Distance Learning in Early Childhood During the COVID-19 Crisis: Family and Educators’ Experiences

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Abstract
The COVID-19 crisis presented teachers and families with the challenge of educating young children online. This study explored the experiences with virtual education of 51 parents and 53 teachers of young children. The results have shown that families and educators were aligned in their goals for early childhood education. Nevertheless, teachers rated the online environment as significantly more effective at achieving these goals than parents did. Similarly, families rated online activities as significantly less effective than teachers at engaging young children in learning. Finally, both teachers and families indicated that the online environment was successful when promoting communication and support. Parents experienced more support than teachers during this period. Implications for the future of online education for young children are discussed.

Keywords Families · COVID-19 · Online/virtual · Early childhood

The COVID-19 health crisis presented educators and families around the globe with the challenge of implementing remote learning for children. This challenge was especially pronounced for parents and educators of very young children (Szente, 2020). Early childhood education relies heavily on hands-on, play-based, collaborative learning experiences that are not easily implemented in online settings (Dodd-Nufrio, 2011). Furthermore, parents rely on early childhood education programs to support their children’s social and emotional development; parents also rely on said programs for childcare (Shrimali, 2020). Distance learning can be an effective way of meeting some early childhood goals, but most likely, not all. Little research has explored how distance learning has been effective at addressing family and educators’ goals for early childhood education.

Virtual learning has been expanding in the United States and in the world even before the COVID-19 crisis; in the past decade, the number of students attending school online has grown significantly. For example, in 2013, 31 states in the U.S. had schools that operated fully online (Currie-Rubin & Smith, 2014). Early childhood online instruction has also become more common. Programs such as the Upstart program have been providing online preschool instruction for thousands of children in the United States since 2013 (Mader, 2020). The program is funded by the United States federal government and provides online preschool education for young children in several U.S. states. As some degree of online instruction is expected to become more common in the future, the lessons learned during this pandemic might prove informative and even invaluable during this crisis and in the future years. The lessons learned during the COVID-19 crisis might help inform future practices related to distance learning in early childhood.

Remote learning might have resulted in very different perceptions of children’s experiences for teachers and families. In contrast to traditional in-person education, remote education has allowed families to observe and be involved in children’s learning directly, while teachers rely on virtual observations (Buechner Institute for Governance, 2012). This way, remote learning might have impacted the educators’ ability to understand children’s learning and social processes fully. At the same time, families had immediate exposure to children’s learning process. This shift has surely affected parents and teachers differently, and to date, no studies have addressed these differences.

Furthermore, early childhood education is centered on strong partnerships between families and educators, as communication and support are central to children thriving.
Remote Learning in Early Childhood

Vygotsky’s sociocultural theory asserts that young children learn through social interactions in their most immediate environment (Vygotsky, 1978). Vygotsky stressed the role of social activities in the educational process and the role of family and community as systems supporting child development and learning. The COVID-19 pandemic has shifted many of these interactions from the immediate environment to an online setting, modifying the roles of parents and educators.

The early childhood period is critical for establishing a trajectory for learning across the life span (Montroy et al., 2016). Young children have specific social and emotional needs that require sustained adult interactions (Institute of Medicine & National Research Council, 2000). While the pandemic caused significant learning loss to children of all ages, young children suffered the most from distance learning because young children learn best with social interactions, hands-on exploration, sensory activities, music, and movement (Kuhfeld & Tarasawa, 2020).

Although educators around the world have struggled to adjust to providing online instruction, early childhood educators have faced unique challenges and have been the least prepared to provide online learning opportunities. For example, in the U.S., nearly all states have developed guidance and resources to support educators and families for remote learning during the pandemic, yet only a handful of states have developed remote learning models for early childhood. Most districts struggle with providing guidance and resources that are aligned with child development theories and practices (Donohue et al., 2021).

