

## **Pre-School Teachers' Experiences and Challenges of Online Teaching During the COVID-19 Pandemic**

**Charanjit Kaur Swaran Singh<sup>1\*</sup>, Wong Wei Lun<sup>2</sup>, Chen Min Jie<sup>3</sup>, Lee Mei Chew<sup>4</sup>,  
Norzalina Noor<sup>2</sup>, Jaswinder Kaur Jegir Singh<sup>4</sup>, Gurjeet Kaur Mohinder Singh<sup>5</sup>, Shazwani  
Abdul Rahman<sup>6</sup>, Mahendran Maniam<sup>2</sup>, Revathi Gopal<sup>2</sup>**

<sup>1,2</sup>Faculty of Languages & Communication, Universiti Pendidikan Sultan Idris, Malaysia

<sup>3</sup>Mianyang Teachers' College, China

<sup>4</sup>Chrisdale Kindergarten (Gigantic Galaxy Sdn Bhd), Malaysia

<sup>5</sup>Vital Years Bertam, Malaysia

<sup>6</sup>Tadika Lambang Pintar, MALAYSIA

\*Corresponding author: [charanjit@fbk.upsi.edu.my](mailto:charanjit@fbk.upsi.edu.my)

**Received:** 22 March 2022; **Revised:** 9 May 2022;  
**Accepted:** 2 June 2022; **Published:** 29 June 2022

**To link to this article:** <https://doi.org/10.37134/ajatel.vol12.1.10.2022>

### ***Abstract***

This study investigated how preschool teachers carry out the teaching and learning process during the Covid-19 pandemic. It also explored pre-school teachers' experiences and challenges of online teaching during the pandemic. A qualitative research method specifically case study was employed to describe how the pre-school teachers comprehend their experiences with a phenomenon. Eleven pre-school teachers were selected using snowball sampling method. All the ten teachers had more than twenty years of teaching experience. Semi-structured interviews were carried out with all of them. An interview protocol was developed and all the items were open-ended questions. Interview data were transcribed and re-read many times to generate the codes. Emergent themes and categories were then checked and confirmed based on reliable sources from the literature. Data were then analysed using thematic analysis. Findings showed that the Covid-19 pandemic had negative effects on pre-school education and that implementing educational games after lessons could sustain pre-school education but the teachers still faced great challenges to keep the learners staying focused online. This study suggests that modification and redesigning of different teaching methods are required in online pre-school education.

**Keywords:** *Pre-School, Pre-School Teachers, Pre-School Learners, COVID-19, Case Study*

### **INTRODUCTION**

When the Covid-19 pandemic resulted in teaching institutions including universities and schools being closed to curb the virus spread, the enforced lockdowns had a profound impact on educators, students and parents. Thus, online distance learning and remote learning were the alternatives to ensure continuity in teaching and learning. Educators at all levels had to redesign different methods of teaching during the pandemic. In Malaysia, the federal government had declared a movement control order (MCO) since 18 March 2020 as a precautionary measure to curb Covid-19 spread; home-based teaching and learning was one of the initiatives taken to ensure education could continue during the pandemic. Another initiative announced by the Ministry of Education was on television-based learning programmes for students taking national examinations and also for those with limited or no Internet access. This study investigated how preschool teachers carried out online teaching and learning and also explored pre-school teachers' experiences and challenges of online teaching during the pandemic. The findings are expected to help policy makers, curriculum developers and stakeholders to give more

attention to pre-school online education. The findings will also help educators in modifying the online curriculum and develop more strategies to help children handle online learning.

This study is guided by the following research objectives:

- (i) To investigate how pre-school teachers carry out the teaching and learning process during the pandemic.
- (ii) To find out pre-school teachers' experiences teaching during the COVID-19 pandemic.
- (iii) To find out pre-school teachers' challenges teaching during the COVID-19 pandemic.

