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Saudi Teachers' Attitudes towards using Online Learning for Young Children during the Covid-19 Pandemic

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Abstract. The outbreak of Covid-19 and consequent school closures created a considerable challenge for educational systems around the world. Many countries have shifted to online learning and other digital alternatives to ensure continuity in education. Within this global and historical context of the Covid-19 pandemic, the present study aimed to explore teachers' attitudes towards the use of online learning for young children in Saudi Arabia. A total of 346 early childhood teachers were surveyed during school closures and the concomitant shift to online learning and teaching. The teachers who participated were recruited from public and private kindergartens and early childhood centers. The respondents completed a survey consisting of two scales developed for the purposes of this study. The first scale explored teachers' general attitudes towards using online learning strategies with young children (10 items). The second scale explored teachers' attitudes towards using online learning with young children based on their professional experience during the Covid-19 pandemic (10 items). The findings indicated that the majority of the respondents held positive attitudes about the use of online learning as an alternative to regular schooling. However, some beliefs varied among respondents, for example, whether online learning is developmentally and educationally appropriate for young children, and whether it creates or lacks a learning atmosphere. In addition, chi-square test results for both scales indicated statistically significant associations between teacher attitudes towards using online learning and years of teaching experience. However, no statistically significant associations were found for both scales between teacher attitudes and geographic area (urban/rural) or school type (public/private). Implications for teaching during and beyond the pandemic are discussed.

Keywords: Covid-19; online learning; Saudi Arabia; teacher attitudes; young children

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1. Introduction and Background

The multidimensional impact of the Covid-19 pandemic has resulted in disruptions and real challenges for health, the economy, and education worldwide. The pandemic has caused the most extensive educational disruption that the world has ever witnessed (United Nations, 2020). Nearly 1.6 billion learners in more than 190 countries have been affected by school closures, constituting 94% of the world's student population (United Nations, 2020). Nearly 200 countries established strict regulations to lock down schools, from early childhood care centers to institutions of higher education (UNESCO, 2020). In early childhood education, as many as 40 million children around the world missed out on educational opportunities in their critical early preschool years (United Nations, 2020). Sustaining the continuity of education for children is a considerable challenge for education systems worldwide. In many countries, governments and education stakeholders have been under immense pressure to make immediate decisions to adapt and develop alternatives to regular schooling. The implementation of an online learning format has been necessary. Using online learning and other digital devices has been the safest choice to maintain children's education when health considerations create physical barriers to prevent in-person interaction, and consequently, online approaches have been applied (World Bank, 2020).

Different terminology have been used to refer to online learning, including virtual learning, e-learning, and internet learning. Online learning is commonly known as a web-based learning mode that relies on internet use without the physical presence of either the instructor or learners (Nachimuthu, 2020; Singh & Thurman, 2019). Online learning is a form of distance education that can provide asynchronous or synchronous learning experiences. Asynchronous learning does not require exact timing, and learners can access learning materials at any time. In synchronous learning, teachers and students meet virtually using computer screens and facilitate real-time interaction (Anderson, 2008). During the difficult time of the pandemic, both asynchronous and synchronous modes of online learning were used, whether completely or in part, to cope with school closures (UNESCO, 2020).

1.1 Online Learning in Early Childhood Education During Covid-19

The number of young children who are using online tools is rapidly increasing. Due to the advanced technologies resulting from the revolution in smart devices and touchscreen tablets, children have become more connected to the digital world than ever before (Livingstone, 2013). The use of digital technologies in the early childhood years is not a novel phenomenon and has been debated heatedly among early childhood professionals. In recent years, some scholars have raised concerns about the effect of young children using digital technology and have called for screen time to be limited (cf., Carson & Janssen, 2012; Elkind, 2007; House, 2012; Zosh et al., 2016), claiming that it limits the development of the social and emotional skills that children need for school. Other scholars have viewed technology and digital learning experiences as good avenues to extend learning and support children's cognitive capacity (Plowman et al., 2012; Stephen & Edwards, 2017). Despite this controversy, the 2020–2021 school year was

exceptional. Educators have emphasized the need to maintain young children's access and connection to digital and online resources to prevent school dropout and learning losses in the crucial early years of their lives (cf., Daniel, 2020; Kim, 2020; Vanderloo et al., 2020).