Furthermore, delivering effective early childhood education activities online requires understanding child development; this understanding is needed in order to develop a play-based sensorial learning experience that will keep young children engaged (Edwards, 2002). The developmental nature of young children requires the learning activities to be brief with a combination of visual and interactive activities, movement, music, games, and art (Hao, 2020). These activities have proven to be effective in the in-person context, yet little research has explored the effectiveness of these activities when implemented remotely; little research has taken into account the perspectives of both parents and educators.

Despite the challenges of implementing remote learning activities with young children, educators have tried to implement several types of activities. Teachers have incorporated one-on-one activities, play-based learning, sing-alongs, book reading, and art activities (Edwards, 2002). Teachers also tried incorporating parents into the activities. To date, little research has explored what types of activities were considered most effective by educators during the pandemic when attempting to engage young children in remote learning. Similarly, little research has taken into account families’ perceptions and experiences related to the effectiveness of such activities or the overlap between family and teacher perceptions.

Goals in Early Childhood Education for Families and Educators

Families and educators value several aspects of early childhood education. Families consider several goals and needs when enrolling their children in an early childhood education program. These goals and needs typically include preparing children for school, giving children the opportunity to socialize, and caregiving (Montroy et al., 2016). For example, a survey conducted by the United States National Center for Education Statistics of a nationally representative sample of parents of children enrolled in early childhood education programs found that 81% of parents reported that the learning activities were very important to them when choosing a program. These activities included learning the alphabet and numbers or other information that will prepare children for formal schooling (Mamedova et al., 2019). In addition, 71% of parents indicated that the early childhood programs would meet the need for their children to socialize and spend time with other children. Furthermore, 71% of parents indicated that caregiver availability and support were very important to them. Surprisingly, parents valued location and cost least as the location was only considered important to 59% of parents, and the cost was deemed important to 49% of parents (Mamedova et al., 2019).

While these goals play a key role in families’ priorities for early childhood education, little research has explored whether parents felt that remote learning has been effective at meeting some or all of these needs. A survey conducted by the National Institute for Early Education Research (NIEER) has shown that 58% of parents were not satisfied with their children’s remote preschool program (Barnett & Jung, 2021). Yet, little research has explored which parental goals were met through remote education to a greater or lesser extent.
**Family Needs and Challenges**

In addition to providing children with a stimulating and supportive environment, both parents and educators understand that one big goal of early childhood education is providing childcare. Two-thirds of children ages five and under have both parents employed in the labor force, meaning that children’s early education programs are fundamental to parents’ incomes. COVID-19 has changed the way families work and the care their children receive (Shrimali, 2020). Many parents have been juggling work with watching and educating children, often shift-splitting their schedules (if there are two parents at home), and waking up earlier or staying up later to get work done. Some have also moved in with their own parents, who are helping to watch their grandchildren (Greszler & Burke, 2020).

For online education to work, family engagement is critical. For children to be able to connect with their teachers and stay engaged in the lessons, an adult at home often has to take on this additional responsibility. During the crisis, parents often had to act as teachers and teacher aides. This is often a big task for the parents as they need to act as learning coaches while juggling other adult responsibilities (Barnett & Jung, 2021). They also need to take on roles for which they are untrained (Dong, 2020).

Research has shown that these stresses resulted in a decline in parental support for other home learning activities. Several parents reported a decline in reading books to their children. For example, in one study (Barnett & Jung, 2021), 85% of parents reported they read to their children three or more times per week before the pandemic started, yet only 71% of them read three times or more during the winter of 2021. Consequently, Read et al. (2021) suggest that families adapt to at-home learning by providing shared reading activities at home with young children. Specifically, reading became an activity family maintained or replaced with other activities during the COVID-19 lockdown as they were able to maintain these positive routines along with providing the support and supervision children needed during shared reading activities. Yet, little research has explored the value parents placed on the childcare aspects of early childhood education and how juggling multiple responsibilities might have affected families’ experiences with distance learning.

