication with teachers about their concerns and help, etc.).
- School administrations should develop professional development programs for training the collaboration among in-service teachers, students and their parents how to develop online learning community and keeping student engagement in remote learning.

Introduction

The Chinese education system gave a quick response to COVID-19 which swept across China around the Chinese Lunar New Year in January 2020. The Ministry of Education in the People's Republic of China issued an emergency school closure initiative for the entire country. School closure policy impacted more than 200 million students from primary to postsecondary education. The emergency remote teaching (ERT) (Hodges et al., 2020) among primary and secondary schools was launched across the country with the expectation of "suspending face-to-face classes without stopping teaching and learning "(停课不停学) on March 6 (Ministry of Education of PRC, 2020a). Prior to this announcement, on February 17, the MOE launched the "National Online Cloud Classroom" (云平台/云课堂, www.ykt.eduyun.cn) which provides free livestreaming classes and digital textbooks to meet the learning needs of 50 million primary and secondary school students along with China Education Network TV Channel 4 "Taking the Same Class" (MOE, 2020b). Even though the teaching and learning resources have been offered by the MOE and by the provincial governments in China, it was still challenging for schools to cover the needs in terms of deep remote teaching-learning on a large scale (Zhang et al., 2020; Chen, 2020).

Promotion of integration of educational information and communication technology into teaching for high-quality digital education has been proposed in the Ten-Year Development Plan for Education Information and Communication Technology in China (2011-2020). The Chinese government called for the changes in education ecology and instruction models (MOE, 2012). The Chinese Ministry of Education (2016) has noticed the challenges related to application of educational technology in K-12 education, especially instructional design, such as lack of educational technology integration into teaching and learning, teachers' inadequate TPACK knowledge (Mishra & Koehler, 2006) (technology, pedagogy and content knowledge and instructional design knowledge for online setting). During the outbreak of the COVID-19 pandemic, the teaching-learning's sharp shift from face-to-face to remote mode magnified teachers' unpreparedness and/or inadequate preparation in terms of TPACK. The quality of remote teaching-learning is especially becoming challenging for the emergency remote teaching-learning in the pandemic (Craig, 2020; Hodges et al., 2020). For example, there is no clear and available guideline for what to teach, how to teach and the workload for teachers and students (Zhang et al., 2020). Teachers did what they did best to help students' continuous learning (Fifield, 2020). Conceptualizing how to present new knowledge or skills to students and provide students learning opportunities might not be much challenging. However, creating and developing interactive learning opportunities for helping students engage with teachers and their peers around the new learning content requires more intensive instruction planning (Gallagher & Cottingham, 2020). In addition, schools need to develop systematic ways to monitor student engagement, follow-up with unengaged students and effective communication between school and parents/legal guardians on students remote learning (Gallagher & Cottingham, 2020).

It is important to identify the issues emerging in emergency remote teaching-learning from teachers' perspective (Zhang et al., 2020; Chen, 2020). In the systematic literature review on the studies on emergency remote around the world, Bond (2020) highlights these issues too. For example, how much new learning content do teachers need to teach? How long will each online class be good enough? What types of support and professional training do teachers need? How should teachers communicate with parents? How much are parents supposed to get involved in the emergency remote teaching-

learning process? If students push back against online learning, what parents and teachers do? Without the certain answers of these questions, the hurry switch from face-to-face instruction to online could seal the perception of online teaching-learning as a weak option (Craig, 2020; Hodges et al., 2020). Among the studies on emergency remote education, the researchers give the suggestions on the partnering with families (Bubb & Jones, 2020; Lambert & Schuck, 2020) to create effective online environment (Bhamani et al., 2020). As these researchers suggest, parents are the significant stakeholders of K-12 education, their reactions are worth attention. The main purpose of the study is examining the mainland China-based case to better understand the challenges in emergency remote teaching-learning from parents' lens. The empirical research findings would enrich the literature on emergency remote education.

The current case study projects Chinese parents' attitude towards online education via their response to the emergency remote teaching-learning in China. Parents carried a stigma for online teaching-learning incomparable to face-to-face teaching-learning. They believed that remote teaching is the only option for implementing suspending classes without stopping teaching-learning (停课不停学) during the COVID-19 pandemic. Parents didn't see much further advantage of online teaching-learning in the scenario of high-stakes standardized tests nationwide in China. The research findings highlight the influential factors impacting Chinese parents' perception of emergency remote education and the potential practical suggestions for school administrations.

Literature

Emergency remote teaching is a temporary shift of face-to-face instruction to a fully remote mode due to the emergent circumstance (Craig, 2020; Hodges et al., 2020). It is not a blended or hybrid instruction delivery with well-planned instructional design. This temporary shift might diminish the quality of teaching and learning. The instructional design models or frameworks for blended or hybrid instruction or for online teaching-learning might not be applicable to emergency remote teaching-learning. Currently, there is not a blueprint of instruction design available for teachers in emergency remote teaching. According to Bond's (2020) systematic literature review on emergency remote education during COVID-19 pandemic, the studies predominantly focused on teachers. The empirical evidence for emergency remote teaching-learning from parents' perspective is far inadequate. Since parents are the significant stakeholders of K-12 education, their reactions are worth a word.

According to the China Youth Daily (2020), around 58.3 percent of parents in China hold positive attitudes towards the effects of online courses offered by middle and primary schools during school closure due to COVID-19 pandemic (Hong, 2020). Around 73.9 percent of the parents admitted the extra burden and responsibility added to them for helping their children's online learning (Hong, 2020). The primary issues identified by the parents in this survey include: online classes lack of interactions which was the primary reasons for children easily distracted in these online courses; it is hard to master new learning content in online learning because the online classes are too short to cover adequate learning content; inadequate feedback with timely manner; less question-answer sessions. These perspectives have an impact on parents' attitudes towards online teaching-learning, especially the interaction issue. Structuring instruction around interactive learning is a promising strategy for online teaching because the social and academic components of learning are interwoven. However, many students temporarily lost these interactive learning among students and teachers in the sudden switch to remote learning due to the pandemic.