Constructivist learning theory, which assessed the intellectual aspects of learning that emphasised the process of knowledge construction, was innovated by John Dewey (1933), and enhanced by Flavell (1963), Bruner (1963), and Vygotsky (1978). There is a need for the ESL teachers to understand the social and cognitive factors involved in the process of each pre-school teacher's unique way of learning as these factors have a crucial impact on knowledge acquisition (Gardner, 2008b).

## **LITERATURE REVIEW**

Previous studies have mainly focused on the role of parents and early education teachers in the process of transition to online education. For example, Hatzigianni and Kalaitzidis (2018) have studied the challenges of online education for teachers during the Covid-19 pandemic. Dong et al. (2020) found parental involvement is an important factor for student achievement in traditional school settings while Kim (2020) focused on the new and unfamiliar roles of parents in the new online teaching era affected by Covid-19. Dong et al. (2020) pointed out that schools and teachers simply do not have enough guidance to improve the parental engagement experience, especially with effective technology use. So, many studies have given attention to the perspective of teachers and schools as well as government. A study conducted by Yildirim (2021) on the consequences of the Covid-19 pandemic on a group of preschool children showed that teachers faced difficulties teaching art, science, English and mathematics via the online learning platform. In the study, twenty-five pre-school teachers and thirty parents participated based on purposive sampling. For the research methods, both classroom observations and semi-structured interviews were used. Findings showed that preschool learners' cognitive, affective and psychomotor domains were affected due to the unforeseen circumstance of the outbreak. Learning via online platform brought more challenges to the pre-school teachers and parents. We cannot deny that online-distance learning ruled the education fraternity during the pandemic outbreak (Karp & McGowan, 2020).

Pre-school education was also disrupted due to the Covid-19 pandemic. Pre-school teachers were unprepared to face the new challenges but they managed to embrace and equip themselves with appropriate online teaching platform to ensure continuity in the learning process. Past studies show that there is dearth of research to teach pre-school children during outbreaks thus causing anxiety for preschool learners, teachers and parents (Burgess & Sievertsen, 2020; Turan, 2004; Viner et al., 2020). This study is needed to ensure a more practical guide is developed to assist preschool teachers, learners and parents to maintain continuity in preschool education during outbreaks. In their study, Dong et al. (2020) reported that online distance learning substituted for face-to-face learning during the Covid-19 pandemic. They administered a survey to 3275 Chinese parents to investigate their beliefs and attitudes toward children's online learning mastery during the Covid-19 pandemic. Findings showed that not all the children spent time attending the online classes. Parents exhibited negative beliefs about the benefits and value of online distance learning and still showed their preference for traditional learning. Parents showed more resistance to the online learning platform based on three main reasons: the disadvantages of online learning, inability of the pre-school learners to self-regulate learning and parents' lack of technological knowledge in accommodating children's needs for online learning. These findings also showed that parents had to undergo some hardship and thus were more resistant to online learning at home. Parents voiced out that the online distance learning has been challenging and problematic for families. They did not receive any kind of training nor were they trained to teach and guide their children for online learning. This is supported Brady and Hill (1984), Elkind (2007), and House (2012) who

claimed that young children are unready to embrace online learning because they are unprepared emotionally and socially for school (Edwards et al., 2012; Zalaznick, 2019) and it will bring more harm to their cognitive and affective growth. On the contrary, some researchers (Clements & Sarama, 2003; Stephen & Plowman, 2002; Yelland, 2006) claimed that online learning could assist pre-school learners to embrace the concept and occupy them in problem-solving activities, reasoning and also collaborative learning.

## **METHODOLOGY**

A qualitative approach was employed throughout the whole study. Case studies allow for an in-depth investigation which highlights a detailed insight of the particular phenomenon of a study and diverse characteristics of the concerned population (Patton, 1990). A case study research design allowed the in-depth analysis of the classroom context in which intervention takes place and facilitated to enhance the description of the intervention itself (Patton, 1990).

The sample was selected based on snowball sampling. The study seeks for pre-school teachers who have been teaching for more than five years in selected pre-school kindergartens so that the researchers could observe them while teaching to capture the emerging patterns and problems that would emerge. This sample (pre-school teachers) would represent states for example Northern (Kedah), Kuala Lumpur, Selangor and Southern Zones (Johor & Melaka).