**Communication and Support**

Partnership with families, support, and communication are central to early childhood education. Remote learning can prove challenging for communication between teachers and families (Leonhardt, 2020). However, virtual learning can also expand opportunities for communication and for the use of platforms that were not considered before the onset of the pandemic. In a study conducted in Norway, many families expressed that their communication with teachers increased during the pandemic. Parents shared that they were able to identify their children’s struggles because they were exposed to their children’s learning processes in their own homes. Parents felt they were more motivated to communicate with their children’s teachers (Bubb & Jones, 2020). As a note, this study was conducted on elementary school-aged children. Early childhood education students were not part of that study as Bubb & Jones (2020) included students’ survey responses which are more practical to collect from older students.

Communication with families is fundamental to early childhood practices, yet little is known about teachers’ experiences with family communication in the virtual setting. In addition, little is known about the way teachers and families differ in their experiences of communicating and supporting during this period. This study aimed at exploring perceptions of support from school administration, support from parents to teachers, support from teachers to parents, and increases in teacher-parent communication.

**Research Questions**

Online learning during the pandemic presented educators and families with unique opportunities and challenges. For the first time, parents had the opportunity to observe children learning firsthand, while teachers had to interact with children remotely; with this, remote learning might have resulted in very different perceptions of children’s experiences for teachers and families.

Given the limited knowledge of families’ and teachers’ experiences during the pandemic, this study has attempted to address the gap in the literature by exploring the following research questions:

1. What goals in early childhood education are considered most important by educators and families?
2. How effectively did families and educators consider the online environment to be at achieving the main goals of early childhood education?
3. What specific activities were considered most effective at engaging children by educators and families?
4. To what extent did teachers and families experience communication and support?
Method

Participants

Participants were 53 preschool teachers teaching young children online due to the COVID-19 health crisis. In addition, 51 parents of young children learning online due to the COVID-19 health crisis participated in the study. The total sample was \( n = 104 \). This was part of a larger study exploring the effects of online education. All participants resided in a large metropolitan area in the U.S. Teachers and parents were not recruited from the same programs.

Table 1 describes the participants and shows the frequency and percentages of the type of early childhood education program in which the teachers taught and in which parents enrolled their children. The age of the children in their classes ranged from 17 months old to 9 years of age, with a mean of 4.16 (SD = 1.52). The number of children in the classes ranged from 8 to 30, with a mean of 15.04 children (SD = 4.32). Parents described the age of the children as ranging from 2 to 8 years of age, with a mean of 4.69 (SD = 1.49).

Procedure and Instrument

Teachers and parents were asked to fill out an online survey about their experiences with young children learning online during the COVID-19 crisis. Only educators teaching young children solely online were recruited to fill out the survey.

| Survey item                              | n  | %    |
|------------------------------------------|----|------|
| School description for teachers          |    |      |
| Public school                            | 5  | 10.2 |
| Private preschool                        | 9  | 18.4 |
| Private faith-based/parochial            | 6  | 12.2 |
| Head Start                               | 3  | 6.1  |
| Universal Pre-Kindergarten               | 8  | 16.3 |
| Child care program                       | 15 | 30.6 |
| Other publicly funded preschool program  | 3  | 6.1  |
| Total                                    | 49*| 100.0|
| School description for families          |    |      |
| Public school                            | 7  | 13.7 |
| Private preschool                        | 10 | 19.6 |
| Private faith-based/parochial            | 18 | 35.3 |
| Head start                               | 0  | 0.0  |
| Universal Pre-Kindergarten               | 8  | 15.7 |
| Child care program                       | 5  | 9.8  |
| Other publicly funded preschool program  | 3  | 5.9  |
| Total                                    | 51 | 100.0|

*Four teachers did not answer this question

Teachers were recruited by word of mouth. Similarly, parents whose children were solely learning online were recruited for the study. Families were recruited by word of mouth and by several of the teachers who participated in the study.