In this process, parental role and support for their children's online learning is a paradigm shift (Smith, Burdette, Cheatham & Harvey, 2016). Parents' role is transformed as "parent as teacher" (Turnbull et al., 2015; Smith et al., 2016; Liu et al., 2010; Borup et al., 2015; Hasler-Waters, 2012). Liu et al. (2010) highlight the positive role of parental engagement in children's online learning. Adolescent students lack self-regulation skills and make it hard for them to consistently engage into online learning (Freidhoff, 2015; Rice, 2006; Barbour & Mulcahy, 2006; Cavanaugh, 2007). Parents' engagement should be an important part of any attempt to improve students' online learning. However, compared to learning in mortar-and-brick classrooms, there is relatedly inadequate knowledge regarding the effect of parental engagement in online learning settings (Borup et al., 2014). The research studies support the claim that parents' role and responsibilities are expanded in online schooling compared to mortar-brick classroom schooling (Borup et al., 2015). Parents help their children with their time management skills and develop perseverance skills; and guidance of teaching and learning materials and learning skills (Water & Leong, 2014; Borup et al., 2014); and monitoring their children learning (Harms et al., 2006; Barbour & Reeves,

2009; Borup et al., 2014). Parents can help their child learn the content by instructing them how to learn online (Lowes & Lin, 2015), including helping children follow teachers' direction, homework support, positive reinforcement, etc. Parents are also the coordinators being responsible for the communication between parents-teacher and students-teachers. Especially, when students become unresponsive, teachers who are physically separated from students rely on parents for the student-teacher communication (Borup et al., 2014). No doubt, K-12 teachers in China were overwhelmed by a deep learning curve at the beginning of the emergency remote teaching (Bozkurt et al., 2020).

Theoretical Background

Parents' attitude towards their children's online learning heavily rely on the extent to which online teaching-learning enhance their childlren's academic achievement. According to the Technology Acceptance Model (TAM) (Davis et al., 1989), parents who believe the usefulness of technology for enhancing their children's academic performance and perceiving this technology easy to use would have a positive attitude towards that technology. For online teaching, parents would heavily focus on the perceived quality of online teaching enhancing their children's learning. Teachers' instructional methods are confounded with educational technology in online context. We attribute the quality of online teaching to "the active ingredient in instruction" (Clark, 1994, p.27), such as teachers covering adequate learning content, adequate feedback and student-teacher interactions. That also might be effective instructional design and effective classroom management. However, in emergency remote teaching-learning, teachers are powerless when they encounter that not all students either can or are willing to show up for online classes (Ning & Corcoran, 2020). It also might be student' social emotional status or readiness for online learning. According to a study initiated by Huazhong University of Science and Technology in Wuhan (Galvin, 2020), 23% of primary school students in Wuhan and Huangshi reported symptoms of depression during school closure and city lockdown. Pedagogy of care needs additional attention (Bozkurt et al., 2020). In emergency remote teaching-learning, some students don't have stable internet, or they use their parents' cell phone with the limited data for online learning. Education equity issues with regards to educational technology come into sight (Zhang et al., 2020). Digital equity may provide a deep understanding of educational inequity induced by digital division through COVID-19 pandemic.

Methodology

Given the purpose of the current study, the researcher employed a qualitative case approach to examine a "contemporary phenomenon within its real-life context" (Yin, 2003). Using a qualitative method with open-ended question survey, the current study investigates Chinese parents' perception of emergency remote teaching-learning to explore their attitude towards remote education. The parent participants represent the wider population of parents in China. The parent participants were from 16 provinces in mainland China, covering the provinces in the west, north, east, southwest and south part of China. In this study, the researcher would depict the Chinese parents' views of emergency remote teaching-learning when classes were realistically disrupted by COVID-19 in China. The researcher would encapsulate (Schram, 2006) the challenges of emergency remote teaching-learning in China from parents as the significant stakeholders' perspective. This contextual embedded study has the ability to draw attention to what can be learned from the single case (Schram, 2006) in China about the emergency remote teaching-learning. The current study tentatively answers the overarching research question "How do Chinese parents perceive remote education?"

1. How do Chinese parents perceive the emergency remote teaching during school closure induced by COVID-19 pandemic in China?
2. How do Chinese parents perceive the emergency remote learning during school closure induced by COVID-19 pandemic in China?

Data Collection
The data were collected from a web-based Chinese survey and questionnaire released on "wjx.cn" (问卷星). The questionnaire consists of four open-ended questions and three demographic questions. Czaja and Blaire (2004) recommend targeting survey participants who are the most knowledgeable individuals who can provide accurate information. In the current study, it is important to seek feedback from parents as the significant stakeholder of K-12 education about the emergency remote teaching-learning during COVID-19 pandemic. The four open-ended questions are rooted in Technology

Acceptance Model (TAM) as general framework (Davis et al., 1989): the extent to which remote teaching could enhance and challenge students' learning.

With the approval by the university's Institutional Review Board (IRB), the links of the questionnaires along with the recruiting letter were spread out among the potential parent participants via Chinese social media platform "WeChat". The researcher employed a snowball sampling strategy (Gail et al., 2007). Possible respondents received the link to the web-based questionnaire on "问卷星" between April 23- May 15, 2020. The questionnaires were closed on May 23. The total number of respondents: parents (N=741, with different educational backgrounds, 35% with high school diploma, 33% with Bachelor degree and 3.24% Master degree and 29% others). The research participants came from 16 different provinces in China, covering the provinces in the east, the west, the south, the south west and the north. The participants input their response to the questions in the Questionnaire via their social media WeChat.