Teaching young children entirely online is beyond teachers' technological and digital capacity. Teachers are more familiar with using technology and online materials to expand classroom learning and make meaningful connections to the real world. Technology has been viewed mostly as an effective supplement to teaching modes rather than a replacement (Donohue et al., 2020). The appropriateness of online learning experiences for young children has been viewed through the lens of the thoughtful and intentional use of proper technology and age-appropriate digital content. The availability and accessibility of online resources for children in remote locations, as in the case of Covid-19, do not suffice for online learning to be adopted as an effective approach. As a result, teachers need to take on an additional role when teaching online (Kim, 2020). The competencies required for online teaching success include the ability to communicate effectively, manage technology, deliver digital content, and mediate various active interactions (learner-learner interaction, learner-instructor interaction, and learner-content interaction) (Roddy et al., 2017). From a developmental point of view, the use of technology has the power to bridge the physical divide between children and their peers but should not replace meaningful face-to-face interaction (National Association for the Education of Young Children [NAEYC], 2020a).

The dramatic shift to online and virtual modes of teaching and learning activities has raised several concerns related to teachers' digital attitudes, knowledge, and skills, and confidence in using technology as a vehicle for content in the online learning environment and an alternative to traditional face-to-face teaching. Teaching online has required teachers to be knowledgeable about information and communication technologies (ICTs) to continue instructing students when physical teaching has not been possible (World Bank, 2020). The necessity of ICT skills has proven to be a significant limitation of online teaching. This has resulted in teachers with limited technological experience believing that they were not fully prepared to switch from a face-to-face learning system to an online learning system in which all the instructional components would take place via digital media and screens (Aliyyah et al., 2020; Carrillo & Flores, 2020; Kim, 2020). Trust and Whalen (2020) reported that teachers felt overwhelmed and unprepared to use online or remote teaching tools and struggled to adapt effective pedagogy for their students. Teachers did not have sufficient digital literacy in the skills needed for online communication with students. Teachers were also found to have difficulty maintaining stable internet access to offer regular communication with their students (Alea et al., 2020; Bird & Bhardwaj, 2020). All these issues have resulted from the unexpected shift to online-based learning, which might in turn have impacted teachers' attitudes towards using online learning with children.

1.2 Saudi Education Experience With Covid-19

The disruption caused by Covid-19 to education communities has been almost identical around the world. The massive spread of the virus was unpredictable,

and immediate action had to be taken to find an alternative to in-person teaching. In Saudi Arabia, major transformational decisions were made to support the continuity of education (Mann et al., 2020). After the World Health Organization (WHO) (2020) alerted the world to the outbreak of the virus, the Saudi Government immediately responded and suspended all in-person meetings at schools, from preschools through to universities, in early March 2020. This was one month into the second term of the school year (Alshammari et al., 2020). The Saudi Ministry of Education (MOE) announced the urgent transition to online alternatives to sustain education and resume schooling remotely (Perveen et al., 2020). Two options were available for students and teachers. The first was massive open online courses (MOOCs), known locally as iEN satellite channels, which began airing lessons asynchronously for students in all grades on the 9th of March 2020. The second option was an established online platform, Madrasti [My School], which offered synchronized interaction between students and their teachers according to a daily schedule (Saudi Arabia. MOE, 2020).