Sample of this study involved eleven pre-school teachers from ten kindergartens from different zones that would represent different states (Patton, 1990). In this study, only one research method, interview, was used to gather data. The data sources are from different pre-school teachers from different zones located in Malaysia. Other method such as video recording was not used due to time constraint and some ethical issues. Only one research instrument was used namely individual interview. Semi-structured interviews were carried out with all of them. An interview protocol was developed and all the items were open-ended questions. Data obtained from interviews were categorised and coded accordingly and analysed using thematic analysis. Interview data were transcribed and re-read many times to generate the codes. Emergent themes and categories were then checked and confirmed based on reliable sources from the literature. Data were then analysed using thematic analysis.

## **FINDINGS**

Eleven pre-school teachers participated in the interview conducted by the researchers. The first research question investigates how pre-school teachers carry out the teaching and learning process during the pandemic. Based on the interview data, it was reported that these teachers have used Google Meet, WhatsApp and Zoom platform to teach the learners. The main theme is on teaching and learning and the category was technology and the excerpts show that all the teachers agree that virtual teaching was the only way to stay connected with the learners in order to sustain learning despite the Covid-19 pandemic as shown in Table 1. Teacher B admitted that she lacked knowledge in carrying out the teaching and learning activities using the online platform. Teacher D and Teacher E expressed that although they could teach the learners via online, they still had problems in reaching out to their learners due to the unstable Internet connection. This disrupted the online teaching and learning process as many learners could not attend the online scheduled lessons. Teacher F, G and H mentioned that Internet access was a problem to most of the learners but even worse was learners who had no tools or devices to use for learning via online. Most of the parents were also working from home and they had to depend on their mobile phones to get connected and accomplish the work given. As for the pre-school learners they had no choice but not to attend the online lessons. The teachers in this study agreed that they were instructed by the top management to carry out educational games before each lesson ends to keep the learners staying focused on the lesson. The teachers believe that games can also sustain and retain learner attention toward the lesson. According to Teacher A and K, all the teachers must scan books or other materials for teaching purpose that would be then sent to the learners. As for learners who had missed out on the lessons, they can still submit work completed using the textbooks.

Teacher A has been teaching pre-school learners since 2000. Teacher A expressed that the

Covid-19 pandemic had transformed preschool education destructively and negatively in many aspects; however, Teacher A did not deny that parents showed more commitment toward children's education during the Covid-19 pandemic. In other words, parental engagement increased and parents then switched their role as teachers and paid more attention to promote parent-student-teacher interaction. Teacher A shared that she used the Google Meet platform to teach her learners during the pandemic. The details of the Google Meet classes were shared earlier with the parents so that they can prepare their children for the online lessons. Besides, Teacher A shared that all the activity books and learning materials were scanned beforehand for teaching and learning purposes. She added that teaching aids and flash cards were also prepared and scanned as well for the younger age group of learners. Each lesson lasted for 30 minutes. Teacher A also said that during the Covid-19 pandemic many parents decided not to send their children for online learning classes. Parents were not convinced that their children could learn and sustain learning via online. Some of the parents from poor socio-economic background were unable to send their children for the online learning session as they could not afford the fees. Teacher J mentioned that she and her team had to contact each parent personally to convince them to send their children for online learning. For parents who could not afford to pay the fees, they were given a discounted rate for the fees. Teacher A even offered to teach for free as she had the fear of losing more children and her main concern was mostly on learning. Learners who were unable to join lessons live online during the pandemic and also for those who lacked the device or tool to learn online were instructed to watch recorded lessons to complete tasks given. Teachers shared that they also resorted to WhatsApp video call for those unfamiliar with Zoom and those having poor internet connection.