Data Analysis
The questionnaires captured the qualitative data from responses to the open-ended questions. Due to the nature of this web-based Chinese survey and questionnaire released on "wjx.cn" (问卷星), the participants' responses to each survey question were exported with one excel individual file. Chinese is the contextualized language. The parent participants' responses to the survey questions via their cellphone, the punctuations are missing in most of the responses. It is convenient for the researcher to review, analyze, compare and code all content and organize the coded data within one page on Excel file. About using Excel to structure large amount of unstructured qualitative data, "Systematic manual coding ensures that all the content is coded, not just words or terms that are extracted from the text" (Ose, 2016, p.147). The researcher used thematic analysis to analyze these qualitative data for searching across the data set to identify repeated patterns of meaning within data (Braun & Clarke, 2006). For familiarizing with data, the researcher of the current study read the data searching for meaning and patterns around parents' viewpoints on emergency remote teaching-learning. Then, with reference to the Technology Acceptance Model (TAM) as general framework (Davis et al.,1989), the researcher initiatively coded the potential perspectives around parent's perceptions of emergency remote teaching-learning as the response to COVID-19 pandemic, including educational technology application for instruction delivery, teacher's online teaching pedagogy, students' learning online, challenges that teachers and students encountered. At the same time, the researcher identified the potential themes as further codes. The researcher coded the data by highlighting the recurring patterns in the data, created a category map for each code with a brief description and the examples from the raw data. Finally, the researcher reviewed the themes, defined and naming the themes and produced the final report with the examples from the participants' responses as the supporting evidence.

Validity and Reliability
A rigorous thematic analysis can produce trustworthy findings (Braun & Clarke, 2006; Nowell et al., 2017), if researchers follow the trustworthiness criteria (Guba & Lincoln, 1989; Tobin & Begley, 2004): credibility; transferability; dependability; confirmability; audit trails; reflexivity. In the current study, the researcher triangulation was addressed via inviting an outsider Chinese reviewer in China with expertise in secondary education and education survey design for ensuring terms used in the questions understandable and identifiable in Chinese context. The researcher would provide a thick description so that those who seek to transfer the findings to their own emergency remote teaching-learning context can decide the transferability. In the process of data analysis, the researcher gave equal attention to each data item and clarified the reasons for theoretical, and analytical choices through the study. The research process was traceable and clearly documented. Other researchers can do the similar study of emergency remote teaching-learning in COVID-19 pandemic. In the process of the research, the personal reflection journal was recorded, especially developing a codebook and insights information about online teaching for k-12 teachers. For the purpose of coding, the parent participants were numbered from P1 to P714.

Findings and Discussions

The total number of respondents: parents (N=741, with different educational backgrounds). The research participants came from 16 different provinces. Since the purpose of the current study is picturing emergency remote teaching-learning in China responding to COVID-19 pandemic, the researcher highlighted the perspectives of parents' perception on remote teaching-learning. Therefore,

the differences among 16 provinces, parents' demographic information, and their children's grade level wouldn't be considered in the current study.

The respondents provided qualitative comments to the four questions in the questionnaires. Their comments and viewpoints enriched our understanding of emergency remote teaching-learning. Their responses expressed the following themes: a) educational technology; b) factors impacting the quality of remote teaching-learning; c) attitude toward remote teaching.

In the current study, parent participants demonstrated three types of attitudes towards online teaching-learning: enthusiastic attitudes; skeptic attitude; and against online teaching-learning. There were around 10 % of parent participants (72 out of 741) suggesting "trying best not to use remote teaching-learning". For asking their suggestions on remote teaching-learning, there were around 39 % of parent participants (287 out of 741) giving responses with "none".

Table 1. Summary of parents' attitude toward online education

Attitude	Descriptions
Enthusiastic	1. Inevitable innovative trend in education 2. Students can reuse and revisit the recorded teaching content at any time and in any places 3. Diversifying learning content and personalized learning 4. Be used as after-school tutoring programs for reducing families' financial burden such as tutoring fee
Skeptic	1. Online teaching incomparable to face-to-face teaching 2. There is no teaching and learning atmosphere 3. Only be the complementary of face-to-face teaching (such as after-school tutoring program) 4. Being addict to electronic devices 5. Doing harm to eye-sight 6.
Against	1. Not to use remote teaching-learning

Widely various educational technologies applied in emergency remote teaching-learning

The commonly used educational technology platforms and tools for teachers' remoting teaching included DingTalk (Alibaba), Tencent (live streaming classes, WeChat apps for assignment collection and grading or feedback; QQ instant message; QQ classroom), Classin and SeeWo (EasiCare 班级优化大师). The teacher participants also used various software for developing their own multimedia lessons. They also used the accessible online mini-lessons or mini-lecture videos (微课平台) and online educational resources in their own teaching, such as zxxk.com (学科网)，zhiue.com(智学网), provincial TV broadcasting classes, koolearn.com (新东方在线教育), etc. Teachers from the same province didn't use the same remote teaching platforms and resources. This brings the challenge for teaching evaluation in emergency remote mode.

Instructional language
According to parent participants' viewpoints, remote teaching is different from face-to-face teaching in the following perspectives: instructional language different; instructional strategies different; interaction and communication different; role of teachers and parents changing. Some parents specifically stated the arts of language in remote teaching, including the teacher's ability of well-organizing their language in the instruction and oral presentation skills. For example, one parent participant said, "*the artistry and the attractiveness of teachers' instruction /lectures*" (P242). "*Wish teachers using rich cases and humor language to maximize students' enthusiasm in learning*" (P519). The parent participant (P167) expressed the similar points.

The teacher's language in lectures is expected to be interesting, innovative and attractive aiming at engaging students into learning in an online context. What type language in remote teaching can be defined as "interesting, innovative and attractive" should be studied in future. Parents also mentioned that teachers' oral presentation/ lecture should go smoothly without nonsense words or the words/topics

distracting student attention. In addition, what the "arts of language" in remote teaching refers to is not clear yet.

Instructional strategy

The research participants believed that remote teaching is supposed to be student-centered and interactive. Interactive instruction and immediate feedback were the key expectations by parents in the current study. The teaching pace and the question-and-answer session were underlined by the parent participants. In terms of these perspectives, parent participants were not satisfied with teachers' online teaching. For example, "*The teachers can't see whether you focus on learning, and the problems you encountered, the teachers can't solve it for you immediately*" (P73). Another parent participant complained that, "*The teachers lectured with fast pace, some teaching points were not clearly taught. So you have to playback the videoed lesson after the class*" (P122).