For early education, the Saudi MOE created a virtual learning platform called Alrawdha Aliftradhiah [Virtual Kindergarten], in which children aged 3 to 7 could enroll under their parents' supervision. Each child was assigned a teacher to guide their journey of joy, learning, and discovery. This virtual experience offered young children a variety of educational elements and content through 11 units in an interactive virtual environment. Children could level up according to the timeline of their progress and achievement. Two versions of Alrawdha Aliftradhiah (a website and a downloadable application) were launched in 2019, and 2020 recorded the highest level of enrollment by children. Children also had the opportunity to synchronize interactive learning with their teachers through another national online platform, Rawadati, which was first launched in January 2021. Teachers met with the children every day and presented lessons, activities, and stories using digital materials and resources provided by the National iEN Gate. Before the Rawadati platform, teachers used other digital platforms, such as Google Meet, Microsoft Teams, and Zoom, to meet virtually with preschool children based on their preferences. Although multiple options were made accessible to both teachers and learners during the pandemic, the experience of the sudden shift to online teaching created a range of challenges. Teachers had to move from face-to-face settings to online platforms and develop the digital literacy and skills needed for this transition, and moreover, they had to adapt to the transition within a matter of days.

1.3 The Current Study

There is a plethora of research on online learning in higher education at the university and college levels. However, it is not common to adopt distance learning and online courses for the early years of education (Donohue et al., 2020; Martin et al., 2021). The urgent shift to online learning for all learners due to Covid-19 demonstrates the need for research on the possibilities of online teaching in early childhood education (Chen & Krieger, 2022; Goldschmidt, 2020; Kim, 2020). School lockdown decisions, followed by the transition to online learning, have been disruptive for all teachers. For many teachers, shifting classroom practices to a virtual environment in a short time period is considered a major transformational situation in their profession. There is an urgent need to explore

how this unprecedented event has shaped early childhood teachers' attitudes regarding online learning as major digital changes have occurred due to school lockdowns. Thus, this study aimed to explore teacher attitudes towards the use of online learning for young children during the difficult pandemic period. The following research questions guided this investigation:

- Research question 1: What are Saudi teachers' attitudes towards using online learning for young children?
- Research question 2: What are Saudi teachers' attitudes towards using online learning for young children during the Covid-19 pandemic?
- Research question 3: Is there a relationship between Saudi teachers' attitudes towards using online learning for young children and years of teaching experience, school type, and geographic area, respectively?
- Research question 4: Is there a relationship between Saudi teachers' attitudes towards using online learning for young children during the Covid-19 pandemic and years of teaching experience, school type, and geographic area, respectively?

2. Methods

A quantitative survey was used to explore teachers' attitudes regarding the use of online learning for young children during the Covid-19 pandemic. Prior to starting data collection, the Committee of Research Ethics at the author's university reviewed the tools of data collection and approved the study. Institutional Review Board (IRB) approval was obtained. All ethical guidelines were considered and followed. Each respondent was provided with an electronic copy of the informed consent form before being provided access to the survey. Informed consent indicated that participation in the study was voluntary and that respondents knew their right to withdraw from the study at any time.

2.1 Instrument

The instrument used for this study was a researcher-made survey constructed to explore early childhood teachers' attitudes towards using online learning for young children during the Covid-19 pandemic. Two scales were developed for the purposes of this study. The first scale consisted of 10 items related to general attitudes regarding online learning for young children. The second scale consisted of another 10 items related to teachers' attitudes based on their own professional experience using online learning during the Covid-19 pandemic. The content and context of the survey were academically checked by experts in the field - one assistant professor and one associate professor - to ensure that all the items were scientifically correct and relevant. All suggestions and corrections were made to the last version of the survey before distribution. The reliability of the survey was verified by calculating the value of Cronbach's alpha, with a value higher than 0.60 considered statistically acceptable. The Cronbach alpha values for each scale and for both scales as a whole are statistically acceptable, indicating survey reliability (Table 1).

The internal validity of the survey statements was calculated with the Pearson correlation coefficient (correlational relationship) between the degree of each item and the total degree of the scale to which it belongs. Correlation coefficients

between the degree of all items and the total degree of the scale to which they belong were statistically significant at a significance level less than 0.01 and 0.05, respectively. This indicates the coherence of these items and their validity for application to the sample.