Teacher I divulged that she had used the one-to-one approach to teach her learners via online. She explained that she carried out a thirty-minute lesson with each learner individually. She had to WhatsApp to the learners' parents for them to check on the worksheets the learners will be doing for their lesson that day. Sometimes, Teacher I explained that she had to scan and email the learning materials to the parents. Other than that, Teacher Gur shared that she also did group based online activities of one hour via Zoom and that many learners loved to join these activities. There were twenty to thirty learners in one session. In this session, the teachers usually carried out quizzes, stories, songs and other activities with the learners. After the session ends, the teachers usually will have a question-and-answer session with the learners. Teachers expressed that this online programme was created to help teachers to teach children. Overall, the teacher has to be creative enough to prepare her lesson, have patience and be very alert during the lesson.

Pre-school teachers' experiences teaching during the COVID-19 pandemic were categorised using different codes namely poor attendance, failure to contact learners, failure to contact parents, parents with financial issues, insufficient learning materials at home and sharing of tools/devices with siblings. Teachers expressed that all these experiences teaching learners via online had an adverse impact on teachers' coping strategies, home-environment, teacher-student interaction, teacher-parent interaction and developing basic learning skills to ensure sustained learning. Based on the teachers' interviews, it was apparent that poor attendance hindered and created more crisis for the teachers to manage teaching via online.

Teachers expressed that learning from the school environment and home environment will be different and difficult for the learners, parents and also teachers. When the learners are at the school they are always watched by their teachers and the learners get to socialise and improve their communication skills. But when the learners learn from home, they are unable to communicate and socialise via online. Not just the teachers but the learners and parents will also struggle to keep abreast with online classroom routines and instructions that they have to follow. Parents on the other hand face difficulties handling more than one child to ensure they follow the online instructions and worst yet is when the parents are unable to provide sufficient tools or devices for their children to engage in online learning. Not only that, teachers expressed that involvement of grandparents during the online learning sessions also disrupt the teacher-learner communication. Teacher J shared that she could not focus on her teaching due to loud background noise in learner homes. The following Table 2 summarises the teachers' experiences of teaching online during the Covid=19 pandemic.

**Table 1** Selected online teaching and learning platform used by the pre-school teachers

<b>Theme</b>	<b>Category</b>	<b>Code</b>	<b>Excerpts from the teachers</b>
Teaching and learning platform	Technology	Teaching pre-school learners (n=10)	<p><i>“Virtual teaching was the way to teach”.</i> (Teacher A)</p> <p><i>“All my teachers used Google Meet”.</i> (Teacher A)</p> <p><i>“I have less knowledge in using the online platform”.</i> (Teacher B)</p> <p><i>“I have used Zoom platform to teach my pre-school learners”.</i> (Teacher C)</p>
		Access to Internet (n=10)	<p><i>“A lot of our learners have poor Internet connection at home”.</i> (Teacher D)</p> <p><i>“Not all the learners joined my online class because they have no Internet at home, I had to scan extra activities and send it to their house”.</i> (Teacher E)</p>
		Tools/devices for the online teaching & learning (n=10)	<p><i>“Most of the parents have no laptops and computers at home”.</i> (Teacher F)</p> <p><i>“Most of them used mobile phones for learning”.</i> (Teacher G)</p> <p><i>“Learners without laptops/computers had to submit scanned activities given to them”.</i> (Teacher H)</p>
		Online educational games (n=10)	<i>“Our management asked us to use games after each lesson”.</i> (Teacher I)
		Teaching and learning materials (n=10)	<i>“Games can really make the learners stay focus on the lesson but for too long”.</i> (Teacher J)
		Scanned activities & materials for teaching and learning purpose (n=10)	<p><i>“All our teachers must scan books or other materials for teaching purpose”.</i> (Teacher A)</p> <p><i>“Learners who missed out lessons can still submit work completed using the textbooks”.</i> (Teacher K)</p>
		Pre-recorded videos (n = 10)	<i>“Learners who failed to join online classes or have no devices to learn online will have to watch pre-recorded lessons”.</i> (Teacher A)