In remote teaching-learning, they emphasized the need for teachers to integrate interactive learning activities and give special attention to creating more opportunities for interactions and dialogue between teachers, students and parents. Teachers needed the intentional and thoughtful plan for instructional design aiming at developing a learning community via effective communication and interactions between teachers and students. For example,

> "*The interactions between teachers and students are key part. (Teachers) need to take efforts on this perspective*" (P120).
> "*Increase the interactive format and elements in teaching/ instruction*" (P658)
> "*Teachers can question students and interact with students at any time for improving students' engagement and attention in learning*" (P10)

Roles of parents and teachers

The research participants also mentioned the roles of teachers and parents in remote teaching-learning different from their roles in face-to-face classrooms in two ways. First, besides teaching online, teachers were expected to have follow-up sessions for answering students' questions offline. Besides teaching academics, teachers were expected to be social emotional educators and "psychologists" who can take care of students' eyesight and take intervention actions such as reminding students to rest their eyes or look out of the windows (P250, P322, P.379, P380, etc.). A few parents mentioned teachers needing professional development on students' mental health induced by the COVID-19 pandemic and the social isolation induced by "stay-at-home" policy (P167, P460, P576, P47, etc.). Meanwhile, parents' roles changed as well. Parents became the supervisors and facilitators of student learning. Sometimes, these parents became tutors when their children couldn't understand the teacher's teaching (P103, P111, etc.). Or they sought for online resources for helping their children. Sometimes, the parents became co-learners (P57, P82, P94, P154, P157, etc.). In the current study, parents' primary role in online learning is helping their children adjust to online learning and supervising their learning. For example,

> "*It is difficult to supervise your children's learning. Our children need to overcome some challenges such as distraction in online classes, not taking notes. As parents, we can only check in with them after we are back to home from work. We don't know whether everything is done as required by teachers*" (P132).
> "*The difficult knowledge which my kid can't understand and can't be solved in online class, playback the recorded lesson or I tutor her. However, there is still something she can't understand*" (P334).
> "*Child's attention is not on learning. Parents monitor and supervise their learning. They avoided to be monitored*" (P343).
> "*For the part that they can't understand. I told her to ask classmates or teachers. I encouraged her to check online resource and think about the questions by herself*" (P341)
> "*If possible, we learned with my kid and enjoyed online learning together.*" (P157)

Factors impacting the quality of remote teaching

Parents participants pinpointed the challenges for the quality of emergency remote teaching. 138 out of 741 parent participants underlined the issues arising in teaching. They listed the following factors impacting teaching outcome/ effect. First, remote teaching is incomparable to face-to-face teaching. One of the primary reasons is "no learning atmosphere" (P15, P20, P82, P297, P596, P645, P690, P714, and P733, etc.).

Table 2. Factors impacting the quality of remote teaching-learning

Factor	Description
No sense of learning community in online context	1. No learning atmosphere 2. Learning outcome in face-to-face classroom better than online learning
Arts of instruction language	1. Lack of skills of using speaking speed and tone 2. Lack of humor 3. Too much repeating and redundant words wasting teaching time 4. Accents
The inadequate quality of online instruction	1. Needing online teaching strategies for engaging students into learning; such as less or no interactive teaching and learning 2. Needing online teaching strategies for enhancing students into learning, such as lack of questions and answer section 3. Needing effective techniques for managing online teaching time (either too fast or too slow) 4. Feedback: students' questions can't be solved at timely manner 5. Inadequate digital competence 6. No or less follow-up instruction or tutoring after online teaching 7. Lack of or ineffective whole class assessment and individual assessment (formative and summative) 8. Inadequate instruction for assignments or homework
Glitchy technology	1. Unstable internet 2. Students and parents confused by switching among multiple online platforms used for teaching, submitting assignment and communication 3. Distracted by the plug-in advertisements popping out on the platforms
Student self-regulation and autonomy in online learning challenging	1. Poor self-regulation in online learning such as being unable to focus on learning 2. Could not adjust to online learning well
Others	1. Social emotional education (students mental health) 2. Eye health (doing harm to eyesight) 3. Addict to electronic devices or games 4. Parent having no time to supervising students in online learning

There were 12 out of 741 parent participants directly articulating it. In remote teaching-learning, teachers used limited interactive online instructional strategies to motivate and engage students into learning. Parent participants used the following key vocabulary for addressing the issues, including, "few interactions and communications between students and teachers (68 out of 741), students' questions unable to be solved in online class (40 out of 741), teachers failing to supervise and monitor student online learning outcome (79 out of 741) and being unable to understand teachers' teaching (15 out of 741). For example,

> " *The online learning atmosphere at home is not as good as that in school. Parents need to sit by students and attend the online classes together*". (P82)

"*The internet is unstable. In online classes, the interactions with teachers are not good. My child had to ask teachers for help with the questions or problems via QQ or WeChat after classes.*" (P615)

"*Have no way to communicate in the classes with teachers directly. Just listen to the lectures. No way to interact with teachers. Maybe there are too many students with limited teaching time. Teachers don't have extra time to take care of each student. My child can only ask teachers or classmates for help to solve the problems after online classes*". (P580)

" *The internet is not good and the connection is always offline. The child can't focus on learning. The effect of online class is really bad. Parents need to go to work and my child takes online classes at home. The learning is messy*" (P630).

" *In online classes, teachers have no way to supervise and monitor students' learning. Learning outcomes is dramatically discounted. I am really concerned about it. What I can do is gradually getting used to this way of teaching*". (P286)

Some parents expected teachers using skillful questioning strategies and frequent checking-in with students for ensuring their attention in learning. Some parents suggested teachers giving positive reinforcement for encouraging and engaging students into learning. In addition, the humor language and creative teaching strategies would be helpful for enhancing students' interest in learning. Compared to face-to-face teaching, the learning contents in remote mode couldn't be taught in a great detailed way. Parents complained that students were easily lost. If students can't understand teacher's teaching and their problems can't be solved immediately, the quality of remote teaching-learning would be degraded. "*It is better to use more interesting examples or cases in teaching for motivating students in learning*". (P636).