Table 1: Validity results (between each scale and both scales as a whole)

Number	Scale	Pearson correlation
1	Attitudes towards using online learning for young children	0.860**
2	Attitudes towards using online learning for young children during Covid-19	0.916**

** The correlation was significant at the 0.01 level (two-tailed).

2.2 Data Collection and Analysis

The target population of this study was early childhood teachers teaching young children in public and private kindergartens and early childhood centers. An electronic copy of the survey was distributed using digital multimedia (e-mail, social media, and teacher groups on WhatsApp, Telegram, and Twitter). The data collection period lasted from October 2020 to March 2021, during the time when online learning was adopted due to the Covid-19 pandemic and schools were still in lockdown. Respondents were asked to indicate their level of agreement with each item of the survey on a 5-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*). SPSS software was used to analyze the obtained data. A descriptive statistical analysis and chi-square tests were performed to answer the research questions. To answer research questions 1 and 2, we calculated the means and percentages for self-reported measures of teachers' attitudes towards using online learning for young children and teachers' attitudes towards using online learning for young children during the Covid-19 pandemic, respectively. To answer research questions 3 and 4, chi-square tests were run to test the associations between each independent variable (years of teaching experience, school type, and geographic area) and each dependent variable.

2.3 Sample Characteristics

A total of 346 teachers completed the survey (N = 346). All the respondents were female, as in Saudi Arabia only female teachers can serve at early childhood education programs and child centers. The demographic information of the study sample is shown in Table 2.

Table 2: Descriptive statistics of the sample characteristics

Characteristic	N = 346	%
Years of experience		
Fewer than 5	75	21.7
5 to 10 years	175	50.6
More than 10	96	27.7
School type		
Public	252	72.8
Private	94	27.2
Geographic area		

Rural	67	19.4
Urban	279	80.6

Regarding teaching experience working with young children, 50.6% of the sample had 5 to 10 years, 27% had more than 10 years, and 21% had fewer than 5 years. Regarding school type, 73% of the respondents worked in public establishments and 27% worked in the private sector. Finally, 81% of the sample worked in urban areas, while 19% worked in rural areas.

3. Results

3.1 Research Question 1

The first research question explored teachers' attitudes towards using online learning for young children. The survey statements (items) for scale 1 with their respective means and standard deviations are presented in Table 3.

Table 3: Means and standard deviations for survey statements of scale 1

No.	Statement	M	SD
1	Online learning is needed for the new generation.	2.12	1.005
2	Online learning is more interactive for children and has a wider range of digital materials than traditional education.	2.10	1.034
3	Online learning allows parents to be effectively engaged in their children's learning.	1.81	0.772
4	Online learning costs children's families less than traditional education.	1.57	0.848
5	Online learning is developmentally and educationally appropriate for young children.	3.00	1.006
6	Online learning consumes more time and effort than traditional education.	2.87	1.189
7	Online learning helps children develop independence and decision-making skills.	2.42	0.921
8	Online learning mediates children's interaction with technology and digital media effectively.	1.85	0.754
9	Online learning lacks a learning atmosphere for young children.	2.18	0.951
10	Online learning causes stress for children's families.	2.12	0.878

The majority of the sample (75%) believed that online learning is needed for the new generation. Furthermore, more than half of the sample (72%) believed that online learning is more interactive and has a wider range of digital materials than traditional education. In terms of parental involvement, although a large number of the respondents believed that online learning allows parents to be effectively engaged in their children's learning (82%), they also believed that online learning causes stress for children's families (70%). The respondents largely agreed that the cost of online learning is lower than that of traditional learning in regular schooling (90%), and that online learning effectively mediates children's interaction with technology and digital media (85%).

Just over half of the sample (55%) believed that online learning helped children develop independence and decision-making skills, while 32% were unsure or

neutral about this item. There was noticeable variation among the respondents regarding whether online learning is developmentally and educationally appropriate for young children. Approximately equal proportions believed that it is appropriate (30%) and that it is not (29%); 38% were not certain about the appropriateness of online learning for young learners. Such variation was also found between respondents who believed that online learning consumes more time and effort than traditional education (40%) and those who did not (38%). Finally, more than two thirds of the respondents (68%) believed that a learning atmosphere is lacking in online learning.