To answer the research questions, a survey was developed in order to measure teacher and family experiences. Before the survey was administered, it was shared with small focus groups of preschool educators teaching online and with parents of young children learning online to ensure that it reflected common experiences. The survey was edited based on teachers’ and parents’ feedback. Item descriptions for the survey are provided in the results section in Table 2.

The survey was developed to assess the following constructs:

Goals for Early Childhood Education: The survey asked teachers and parents to rate the importance of eight goals that are considered central to early childhood education. Respondents were asked to rate importance on a scale ranging from 1 (not important) to 4 (very important). Table 2 includes all the items.

Effectiveness of the Online Environment at Meeting Early Childhood Education Goals: The survey asked teachers and parents to rate how effective online learning was with regard to addressing eight goals for early childhood education. Respondents were asked to rate the effectiveness on a scale ranging from 1 (not effective) to 4 (very effective).

Effectiveness of Specific Activities: Teachers tried different online activities to engage young children during this time; respondents were asked to rate the activities’ effectiveness on a scale ranging from 1 (not effective) to 4 (very effective).

Level of Communication and Support: Parents and teachers were asked to rate the four statements about communication and support from the school administration. Participants rated statements on a scale ranging from 1 (do not agree) to 4 (strongly agree).

Results

Descriptive Statistics

The descriptive statistics for the full sample are presented in Table 2. The survey items are presented in the order in which they were asked.

Research Question 1: What Goals in Early Childhood Education are Considered most Important to Educators and Families?

The survey asked teachers and parents to rate the importance of eight early childhood education goals. The descriptive statistics presented in Table 2 show that the sample prioritized...
social goals over academic goals. Participants scored “helping children interact with other children positively,” as most important, followed by “giving children the opportunity to play” and “helping children learn about appropriate behaviors.” The participants found “helping children learn the alphabet, the numbers, or other information that will prepare them for school” as the least important for early childhood education.

**Do Teachers and Families Differ in Their Goals for Early Childhood Education?**

A one-way ANOVA was used to determine if there were statistically significant differences in the average perceived effectiveness of online learning for helping children learn the alphabet, the numbers, or other information that will prepare them for school (teachers vs. family). An ANOVA is an extension of the independent samples t-test which can be used to compare any number of groups or treatments (Bewick et al., 2004) and to control for Type I error (Kao et al., 2008). Levene’s test of equality of error variances was not statistically significant ($F(1,102) = 0.32, p = 0.56$), indicating this assumption of normality was not violated.

The descriptive statistics by respondent type and the ANOVAs appear in Table 3. The results show that families and educators were consistent in the goals for early childhood education, and their answers did not differ significantly. Yet, Table 3 indicated that there was a statistically significant difference in the average perceived importance of “supporting family childcare needs” by type of respondent, as it was rated as more important for teachers than for families.