Secondly, glitchy technology for online classrooms and unstable internet greatly impacted the quality of remote teaching-learning. Around 23% of parent participants (170 out of 741) directly pinpointed the unstable internet connection and offline during the class. For example, parents complained about poor connection to live classes and microphone offline in class time. That greatly impacted the teaching and learning efficiency. Parents also pointed out that it was overwhelming for students taking the class and finishing other learning activities such as assignments and quiz on different platforms. Students and their parents were really confused. Some parents suggested using a well-developed learning management system in which students can finish all learning activities along with teachers' monitors.

Thirdly, teachers couldn't monitor and assess students' learning outcome in a formative and effective way due to the limited instruction time in remote mode. Teachers had no extra time to meet students' individual needs in learning. Some parents said that teachers had no way to do whole class assessment and individual assessment for ensuring students learning outcomes like what they did in face-to-face classes. If students didn't ask questions after each remote class, teachers had no way to effectively evaluate whether their students understood the learning content or not. Parents suggested, for example, "*Since teachers have no way to assess students' online learning outcome directly, it is better to give more in-class quizzes and after-class tests*" (P583). One parent (P579) said,

> "*It would be good to add a question-and-answer session after each online class. Teachers don't need to use the precious online teaching time for avoiding cutting off the teaching content. In addition, teachers can add online homework. Then teachers grade the homework and collect the common problems and questions. Teachers can schedule a time to teach these questions*".

Fourthly, the parent participants were concerned about their children's self-regulation ability in remote learning. Around 10% of parent participants (76 out of 741) mentioned their children being lack of attention and engagement into learning. The parents argued that remote learning is fine for well self-regulated students while it is challenging for students without or with poor self-regulation ability. They even believed that students with poor self-regulated ability would learn nothing in remote teaching-learning. They viewed that "self-regulation ability" can widen the learning gap among students. For example,

> "*Remote teaching-learning is beneficial. However, it has a negative part. It is beneficial to students with good self-regulation. It is a disaster for the students with poor self-regulation. Absolutely, no online teaching-learning*". (P529)

For the quality of remote teaching-learning, parents' supervising and teachers' monitoring are always expected. Fifth, around 6% of parent participants (43 out of 741) raised their concern about their

children's eye-health in online learning. They believed that online learning does harm to children's eyesight.

With reference to these research findings, the following section will discuss these findings and their implication for the future studies. Due to the COVID-19 pandemic, emergency remote teaching-learning has become the universal response to "school closure without stopping teaching and learning" around the world. Emergency remote teaching-learning has become the "touchstone" for testing a country's educational technology infrastructure at national and local levels, and for testing in-service teachers' readiness for teaching online. The parent participants pinpointed that there is no learning atmosphere in online teaching-learning mode which is incomparable to face-to-face teaching-learning. Learning atmosphere is the primary factor impacting parents' attitude toward remote teaching-learning.

What is the "learning atmosphere" in an online context? The current research findings decoded its meaning in terms of a sense of online learning community from student (cognitive, emotion and behavior) engagement (Fredricks et al., 2004). Being lack of learning atmosphere in online learning is also highlighted in the study about Chinese parents' beliefs and attitude towards young children's online learning during COVID-19 pandemic (Dong et al., 2020). In parents' eye, "learning atmosphere" means a "familiar" teaching-learning environment, including interactions among teachers and students; the content taught in details; packed classes within a day; the question-and-answer sessions; the homework with written feedbacks and grades; teacher's follow-up after teaching in morning study-hall and evening study-hall time; the consistent and stable teaching-learning platform like classrooms with arranged chairs and desks. When all these routines are broken or uncertain, parents may fall into a feeling of lack of "learning atmosphere" and students may have hard time to fully engage into online learning with issues of self-regulation and learning autonomy. The issues of self-regulation and learning autonomy is another primary cause for Chinese parents' negative beliefs and attitudes towards young children's online learning (Dong, Cao & Li, 2020). They argue that online learning challenges "traditional parental understanding of childhoods and expectations about early childhood educational practices" (p. 6). Fundamentally, online teaching and learning are challenging parents' traditional understanding of teaching and learning in digital era. The more responsibility of education is shifting back to the parents for younger children and to the individual teenagers (Collins & Halverson, 2018). Students' perception of learning is transiting from disciplinary knowledge to learning how to learn. The emergency remote teaching and learning during school closure in COVID-19 pandemic has accelerated this process. In this paradigm transition of teaching and learning in digital era, parents need the training on how to educate their children learning how to learn.

In addition, parent participants questioned the teacher's technological pedagogical knowledge and skills (TPK). This may be the second primary factor impacting parents' attitude towards remote teaching-learning. Educational technology tools and the remote teaching platforms were predetermined by the local department of education. Parents gave expectations to teachers to find ways to integrate these technology tools in their instructional practice for accomplishing "school closure without stopping teaching and learning" as the temporary response to the pandemic (Zhang, 2020). This may explain the parent participants' focus on TPK (technological pedagogy knowledge) related thinking, especially how teachers engage students into learning and enhance students' learning in the online classes. For example, the student self-regulation and autonomy issue in remote learning mentioned by parent participants in the current study indicates the extent to which students demonstrate control over their learning actions and engagement in the online context. It is the pedagogy transition from teacher's didacticism to interaction and collaboration (Collins & Halverson, 2018).