**Table 2** Pre-school teachers' experiences teaching during the COVID-19 pandemic

<b>Theme</b>	<b>Category</b>	<b>Code</b>	<b>Excerpts from the teachers</b>
Pre-school teachers' experiences teaching during the COVID-19 pandemic	Home-based learning environment	Poor attendance (n=10)	<p><i>"Not all the learners are present during online classes".</i> (Teacher B)</p> <p><i>"Learning from school and home are two different environments".</i> (Teacher E)</p> <p><i>"Some parents are not ready to guide their children".</i> (Teacher A)</p> <p><i>"More grandparents' involvement in the learning process disrupts communication".</i> (Teacher A)</p> <p><i>"When I teach my online, there's just too much of noise".</i> (Teacher J)</p> <p><i>"Learners get distracted easily".</i> (Teacher A)</p> <p><i>"Siblings always disturb the children when they are online trying to learn".</i> (Teacher D)</p>
		Failure to contact learners (n=10)	<p><i>"When parents do not pick up our calls, we failed to reached out to our students".</i> (Teacher D)</p> <p><i>"Learners do not cooperate and participate".</i> (Teacher I)</p>
		Failure to contact parents (n=10)	<p><i>"Parents do not co-operate".</i> (Teacher B)</p> <p><i>"Some parents are really hot-tempered".</i> (Teacher A)</p> <p><i>"I was once scolded by a parent because I called non-stop to check on my learner".</i> (Teacher F)</p> <p><i>"I remembered one my learners' parents who always woke up late".</i> (Teacher I)</p>
		Parents with financial issues (n=10)	<p><i>"Some parents can't afford to send their children to school because they lost income".</i> (Teacher A)</p>
		Insufficient learning materials at home (n=10)	<p><i>"Not all the parents buy books or extra reading materials for fun at home for their kids unlike school, the kids can still grab any books to read for fun".</i> (Teacher D)</p>
		Sharing of tools/devices with siblings (n=10)	<p><i>"My learners sometimes cannot follow my lesson because the siblings have to use as well".</i> (Teacher J)</p>

**Table 3** Pre-school teachers’ challenges teaching during the COVID-19 pandemic

Theme	Category	Code	Excerpts from the teachers
Pre-school teachers’ challenges teaching during the COVID-19 pandemic.	Learners	Lack of concentration (n=10)	<p>“Some learners do not really focus in class”. (Teacher I)</p> <p>“Usually learners eat during my lesson”. (Teacher F)</p> <p>“Most of my learners do not know how to use the Zoom app”. (Teacher A)</p>
		Submission of worksheets (n=10)	<p>“My learners do not submit the worksheets”. (Teacher I)</p>
		Parents	<p>Not all the parents cooperate (n=10)</p>
			<p>“We really need parents’ cooperation to monitor their kids’ progress when they are learning via online platform”. (Teacher I)</p>

As for the challenges shared by the teachers, they were lack of concentration by learners since they were new to online learning. Some of the learners were unfamiliar with Zoom features. The teachers had to teach the learners how and what to do (Older children 7 years above), some will also eat during lesson according to Teacher I. Younger children age 2 to 6, usually will need parents’ presence during lesson because they are not independent in using the laptop or they do not have their own phone, so the teachers need to find the suitable time when both parents are available. The older children will not submit their assigned worksheet on time, their work will be very messy at times and the teachers cannot read what they have written. At times some of the worksheets will be missing by the time it gets to us, said one teacher. The teachers expressed that for learners age 2 to 6, they had to make the lesson more interesting and exciting for them by using lots of online videos related to their lesson; sometimes when the teachers noticed that the child is getting bored or cannot concentrate, teachers will then have to talk to them on any topic that makes them excited and happy. For some very stubborn learners parents play a very important role where the teacher will inform the parent in advance what and how the work has to be done so the parent will monitor their child’s work. We had to conduct classes during the weekend and nights because this is the convenient time for parents, said one participant.