### Table 2: Descriptive statistics for the survey questions (for the whole sample, $n = 104$)

| Survey item                                                                 | Min | Max | $M$ | $SD$ |
|----------------------------------------------------------------------------|-----|-----|-----|------|
| **Activities that are most effective online**                              |     |     |     |      |
| Story time/reading books                                                   | 1.00| 4.00| 2.89| 0.95 |
| Games and social activities                                                | 1.00| 4.00| 2.93| 0.93 |
| Direct instruction                                                         | 1.00| 4.00| 2.47| 0.88 |
| Sing-alongs                                                                | 1.00| 4.00| 2.74| 0.98 |
| One-on-one time with teachers                                              | 1.00| 4.00| 3.12| 0.87 |
| Hands-on activities with an adult assisting                                | 1.00| 4.00| 3.00| 0.90 |
| Hands-on activities without adult assisting                                | 1.00| 4.00| 2.00| 0.88 |
| Art activities                                                             | 1.00| 4.00| 2.71| 0.94 |
| **Goals in early childhood education**                                     |     |     |     |      |
| Supporting family childcare needs                                          | 1.00| 4.00| 3.61| 0.77 |
| Helping children learn the alphabet, the numbers, or other information that will prepare them for school | 1.00| 4.00| 3.38| 0.81 |
| Helping children make friends                                              | 1.00| 4.00| 3.66| 0.61 |
| Helping children interact with other children positively                    | 3.00| 4.00| 3.85| 0.35 |
| Giving children the opportunity to play                                    | 2.00| 4.00| 3.80| 0.44 |
| Helping children learn how to follow rules                                  | 2.00| 4.00| 3.58| 0.58 |
| Helping children learn about appropriate behaviors                          | 2.00| 4.00| 3.76| 0.44 |
| Helping children learn about classrooms routines and schedules              | 2.00| 4.00| 3.58| 0.61 |
| **Effectiveness of the online environment at supporting EC goals**         |     |     |     |      |
| Supporting childcare needs                                                 | 1.00| 4.00| 2.27| 1.12 |
| Helping children learn the alphabet, the numbers, or other information that will prepare them for school | 1.00| 4.00| 2.52| 0.91 |
| Helping children make friends                                              | 1.00| 4.00| 1.81| 1.00 |
| Helping children interact with other children positively                    | 1.00| 4.00| 2.17| 1.01 |
| Giving children the opportunity to play                                    | 1.00| 4.00| 2.12| 1.00 |
| Helping children learn how to follow rules                                  | 1.00| 4.00| 2.23| 0.96 |
| Helping children learn about appropriate behaviors                          | 1.00| 4.00| 2.25| 0.92 |
| Helping children learn about classrooms routines and schedules so they are prepared for school | 1.00| 4.00| 2.14| 1.03 |
| **Communication and support**                                              |     |     |     |      |
| I felt supported by school administration                                  | 1.00| 4.00| 3.24| 0.70 |
| I felt supported by the families/teachers in the program                   | 1.00| 4.00| 3.18| 0.71 |
| I was able to keep open communication with families/teachers               | 1.00| 4.00| 3.37| 0.61 |
| Communication with families/teachers actually increased or became more open | 1.00| 4.00| 3.28| 0.72 |
Table 3 Descriptive statistics and ANOVA results for importance of goals by type of respondent

| Variable                                                                 | Teacher |       |       | Family |       |       | ANOVA                      |
|-------------------------------------------------------------------------|---------|-------|-------|--------|-------|-------|---------------------------|
|                                                                         | N       | M     | SD    | N      | M     | SD    | Effect                     |
| Supporting family needs*                                                | 53      | 3.84  | 0.36  | 51     | 3.37  | 0.99  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 10.61 | 0.002*| 0.094 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Helping children learn the alphabet, the numbers, or other information that will prepare them for school | 53      | 3.32  | 0.80  | 51     | 3.45  | 0.83  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 0.65  | 0.41  | 0.006 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Helping children make friends                                           | 53      | 3.64  | 0.62  | 51     | 3.68  | 0.61  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 0.13  | 0.71  | 0.001 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Helping children interact with other children positively                | 53      | 3.84  | 0.36  | 51     | 3.86  | 0.34  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 0.03  | 0.84  | 0.000 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Giving children the opportunity to play                                 | 53      | 3.78  | 0.45  | 51     | 3.82  | 0.43  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 101 | 0.15  | 0.69  | 0.002 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 102     |       |       |        |       |       |                           |
| Helping children learn how to follow rules                              | 53      | 3.52  | 0.57  | 51     | 3.64  | 0.59  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 1.07  | 0.30  | 0.010 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Helping children learn about appropriate behaviors                      | 53      | 3.71  | 0.49  | 51     | 3.82  | 0.38  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 1.49  | 0.22  | 0.014 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |
| Helping children learn about classrooms routines and schedules          | 53      | 3.58  | 0.60  | 51     | 3.58  | 0.63  | Between groups            |
|                                                                         |         |       |       |        |       |       | 1                          |
|                                                                         | Within groups | 102 | 0.001 | 0.97  | 0.000 |
|                                                                         |         |       |       |        |       |       | Total                      |
|                                                                         | 103     |       |       |        |       |       |                           |

*p < 0.10; *p < 0.05; **p < 0.01
Research Question 2: How Effectively did Families and Educators Consider the Online Environment to be at Achieving the Main Goals of Early Childhood Education?