The third factor impacting parents' attitude towards remote teaching-learning is the extent of students' sense of place in an online learning environment (Northcote, 2008). Northcote (2008) argues that this place-ness impacts students engaging into online learning. Parents' complaint about remote teaching-learning being lack of "learning atmosphere" can be denoted as teachers and students both lack of "place-ness" in this emergency remote teaching-learning. Students in emergency remote learning lack self-regulation and learning autonomy might be due to their senselessness of the learning community in an online context. A sense of online learning community relies on a sense of shared identity, discourse or values. Parents and students perceived this emergency remote teaching-learning only as the temporary response to the COVID-19 pandemic. They believed that, eventually, students would go back to face-to-face mortar-and-brick classrooms. Within this discourse, students may have the feeling of place-lessness in emergency remote teaching-learning. In addition, schools sharply switched to remote mode as the response to COVID-19 outbreak, teachers and schools might not be prepared to address

the problem of how to modify online learning environments that lack a sense of place for online students. Inadequately structured online course design without clear learning guidelines and appropriate learning resources and activities and interaction would make students confused and frustrated in terms of their lack of sense of "place-ness". One example is parents' complaining that their children had to finish all learning activities at multiple platforms and that was really confusing and frustrating. Parents and students are not used to remote teaching-learning in such a "freestyle". Some scholars (Wang et al., 2018; Dong & Mertala, 2020) use Chinese traditional culture, Confuciansim, to address this barrier of e-learning in China.

The parent participants' concerns about emergency remote teaching-learning mirror the challenge of the accountability of remote education. In depth, parents are questioning the credibility of online education. Due to the nature of emergency remote teaching-learning, currently, there is a minimum way to evaluate the effectiveness of emergency remote teaching (Hodges et al., 2020). It remains unclear of the effective practices for emergency remote teaching-learning (Zhang, 2020), such as the effective working instruction strategies and pedagogical principles. Parents' skeptic attitude primarily arises from the barriers that prevent the effective online teaching-learning (Collins & Halverson, 2018), including technology accessibility, teacher's classroom management, teacher's challenges to instruction such as integrating technology into teaching, teachers' authority diluted in online teaching-learning, and the inharmony between assessment in online learning and high-stakes accountability tests across China. "*Teachers' capabilities and interest in e-learning are significant challenges in China*" (Zhang et al., 2018, p.205). Have teachers' competence of applying technology into teaching (ISTE, 2019) and the competence of instructional design (ISTE, 2019) been developed in the emergency remote teaching-learning? Ideally, teachers in China can use the digital tools and resources on daily basis to enhance students' learning, engage students into learning, and deepen and facilitate students extensive learning, which meet the goal proposed in the Education Information and Communication Technology 2.0 Action Plan (MOE, 2018).

The unexpected research finding is the parent participants pushing back against online teaching-learning through their concern about children eye health. They complained that students' eyesight would get destroyed in the remote or online learning. They prefer face-to-face teaching-learning. This finding echoes West China City Daily's report (2016) study and Dong, Cao and Li's (2020) research finding. Some parents believe that students will prefer learning in school more after this emergency remote teaching-learning.

In the chaotic emergency remote teaching-learning, the teacher's role changed. Parents' roles changed too. The more responsibilities of teaching and learning transfers to parents (Collins & Halverson, 2018). It is unclear whether parents are ready for their role change in remote or online teaching-learning. Future study is needed. In addition, what does the "arts of language" in remote teaching refer to? How would that be different from the "arts of language" in face-to-face teaching? How would "arts of language" impact student's online learning? These questions might need further exploration.

Conclusion and Suggestions

In emergency remote teaching-learning, quality matters. In the study, Chinese parents worried about learning loss in remote education. Chinese parents have a pessimistic attitude towards the quality of online teaching. Parents argued that remote teaching-learning would be a disaster for students with poor self-regulation and learning autonomy. In depth, the parent participants' concerns about emergency remote teaching-learning mirror the challenge of accountability in remote education. This concern might not be unique for Chinese parents in China. According to the latest survey released by the U.S. National Parents Union (2020, NPU) by the end of September, among 1140 public school students' parents, 38 percent of parents felt their children learning less this school year. 54 percent of parents in the survey expected schools ensuring high-quality online-instruction. Lacking a learning community and keeping student engagement in remote learning are the primary challenges standing-out in the current study. The current study has certain limitation. The qualitative data were collected from online questionnaire survey. It might be no way to get the in-depth understanding of the individualized challenges that parent participants encountered such as the digital inequity issue induced by the equal digital and educational resources among different provinces and by the parents' different socioeconomic status in mainland China. The in-depth interviews should be conducted to explore their concerns and authentic challenges in thick descriptions.

In the current study, the parent participants pinpointed the layback of the online teaching in terms of "lack of learning atmosphere". Parents noticed that the teaching cycles couldn't be accomplished in online context compared to the physical face-to-face classroom. These findings imply that teachers' online teaching skills and digital competency development (Albrahim, 2020; Smith, 2016; Smith, 2009; Trust & Whalen, 2020) have been unavoidable topics. It is imperative for teacher education programs to develop the necessary skills among preservice teachers to provide a quality education in hybrid or online mode (Archambault & Larson, 2015). The findings from the current study also have policy implications for policy makers and educators who advocate online teaching and learning. The preparation of K-12 schools and teachers for a pandemic before it occurs is essential (Christensen & Alexander, 2020; Trust & Whalen, 2020). When schools move to temporary remote instruction, there should be a checklist of considerate perspectives and actionable strategies. The prioritized needs include preparing students and their parents for learning success (such as role change, class schedules, explanation of difference between online and face-to-face learning, communication with teachers about their concerns and help, etc.) and preparing teachers for teaching success (Darling-Hammond & Hyler, 2020; Rao et al., 2017), including online instructional design training, online classroom management skills, building online learning community, social emotional education training, etc. Students and their parents should be invited into these professional developments too. These preparations for teachers, students and parents should be beyond the time of COVID-19 and aims at greater emphasis on equity-focused teaching and learning with regards to educational technology.

Acknowledgments

References

Albrahim, F. (2020). Online teaching skills and competencies. *The Turkish Online Journal of Educational Technology, 19*(1), 9-20. http://www.tojet.net/volumes/v18i3.pdf

Archambault, L., & Larson, J. (2015). Pioneering the digital age of instruction: Learning from and about K-12 online teachers. *Journal of Online Learning Research, 1*(1), 49-83.