Overall parents have to cooperate with teachers and be there to monitor their child’s work and get back to us by submitting their work, a teacher said. If parents do not cooperate their kids are not going to learn anything and no work will be submitted to us. Teacher I said that parents play a very important role, if a parent cooperates with the teacher, then when it comes to their child it should not be a problem, concluded the teacher.

## DISCUSSION

Based on the pre-school teachers’ views obtained, it is obvious that the Covid-19 pandemic has had a negative effect on pre-school education in terms of a change of face-to-face teaching to online distance learning or remote learning, teaching materials, instructional strategies, teacher-parent relationship, teacher-learner engagement and game-based learning. Nevertheless, parents have also realised that they have an important role to play as teachers for their own children to ensure continuity in the learning process. Pre-school education and curriculum are mainly about developing and nurturing children’s cognitive, affective and psychomotor skills and also early literacy skills (Aslanargun & Tapan. 2011). In other words, the Covid-19 pandemic had adverse effects for pre-school education. All the efforts shown by the pre-school teachers in terms of providing the needful learning tools via online learning, designing and developing materials, findings ways to ensure engagement during online learning and providing feedback are all good coping strategies shown by the teachers to sustain continuity in

preschool education during the Covid-19 pandemic. Teachers have also shown high level commitment by resourcing for alternative ways to reach out to learners who are unable to attend live online lessons. The teachers scan and share materials with learners and pre-record lessons to ensure sustained teaching and learning. Parents on the other hand should also play their role by monitoring their children's progress by reporting to teachers on the basic and core skills learnt via online. Basic skills need to be developed by these pre-school learners as they are unlikely to develop these skills once they move into their teenage years (Kesicioglu & Alisinanoglu, 2009). Epstein (1995) suggests that when pre-school learners learn from home, learning can take place to help children acquire and develop cognitive, social, affective and early literacy skills. In other words, findings from this study reveal that all the instructional strategies used for online teaching are paramount for children's academic progress.

In this study, the pre-school teachers did not discuss or express much in terms of developing pre-school learners' problem-solving abilities but the focus was more on engaging in the learning process. Cultivation of values such as being responsible and punctual were actually nurtured by the parents. Pre-school teachers in this study emphasised that they focused more on learners' reading ability and also socialising via the online learning platform (Dodge et al. 2002; Ulusoy, 2003; Uyanık & Kandır, 2010).

Teachers in this study have explored different communication mode via online to communicate with parents and learners. The teachers used Zoom, WhatsApp, and pre-recorded lessons with parents and learners. This finding is in line with previous studies (e.g., Aktaş Arnas 2017; Gökçe 2000; Wherry, 2009) claiming that pre-school teacher-parent interaction is of paramount importance in sustaining pre-school education.

It was also reported that during the Covid-19 pandemic, pre-school teachers faced great challenges and difficulties managing learners via the online platform. These challenges include noisy background during online sessions, interference by grandparents, lack of concentration by the learners, late submission of worksheets by the parents on links prepared by teachers and lack of cooperation from parents. Past studies reveal that when parents show concern to be a part of the learning process of their children, it improves pre-school education (Abbak, 2008; Cömert & Güleç 2004). Other studies have also reported the existence of learner-related issues (Andsoy et al., 2012; Çıglık & Bayrak, 2015). Pre-school teachers have shared they also lack knowledge when it comes to teaching using technology via the online platform. They shared that they have little knowledge when it comes to engaging learners in online-distance learning mode. This issue should also be discussed via in-service training (Odabaş, 2003). Teachers in this study recommend that parental involvement is crucial to sustain continuity in the teaching and learning process. Teachers mentioned that parents should make use of the facilities given by Ministry of Education in terms of providing learners with laptops and post-paid high-speed Internet access.

Pre-school teachers should find creative ways to build effective parent-teacher communication to ensure parents' guide their children in the learning process (Aktaş Arnas, 2017; Günay Bilaloğlu & Aktaş Arnas, 2019). Teachers need parents' help to ensure their children watch the pre-recorded videos sent so that they can complete the assigned tasks.