The descriptive statistics presented in Table 4 show that the sample did not consider the online environment particularly effective at meeting its goals. When asked to score the importance of each goal (Table 3), most goals received high scores ranging between 3.38 and 3.80, indicating “important” to “very important.” Yet, when asked to score the effectiveness of the online environment in meeting those goals (Table 4), scores ranged from 1.81 to 2.52, indicating that participants considered the online environment somewhere between “not effective” and “somewhat effective.” Despite the participants rating social skills as the most important goals and academic skills as least important, participants rated the online environment as most effective at fostering academic skills and least effective at promoting friendships and social skills.

Do Families and Educators Differ in Their Perceptions of Online Education Effectiveness?

The results show several differences in the way families and educators experienced the effectiveness of online education in achieving their goals for early childhood education. In general, educators had a more optimistic view, while families had more negative experiences. For example, results in Table 4 indicate that there was a statistically significant difference in average perceived effectiveness of online learning for supporting family childcare needs by type of respondent. In addition, there was a statistically significant difference in the average perceived effectiveness of online learning for helping children make friends, helping children interact with other children positively, giving children the opportunity to play, and helping children learn about appropriate behaviors. As seen in Table 4, teachers perceived statistically significant higher levels of effectiveness of online learning for all those goals.

Furthermore, Table 4 indicates there was a trend toward statistical significance in the difference in average perceived effectiveness of online learning for helping children learn the

| Variable                                                                 | Teachers | Family | ANOVA | Effect | df  | F    | p    | η² |
|-------------------------------------------------------------------------|----------|--------|-------|--------|-----|------|------|----|
| Supporting family needs*                                                | 53       | 2.94   | 0.86  | 51     | 1.58| 0.94 |      |    |
|                                                                           |          |        |       |        |     |      |      |    |
| Helping children learn the alphabet, the numbers, or other information  | 53       | 2.67   | 0.93  | 51     | 0.94| 0.87 |      |    |
| that will prepare them for school                                       |          |        |       |        |     |      |      |    |
| Helping children make friends*                                          | 53       | 2.01   | 0.99  | 51     | 1.60| 0.98 |      |    |
| Helping children interact with other children positively*               | 53       | 2.54   | 0.95  | 51     | 1.78| 0.94 |      |    |
| Giving children the opportunity to play*                                | 53       | 2.54   | 1.06  | 51     | 1.68| 0.96 |      |    |
| Helping children learn how to follow rules                              | 53       | 2.39   | 0.96  | 51     | 2.05| 0.94 |      |    |
| Helping children learn about appropriate behaviors*                     | 53       | 2.43   | 0.88  | 51     | 2.07| 0.93 |      |    |
| Helping children learn about classrooms routines and schedules so they  | 53       | 2.13   | 1.05  | 51     | 2.156| 1.02 |      |    |
| are prepared for school                                                 |          |        |       |        |     |      |      |    |

*p < 0.10; *p < 0.05; **p < 0.01

Table 4 Descriptive statistics and ANOVA results for the effectiveness of online learning for addressing eight goals by type of respondent.
alphabet, the numbers, or other information that will prepare them for school by type of respondent. Similarly, there was a marginally significant difference in the average perceived effectiveness of online learning in helping children learn how to follow the rules. The average perceived effectiveness was marginally higher for teachers than for families.

Lastly, there was no statistically significant difference in the average perceived effectiveness of online learning for helping children learn about classroom routines and schedules by type of respondent.