3.2 Research Question 2

The second research question explored teachers' beliefs and attitudes regarding online learning for young children based on their professional experience during the Covid-19 pandemic. The survey statements (items) for scale 2, in relation to online teaching during the pandemic, and their respective means and standard deviations are presented in Table 4.

Table 4: Means and standard deviations for survey statements of scale 2

No	Statement	M	SD
1	I enjoyed the experiences of online learning and teaching during the pandemic.	2.12	0.957
2	I had a smooth transition from a face-to-face learning style to an online learning platform.	2.13	1.000
3	I had experience with online learning and teaching prior to the pandemic.	3.40	1.175
4	I have experienced some difficulties with online learning (e.g., technical difficulties, internet access) that affect my teaching.	1.95	0.981
5	I have received sufficient support and training during my experience with teaching children online.	2.20	0.956
6	I need more professional development like courses or workshops for online learning and teaching.	1.92	0.809
7	I can interact with children and motivate them effectively through the screen.	2.21	0.897
8	I collaborate with children's parents and families on some online activities and tasks during online learning.	1.84	0.749
9	I have gained new skills and knowledge while teaching online.	1.44	0.636
10	I am willing to continue using online learning and teaching in the future.	2.05	1.017

Most of the respondents enjoyed the experience of online teaching (74%), and gained new skills and knowledge while teaching online (94%). Although more than two thirds of the sample had a smooth transition from face-to-face to online learning (71%), they also experienced technical difficulties (e.g., with internet access) while teaching virtually (84%), which they believed affected their performance. The majority of respondents (68%) also stated that they received sufficient support from IT units during their experience with online learning. A larger majority (85%) believed that they needed more professional development, such as courses or workshops, in online learning and teaching.

The respondents were generally positive regarding their ability to interact with children and motivate them effectively through the computer screen (68%). They also reported collaborating with children's parents and families on some online activities and tasks during their experience with online teaching (84%). Just over one quarter (28%) had had experience with online learning and teaching prior to the pandemic, while 68% of respondents reported no such experience. The respondents also demonstrated a positive attitude towards their experience with online teaching and their willingness to continue using it in the future (72%).

3.3 Research Question 3

The third research question investigated the relationship between teachers' attitudes towards using online learning for young children and years of teaching experience, school type, and geographic area, respectively. To test this, chi-square tests were performed for both scale 1 and scale 2 (Table 5).

Table 5: Chi-square results for scales 1 and 2

Variable	Scale 1		Scale 2	
	Chi-square	<i>p</i> value	Chi-square	<i>p</i> value
Years of experience	97.093	0.026*	107.881	0.025*
School type	18.876	0.759	32.603	0.210
Geographic area	30.876	0.157	24.769	0.587

* Association found at 0.05 level of significance

Note. Scale 1: attitudes towards using online learning for young children. Scale 2: attitudes towards using online learning for young children during the Covid-19 pandemic.

The chi-square test of associations for scale 1 revealed a significant association between attitudes towards using online learning for young children and years of teaching experience ($p = 0.026$). The test also indicated that there was no significant association between attitudes towards using online learning for young children and school type ($p = 0.759$) or geographic area ($p = 0.157$).

3.4 Research Question 4

The fourth research question explored the relationship between teachers' attitudes towards using online learning for young children during the Covid-19 pandemic and years of teaching experience, school type, and geographic area, respectively. The chi-square test of associations for scale 2 (Table 5) showed a significant association between attitudes towards using online learning for young children during the Covid-19 pandemic and years of teaching experience ($p = 0.025$). However, there was no significant association between attitudes towards using online learning for young children and school type ($p = 0.210$) or geographic area ($p = 0.587$).