Barbour, M. K. & Mulcahy, D. (2006). An inquiry into retention and achievement differences in campus based and web based AP courses. *Rural Educator, 27*(3), 8-12. https://doi.org/10.35608/ruraled.v27i3.489

Barbour, M.K. & Reeves, T. (2009). The reality of virtual schools: A review of the literature. *Computer and Education, 52*, 402-416. https://doi.org/10.1016/j.compedu.2008.09.009

Bhamani, S., Makhdoom, A. Z., Bharuchi, V., Ali, N., Kaleem, S., & Ahmed, D. (2020). Home Learning in times of COVID: Experiences of parents. *Journal of Education and Educational Development, 7*(1), 10-26.

Bond, M. (2020). Schools and emergency remote education during the COVID-19 pandemic: A living rapid systematic review. *Asian Journal of Distance Education, 15(2)*, 191- 247. https://www.asianjde.org/ojs/index.php/AsianJDE/article/view/517/331

Borup, J., Stevens, M.A., & Waters, L.H. (2015). Parent and student perceptions of parent engagement at a cyber charter high school. *Online Learning, 19*(5), 69-91. https://files.eric.ed.gov/fulltext/EJ1085792.pdf

Borup, J., West, R., Graham, C.R., & Davies, R. (2014). The adolescent community of engagement framework: A lens for research on K-12 online learning. *Journal of Technology and Teacher Education, 22*(1), 107–129.

Bozkurt, A., & Sharma, R.C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. *Asian Journal of Distance Education, 15(1)*, i-vi. https://doi.org/10.5281/zenodo.3778083

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., Lambert, S. R., Al-Freih, M., Pete, J., Olcott, Jr., D. Rodes, V., Aranciaga, I., Bali, M., Alvarez, Jr., A. V., Roberts, J., Pazurek, A., Raffaghelli, J. E., Panagiotou, N., de Coëtlogon, P., Shahadu, S., Brown, M., Asino, T. I.

Tumwesige, J., Ramírez Reyes, T., Barrios Ipenza, E., Ossiannilsson, E., Bond, M., Belhamel, K., Irvine, V., Sharma, R. C., Adam, T., Janssen, B., Sklyarova, T., Olcott, N. Ambrosino, A., Lazou, C., Mocquet, B., Mano, M., & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education, 15*(1), 1-126. https://doi.org/10.5281/zenodo.3878572

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Bubb,S., & Jones, M. A. (2020). Learning from the COVID 19 home schooling experience: Listening to pupils, parents/carers and teachers. *Improving Schools, 23* (3), 209-222. https://doi.org/10.1177/1365480220958797

Cavanaugh, C. (2007). Effectiveness of K-12 online learning. In M. G. Moore (Ed.), Handbook of distance education (2nd Ed.), pp. 157-168. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Chen, X.Q. (2020). Challenge of "school's out, but class's on" to school education: Practical exploration of Chinese schools during the COVID-19 pandemic. *Science Insight Education Front, 5*(22), 501-516. https://doi.org/10.15354/sief.20.ar043

Christensen, R. & Alexander, C. (2020). *Preparing K-12 schools for a pandemic before it occurs. Journal of Technology and Teacher Education, 28(2)*, 261-272.

Clark, R. E. (1983). Reconsidering research on learning from media. *Review of Educational Research, 53*(4), 445-459.

Clark, R. E. (1994). Media will never influence learning. *Educational Technology Research and Development, 42*(2), 21-29.

Collins, A., & Halverson, R. (2018). *Rethinking education in the age of technology: The digital revolution and schooling in America*. New York, NY: Teachers College Press.

Craig, R. (2020). What students are doing is remote learning, not online learning: There is a difference. https://www.edsurge.com/news/2020-04-02-what-students-are-doing-is-remote-learning-not-online-learning-there-s-a-difference

Czaja, R., & Blaire, J. (2004). *Designing surveys: A guide to decisions and procedures*. Thousand Oaks, CA: Pine Forge Press.

Davis, D. D., Bagozzi, R., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982-1003.

Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Journal of Children and Youth Services Review, 118*, 1-9. https://doi.org/10.1016/j.childyouth.2020.105440

Dong, C., & Mertala, P. (2020). Two worlds collide? The role of Chinese traditions and Western influences in Chinese preservice teachers' perceptions of appropriate technology use. British Journal of Educational Technology, https://berajournals.onlinelibrary.wiley.com/doi/10.1111/bjet.12990

Fifield, A. (2020). In China, 200 million kids have gone back to school. https://www.washingtonpost.com/world/asia_pacific/in-china-200-million-kids-have-gone-back-to-school-online/2020/02/17/e5cc6f10-5131-11ea-80ce-37a8d4266c09_story.html

Freidhoff, J. R. (2015). Michigan's K-12 virtual learning effectiveness report 2013-14. Lansing, MI: Michigan Virtual University. http://media.mivu.org/institute/pdf/er_2014.pdf

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Review of Educational Research, 74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Gallagher, H. A., & Cottingham, B. (2020). Teachers, live screen time is precious. Use it well. https://www.edweek.org/ew/articles/2020/09/02/teachers-live-screen-time-is-precious-use.html

Galvin, G. (2020). With schools closed, Chinese primary school students show signs of depression and anxiety. https://www.usnews.com/news/healthiest-communities/articles/2020-04-24/study-1-in-5-chinese-children-showed-depression-symptoms-during-coronavirus-lockdowns

Guba, E.G., & Lincoln, Y. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.

Harms, C. M., Niederhauser, D. S., Davis, N. E., Roblyer, M. D., & Gilbert, S. B. (2006). Educating educators for virtual schooling: Communicating roles and responsibilities. *Journal of*

Communication, 16(1–2). http://public.vrac.iastate.edu/~gilbert/papers/JP2007-harms-niederhauser.pdf

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between Emergency remote teaching-learning. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Hong, Y.B. (2020). More than half of Chinese parents positive attitude towards online courses: Survey. https://.cgtn.com/news/2020-06-05/Over-half-of-Chinese-parents-positive-towards-online-courses-survey-R4Lm4g1UNa/index.html

International Society for Technology in Education. (2019). ISTE standards for educators. https://www.iste.org/standards/for-educators

Kanuka, H. (2008). Chapter 4: Understanding e-learning technologies-in-practice through philosophies-in-practice. In T. Anderson & F. Elloumi (Eds.). *Theory and Practice of Online Learning (2nd Edition)*, 91-118. Edmonton: Athabasca University Press.