Research Question 3: What Specific Activities did Educators and Families Consider Most Effective at Engaging Children?

Teachers have tried to implement several types of developmentally appropriate activities in order to engage children during this time. When looking at specific activities, the attention of an adult made a big difference. For example, the most effective activity type was one-on-one time with a teacher. Similarly, the sample rated hands-on activities with an adult assisting as effective (M = 3.00) and hands-on activities without an adult assisting as somewhat effective (M = 2.00). The sample considered games and social activities and storytime as more effective than direct instruction, sing-alongs, or art.

Did Educators and Families Differ in Their Perceptions of the Effectiveness of Specific Activities?

The results presented in Table 5 show that families and teachers rated the effectiveness of specific activities similarly. Teachers were slightly more optimistic than families when rating the effectiveness of specific activities. For example, there was a marginally statistically significant difference in the scores of average effectiveness of storytime/reading books by type of respondent, and educators scored this activity as more effective than families. In addition, as seen in Table 5, there was a statistically significant difference in the average effectiveness of sing-alongs by type of respondent, and the average perceived effectiveness rating of sing-alongs was higher for teachers in comparison to families.

Table 5  Descriptive statistics and ANOVA results for average effectiveness ratings by type of respondent

| Variable                        | Teachers | Family | ANOVA |
|---------------------------------|----------|--------|-------|
| Survey question                 | N  M  SD  | N  M  SD | Effect | df   | F  p   | η²   |
| Story time/reading books        | 53 3.05 0.86 | 51 2.72 1.02 | Between groups 1  | 3.19 | 0.07 | 0.030 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Games and social activities     | 53 3.07 0.89 | 51 2.78 0.96 | Between groups 1  | 2.54 | 0.11 | 0.024 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Direct Instruction              | 53 2.39 0.81 | 51 2.54 0.94 | Between groups 1  | 0.78 | 0.37 | 0.008 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Sing-alongs*                    | 53 3.05 0.79 | 51 2.41 1.06 | Between groups 1  | 12.36 | 0.001* | 0.108 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| One-on-one time with teachers   | 53 3.13 0.83 | 51 3.11 0.93 | Between groups 1  | 0.007 | 0.93 | 0.001 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Hands-on activities with an adult assisting | 53 2.94 0.94 | 51 3.07 0.86 | Between groups 1  | 0.57 | 0.45 | 0.006 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Hands-on activities without adult assisting | 53 1.96 0.80 | 51 2.03 0.95 | Between groups 1  | 0.19 | 0.65 | 0.002 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |
| Art activities                  | 53 2.77 0.93 | 51 2.64 0.95 | Between groups 1  | 0.46 | 0.49 | 0.005 |
|                                 |          |        | Within groups 102 |             |     |       |
|                                 |          |        | Total 103 |             |     |       |

+ p < 0.10; * p < .05; ** = p < .01
Research Question 4: To What Extent did Teachers and Families Experience Communication and Support?

The descriptive statistics presented in Table 6 show that both families and educators felt a great deal of support from their respective school administrations; they felt they were able to maintain effective communication between families and teachers, and many felt that communication increased while children were learning online. This was reflected in their high scores for all four items in the survey.

Did Families and Teachers Differ in Their Experiences of Communication and Support?

An ANOVA was used to determine if there were statistically significant differences in average perceived support and types of communication during online teaching and learning. Table 6 shows the descriptive statistics for average perceived support and communication during online learning by type of respondent. As seen in Table 6, there was a statistically significant difference in the average support felt by teachers and families during online learning by type of respondent, $F(1,102) = 7.68$, $p = 0.007$. Specifically, families reported feeling marginally more supported by their respective school administrators than teachers did. Families experienced significantly more support from teachers than teachers felt supported by families.