## **CONCLUSIONS AND RECOMMENDATIONS**

All the pre-school teachers agreed that the Covid-19 pandemic had brought drastic changes and caused more anxiety and stress including to pre-school learners and parents. When the Covid-19 pandemic began in 2020, almost all schools throughout the world were forced to shut down and teachers had no choice but to resort to virtual learning. Pre-school teachers, learners and parents have little knowledge and experience navigating the new norm which was learning via online and this caused stress to all in such circumstance. More strategies by the policy makers and developers should be proposed to ensure pre-school education is sustained to nurture the needs of the pre-school learners in terms of their cognitive, affective and psychomotor domains. More pre-recorded lessons should be prepared by pre-school teachers for learners who have no internet access and also tools to make learning possible. Parents on the other hand should also be trained in managing educational activities during such outbreaks. Parents should always monitor and guide their children with technological gadgets together with the teachers' help. Therefore, online distance learning should be made accessible via television,



games and other interesting educational activities.

## ACKNOWLEDGEMENT

This research has been carried out under the Industry Grant Scheme (2022-0026-106-29) provided by the Chrisdale Kindergarten (Gigantic Galaxy Sdn Bhd). The authors would like to express their gratitude to Research Management and Innovation Centre, Universiti Pendidikan Sultan Idris (UPSI), who helped manage the grants. Equally, we would like to thank the participating pre-school teachers who were truly cooperative and marvellous.

## FUNDING

This study was not supported by any grants from funding bodies in the public, private, or not-for-profit sectors.

## DATA AVAILABILITY

Data will be made available on request.

## CONFLICT OF INTEREST

The authors declare no conflicts of interest.

## REFERENCES

- Abbak BS. (2008). The survey of the family involvement activities in preschool training programme in terms of preschool teachers and parental view. Adana: Çukurova University.
- Aktaş Arnas, Y. (2017). *Aile eğitimi ve okul öncesinde aile katılımı*. Ankara: Vize Yayıncılık.
- Aslanargun, E. & Tapan, F. (2011). Preschool education and its effects on children. *Abant İzzet Baysal University Education Faculty Journal*, 11(2), 219–238.
- Aktaş Arnas Y. (2017). *Aile eğitimi ve okul öncesinde aile katılımı*. Ankara: Vize Yayıncılık.
- Andsoy II, Güngör T., Bayburtluoğlu, T., & Yaman S. (2012). Karabük university school of health first class of nursing students' thoughts on the system of distance education. *Türkiye Klinikleri Hemşirelik Bilimleri Dergisi*. 4(2), 66–73.
- Brady, E. H., & Hill, S. (1984, March). Research in review: young children and microcomputers. *Young Children*, 49-61.
- Burgess, S., & Sievertsen, H. H. (2020). *Schools, skills, and learning: The impact of COVID-19 on education*. Retrieved from <https://voxeu.org/article/impact-covid-19-education>.
- Bruner, J. S. (1963). *The Process of Education*. Cambridge, MA: Harvard University Press.
- Çıgılık, H., & Bayrak M. (2015). Distance learning and constructivist approach. *Istanbul Journal of Open and Distance Education (IJOE)*, 1(1), 87–102.
- Clements. D. H., & Sarama J. (2003). Young children and technology: What do the research say? *Young Children*, 56(6), 34–35.
- Cömert, D., & Güleç H. (2004). The significance of family participation in the pre-school institutions: Teacher-family- child and institution. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 6(1), 131–145.
- Dodge, D. T., Colker, L. J. & Heroman C. (2002). *The creative curriculum for preschool*. Washington, DC: Teaching Strategies.
- Dong, C., Cao, S., & Li, H. (2020). Young Children's Online Learning During COVID-19 Pandemic: Chinese Parents' Beliefs and Attitudes. *Children and Youth Services Review*, 118, 105440. <https://doi.org/10.1016/j.childyouth.2020.105440>
- Edwards S., Skouteris H., Rutherford L., & Cutter-Mackenzie A. (2012). 'It's all about Ben10™': Children's play, health and sustainability decisions in the early years. *Early Child Development and Care*, 183(2), 280–293. <https://doi.org/10.1080/03004430.2012.67181>