4. Discussion

This study aimed to explore teachers' attitudes towards using online learning for young children during the Covid-19 pandemic. The analysis revealed overall positive attitudes towards online learning among the teachers in the sample. High percentages of respondents agreed with items representing beliefs that reflect an

openness to the new innovation of online learning as they believed it is needed for the new generation. It is also economic, with respondents believing online learning costs learners' families less than traditional education. Moreover, they believed that online learning effectively mediates children's interaction with technology and digital media. On the other hand, respondents supported statements reflecting a negative attitude regarding limitations in using online learning in that it lacks a learning atmosphere. Respondents viewed online learning in family relationships negatively as they believed that online learning causes stress for learners' families. There was variation across respondents' beliefs regarding different attitudes about whether online learning is developmentally and educationally appropriate for young children. Additionally, respondents had varied attitudes regarding online learning as they believed it to consume more time and effort than traditional education.

Comparisons can be made between the findings from this study and those from other studies conducted during the pandemic. The results of the present study are similar to the results obtained by Alea et al. (2020) regarding Saudi teachers' beliefs that online learning and teaching consumes more time and effort than traditional education. Alea et al. (2020) reported that during the Covid-19 pandemic, teachers faced challenges with time management in online classes and experienced stress meeting the requirements set by the school administration, which required extra effort. Teachers reported feeling frustrated with online teaching requirements, as they considered mastery of technology to be key to successful teaching (Alea et al., 2020; Dong et al., 2020; Kim, 2020). Teachers' confidence with technology is critical and vital to making online learning successful for children (Hoq, 2020). In other words, technology alone cannot make online learning successful. To keep learners effectively engaged, especially young learners, teachers need to be equipped with digital and pedagogical skills concerning technology functionality for educational purposes and online teaching (Hoq, 2020; UNICEF, 2020).

Respondents in this study also held the opinion that online learning helps children develop independence and decision-making skills. Likewise, Fox-Turnbull (2019) noted that learning related to technology education promotes children's sense of independent engagement with the technology and that technological literacy is a necessary competency for 21st-century children to flourish. Chen and Krieger (2022) noted a valuable learning gain from interacting virtually as individuals and/or cooperatively as groups, that children will become more resilient and confident with their actions online. However, the level of independence involved in learning online does not translate into independent learning, especially for young children. Donohue et al. (2020) noted that independent learners in online or distance learning are not necessarily lonely learners and that there is a third party involved, specifically with young users. This third party are parents and other family members, who are involved as a means of support in distance learning to ensure that children are actively connected. This is because children need help with technology not only to log in or out of online resources but also to prepare materials for hands-on activities at home (Kim, 2020).

The respondents also believed that online learning causes stress for children's families. This finding is consistent with an existing finding that parents were overwhelmed trying to keep up with their children's new style of education while fulfilling their other responsibilities during the global pandemic (Garbe et al., 2020). Other documented negative beliefs and attitudes regarding children's online learning among parents during Covid-19 are that online learning is inconvenient, challenging, time-consuming, and generally less effective than traditional learning (Dong et al., 2020). On the other hand, the respondents in this study believed that parents and families have an important role in some tasks and activities with their children. Similar findings by Braslauskienė et al. (2021) showed that preschool teachers were constantly engaged in mutual communication with learners' parents to provide them with instructional materials. Undoubtedly, the Covid-19 pandemic has created anxiety for children, families, and educators alike. However, the beneficial aspect of the crisis is that it has encouraged all adults engaged in duties involving young children to work individually and collectively to allow education to continue amid pressure and uncertainty about when life will return to "normal" (Daniel, 2020).