Kolb, L. (2017). *Learning first, technology second: The educator's guide to designing authentic lessons.* Portland, OR: International Society for Technology in Education (ISTE).

Darling-Hammond, L., & Hyler, M.E. (2020). Preparing educators for the time of COVID… and beyond. *European Journal of Teacher Education, 43(4)*, 457-465. https://doi.org/10.1080/02619768.2020.1816961

Liu, F., Black, E., Algina, J., Cavanaugh, C., & Dawson, K. (2010). The validation of one parental involvement measurement in virtual schooling. *Journal of Interactive Online Learning, 9*(2), 105-132.

Lowes, S. & Lin, P. (2015). Learning to Learn Online: Using Locus of Control to Help Students Become Successful Online Learners. *Journal of Online Learning Research, 1*(1), 17-48.

Meyer, A., Rose, D.H., & Gordon, D. (2014). *Universal design for learning: Theory and practice.* Wakefield, MA: CAST Professional Publishing.

Ministry of Education of the People's Republic of China.(2012). Ten-year Development Plan for Education Information and Communication (2011-2020). http://old.moe.gov.cn//publicfiles/business/htmlfiles/moe/s3342/201203/xxgk_133322.html

Ministry of Education of the People's Republic of China. (2016). The Thirteenth Five-year Plan for Educational Information and Communication Technology. http://www.moe.gov.cn/srcsite/A16/s3342/201606/t20160622_269367.html

Ministry of Education of the People's Republic of China. (2020a). Notice on work arrangements for primary and secondary schools' "suspending classes without stopping learning" (关于深入做好中小学"停课不停学"工作的通知). http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/s5987/202003/t20200306_428342.html/

Ministry of Education of the People's Republic of China. (2020b). MOE upgrades free online learning platform for students. http://en.moe.gov.cn/news/press_releases/202003/t20200302_426337.html

Ning, A., & Corcoran, B. (2020). How China's schools are getting through COVID-19. https://www.edsurge.com/news/2020-04-20-how-china-s-schools-are-getting-through-covid-19

Northcote, M. (2008). Sense of place in online learning environments. *Proceedings ascilite Melbourne*, 676-684. https://.org/conferences/melbourne08/procs/northcote.pdf

Nowell, L. S., Norris, J.M., White, D., & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*, 1-13. https://doi.org/10.1177/1609406917733847

Rao, J.Y., Xu, J.J, Wu, L., & Liu, Y.J. (2017). Empirical study on the difference of teachers' ICT usage in subjects, grades and ICT training. International Symposium on Educational Technology, Hong Kong, June, 2017. https://ieeexplore.ieee.org/abstract/document/8005388

Rice, K.L.(2006). Comprehensive look at distance education in the K-12 context. *Journal of Research on Technology in Education, 38*(4), 425-448. https://doi.org/10.1080/15391523.2006.10782468

Smith, R. D. (2009). Virtual voices: Online teachers' perceptions of online teaching standards and competencies. *Journal of Technology and Teacher Education*, *17*(4), 547-571.

Smith, S.J., Burdette, P.J., Cheatham, G, A., & Harvey, S.P. (2016). Parental role and support for online learning of students with disabilities: A paradigm shift. *Journal of Special Education Leadership, 29*(2), 101-112.

Smith, T.C. (2016). Fifty-one competencies for online instruction. *The Journal of Educators Online, 2*(2), 1-18.

The Virtual Learning Leadership Alliance (VLLA) and Quality Matters (QM). (2019). National standards for quality online teaching (the 3rd Edition). Retrieved from https://www.nsqol.org/the-standards/quality-online-teaching/

Tobin, G.A., & Begley, C.M. (2004). Methodological rigor within a qualitative framework. *Journal of Advanced Nursing, 3*, 68-70. https://doi.org/10.1111/j.1365-2648.2004.03207.x

Trust, T., Krutka, D.G., & Carpenter, J.P. (2016). Together we are better: Professional learning networks for teachers. *Computers & Education, 102*, 15-34. https://doi.org/10.1016/j.compedu.2016.06.007

Trust, T., & Whalen, J. (2020). Should teachers be trained in emergency remote teaching? Lessons learned from the COVID-19 pandemic. *Journal of Technology and Teaching Education, 28*(2*)*, 189-199.

Turnbull, A.P., Turnbull, H.R., Erwin, E.J., Soodak, L.C., & Shogren, K.A. (2015). Families, professionals, and exceptionality: Positive outcomes through partnerships and trust. Boston: Pearson.

Wang, Y., Liu, X. & Zhang, Z.H. (2018). An overview of e-learning in China: History, challenges and opportunities. *Comparative and International Education, 13*(1), 195-210. https://doi.org/10.1177/1745499918763421

Water, L.H., & Leong, P. (2014). Who is teaching? New roles for teachers and parents in cyber charter schools. *Journal of Technology and Teacher Education, 22*(1), 33-56.

West China City Daily. (2016). "Invasion" teaching: Parents also worry about joy. http://www.wccdaily.com.cn/shtml/hxdsb/20161101/16596.shtml

Zhang, T.H. (2020). Learning from the emergency remote teaching-learning in China when primary and secondary schools were disrupted by COVID-19 pandemic. https://doi.org/10.21203/rs.3.rs-40889/v1

Zhang, W.N., Wang, Y.X., Yang, L.L., & Wang, C.Y. (2020). Suspending Classes Without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. *Journal of Risk and Financial Management, 13*(55), 2-6.

Zhu, Sh., Yang, H. H., MacLeod, J., Shi, Y. H., & Wu, D. (2018). Parents' and students' attitudes towards Tablet integration in schools. *International Review of Research in Open and Distributed Learning, 19*(4), 223-240. https://doi.org/10.19173/irrodl.v19i4.2970

About the Author

Tianhong Zhang, (Corresponding author); tzhang@cedarville.edu; Cedarville University, The United States; https://orcid.org/0000-0002-1083-2017