*Pre-School Teachers' Experiences and Challenges of Online Teaching During the COVID-19 Pandemic*

- Elkind D. (2007). *The power of play: How spontaneous, imaginative activities lead to happier, healthier children*. Cambridge: Da Capo Press.
- Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we have. *Phi Delta Kappan*, 76, 701-712.
- Flavell, J. H. (1963). *The Developmental Psychology of Jean Piaget*. New York: Van Nostrand. <https://doi.org/10.1037/11449-000>
- Gökçe E. (2000). Improve the cooperation of school-family in elementary education. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 7(7), 204-209.
- Hatzigianni, M., & Kalaitzidis, I. (2018). Early childhood educators' attitudes and beliefs around the use of touchscreen technologies by children under three years of age. *British Journal of Educational Technology*, 49(5), 883-895.
- House, R. (2012). The inappropriateness of ICT in early childhood: Arguments from philosophy, pedagogy, and developmental research. In S. Suggate & E. Reese (Eds.), *Contemporary debates in childhood education and development* (pp. 105-120). New York: Routledge.
- Dewey, J. (1933). *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*. Boston, MA: D.C. Heath & Co Publishers.
- Karp, P., & McGowan, M. (2020). 'Clear as mud': Schools ask for online learning help as coronavirus policy confusion persists. *The Guardian*, pp. 261-307.
- Kesicioğlu, O. K., & Alisınanoğlu, F. (2009). 60-72 months children's attitudes toward environment in terms of some variables. *Journal of Ahi Evran University Faculty of Education*, 10(3), 37-48.
- Kim, J. (2020). Learning and teaching online during Covid-19: Experiences of student teachers in an early childhood education practicum. *International Journal of Early Childhood*, 52, 145-158.
- Odabaş H. (2003). Internet based distance education and departments of information and records management. *Türk Kütüphaneciliği*, 17(1), 22-36.
- Patton, M. (1990). *Qualitative evaluation and research methods* (pp. 169-186). Beverly Hills, CA: Sage.
- Stephen, C., & Plowman, L. (2002). ICT in pre-school: A 'Benign Addition'? A Review of the Literature on ICT in Pre-school Settings.
- Turan. F. (2004). Regulation on pre-school education institutions and programme evaluation. *Milli Eğitim ve Sosyal Bilimler Dergisi*, 25, 162.
- Ulusoy, A. (2003). Öğrenme. In A. Ulusoy (Ed.), *Gelişim ve öğrenme* pp. 137-148. Ankara: Anı Yayıncılık.
- Uyanık, Ö., & Kandır, A. (2010). Early academic skills in preschool period. *Kuramsal Eğitim Bilim*, 3(2), 118-134.
- Wherry, J. H. (2009). Shattering Barriers to Parent Involvement. Retrieved from [https://www.naesp.org/sites/default/files/resources/2/Principal/2009/M-J\\_p07.pdf](https://www.naesp.org/sites/default/files/resources/2/Principal/2009/M-J_p07.pdf)
- Yelland, N. (2006). New technologies and young children: Technology in early childhood education. *Teacher Learning Network*, 13(3), 10-13. Retrieved from <http://search.informit.com.au/fullText;res=AEIPT;dn=155999>
- Yıldırım, B. (2021). Preschool Education in Turkey During the Covid-19 Pandemic: A Phenomenological Study. *Early Childhood Education Journal*, 49(5), 947-963. <https://doi.org/10.1007/s10643-021-01153-w>
- Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield C, . . . Booy R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *The Lancet Child & Adolescent Health*, 4(5), 397-404. [https://doi.org/10.1016/S2352-4642\(20\)30095-X](https://doi.org/10.1016/S2352-4642(20)30095-X)
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge: Harvard University Press.
- Zalaznick M. (2019). Online service intends to expand pre-K access. (*EQUITY*) *District Administration*, 55(8), 12.