Although the majority of the respondents in this study agreed that online learning during the pandemic has had beneficial aspects, they also reported uncertainty about the developmentally and educationally appropriate way to teach young children. The dramatic increase in the use of online learning for young children during the pandemic has generated a new perspective on the appropriate use of technology for educational purposes. The technology used in online learning includes digital tools such as computers, tablets, apps, e-readers, and smartphones, and the use of these technologies "results in the modification of the natural world to meet human needs and wants" (NAEYC, 2020b, p. 37). Amid the challenges of the pandemic, support for young learners across spatial and temporal boundaries has not been a choice as much as an obligation to "meet human needs and wants", as the NAEYC stated. Consequently, the goal has shifted from providing overall development learning opportunities to keeping children connected to school life as consistently as possible (OMEP Executive Committee, 2020). In other words, online learning might not be the best choice to meet all children's needs developmentally, but it was the most convenient method during the crisis.

Lastly, in reflection upon the overall experience with Covid-19, researchers can observe that the crisis helped in reconceptualizing our thinking of the flexibility and adaptability of all education alternatives to better support children's education and development. The disconnect between children and their school lives due to quarantine has created a sense of physical and social isolation. Technology and online learning resources have provided some of the socialization that children need and eliminated boundaries through the digital world (Adedoyin & Soykan, 2020). Chen and Krieger (2022) proposed "learning gain" as an alternative perspective to the so-called "learning loss" during the pandemic. They claimed that children's potential learning gains are not necessarily assessed or recognized if they are not enrolled in academic subjects such as reading or mathematics. Rather, children's well-being as a whole should be prioritized in

terms of learning to be more socio-emotionally resilient and digitally confident and acquiring technological knowledge and skills through online connection (Chen & Krieger, 2022; Goldschmidt, 2020). The pandemic highlighted the potential of well-designed online-based programs to be considered a valid means of bringing more to the education of young children. This means that overemphasis on learning loss due to Covid-19 might lead educators to limited ways of thinking about children's education during the pandemic rather than considering all the possible gains (Hargreaves, 2021; Zhao, 2021). The lesson learned from the online shift during Covid-19 is that even after the crisis and when normal classes resume, all the possibilities of online-oriented learning experiences and activities should still be used to enhance the education of young children to the greatest extent possible (Chen & Krieger, 2022).

5. Conclusion

The findings from the current study represent an initial exploration of how Saudi teachers felt about using online learning for young children in a time when an unprecedented and unexpected crisis hit the world with Covid-19. Considering the overall positive attitudes towards using online-based learning and teaching, the respondents revealed an openness towards adopting online alternatives. A potential gain from the current findings is that it might inspire decision-makers in the Saudi education system to consider online teaching as a part of teachers' professional development. Given the uniqueness of early childhood education and the professional responsibility of early childhood teachers, we need to evaluate what is effective in delivering developmentally appropriate online learning for children. As a means of bringing more to the education of young children, the skills and knowledge needed to teach in an online format must be considered a part of teacher competencies (Foulger et al., 2017; Hicks & Bose, 2019; Trust, 2017).

More specifically, and within the Saudi early childhood education context, the crisis created a common ground where both teachers and parents can work hand in hand to keep children as connected to the school as possible. A valuable gain from the crisis within Saudi education is unprecedented cooperation in home-school relationships (Saudi Arabia. MOE, 2020). The digital world reduced the educational divide in terms of the roles and responsibilities of all parties involved with children and their education (Hassounah et al., 2020). While the Saudi nation itself is well connected to the digital world and well equipped to switch to an online learning format, teachers and families of children need to ensure that the children's online learning experiences are developmentally and educationally on target (Tanveer et al., 2020; Yezli & Khan, 2020).

6. Limitations and Recommendations for Future Research

This study represents an initial exploration and was limited to the data collected and analyzed quantitatively to measure how the respondents responded to the topic in question. For further explanation, qualitative data resources such as interviews would significantly help to provide a better understanding of teachers' professional experiences, challenges, and potential gains regarding the Covid-19 crisis. Future areas for such research would include teachers' post-pandemic

perceptions regarding the inclusion of online teaching as an alternative to traditional teaching. Other potential studies with a similar intent could include families as indispensable partners in this historical event, with a special focus on the parent-teacher relationships during the prolonged lockdown.

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