Discussion

The COVID-19 health crisis has presented early childhood educators and families with unique challenges. At the same time, it has provided the opportunity to explore online learning in early childhood. The roles of teachers and families have shifted during this time, forcing teachers to interact with young children through a screen. In contrast, families had the opportunity to observe and facilitate learning in person while fulfilling other obligations such as work. This situation has resulted in educators and families navigating the learning process differently. This study has attempted to explore and compare the experiences of families and educators during this challenging time. This study is unique as it has taken into account the perspectives of both families and teachers.

The present study explored four questions. First, the study assessed the goals in early childhood education that were considered most important by educators and families. Second, this study explored how effective families and educators consider the online environment in achieving the main goals of early childhood education. Third, the study explored what specific activities were considered most effective at engaging children by educators and families.

Lastly, the study assessed to what extent did teachers and families experienced communication and support.

Parents’ and Teachers’ Goals in ECE

The first research question explored parents’ and teachers’ goals in early childhood education and found that parents and teachers were consistent in their goals and objectives. Specifically, parents and teachers valued opportunities for

| Variable                  | Teachers | Family | ANOVA            |
|---------------------------|----------|--------|------------------|
|                           | N M SD   | N M SD | Effect          |
| I felt supported by administration | 53 3.11 0.80 | 51 3.37 0.56 | Between Groups | 1 3.62 0.06 0.034 |
|                           |          |        | Within Groups    | 102 103         |
|                           |          |        | Total            |                |
| I felt supported by teachers/families | 53 3.0 0.78 | 51 3.37 0.56 | Between Groups | 1 7.68 0.007 0.070 |
|                           |          |        | Within Groups    | 102 103         |
|                           |          |        | Total            |                |
| Open communication       | 53 3.33 .65 | 51 3.39 0.57 | Between Groups | 1 0.192 0.66 0.002 |
|                           |          |        | Within Groups    | 102 103         |
|                           |          |        | Total            |                |
| Increased communication  | 53 3.21 .79 | 51 3.35 0.63 | Between Groups | 1 1.07 0.30 0.010 |
|                           |          |        | Within Groups    | 102 103         |
|                           |          |        | Total            |                |

*p < 0.10; *p < 0.05; **p < 0.01
socialization and play most. During this tumultuous period of time, both parents and teachers felt that school readiness was the least prioritized goal for their children. Research conducted before the pandemic has shown that parents value learning activities as much or more than socialization opportunities (Mamedova et al., 2019). The lack of opportunities for socialization in the online environment might have played a role in heightening the value of socialization and play during this time.

**Effectiveness of the Online Environment and ECE Goals**

The second research question explored the effectiveness of the online environment in meeting the early childhood education goals. Both parents and teachers found that the online environment was not very effective at meeting their goals. Despite the rating of socialization and play as most important in early childhood education, they found that this goal was least likely to be accomplished effectively through virtual learning. Similarly, the online environment was rated most effective at fostering academic skills, even though this was the goal least valued by both parents and teachers. Nevertheless, teachers were significantly more optimistic than parents when evaluating the effectiveness of online education in accomplishing early childhood education goals. Educators rated virtual education as significantly more effective than parents did when it came to supporting childcare needs, helping children make friends, helping children interact with other children positively, giving children the opportunity to play, and helping children learn about appropriate behaviors. Similarly, educators rated online learning as marginally more effective than parents when it came to helping children learn how to follow the rules and learn academic skills. Hu et al. (2021) emphasized the importance of family engagement and support as two aspects that influence young learners’ online learning experiences.

**Families/Teachers and Children’s Engagement**

The third research question explored the way families and teachers experienced children’s engagement and participation. Teachers tried a variety of developmentally appropriate activities to engage young children in learning. Teachers and parents rated children’s engagement similarly, and both agreed that the availability of adult attention made a big difference in children’s participation and learning. For example, the most effective activity type was one-on-one time with a teacher. Similarly, families and teachers rated hands-on activities with an adult assisting as more effective than when an adult was not assisting. Nevertheless, families had more negative perspectives than educators when judging the effectiveness of specific online activities, and they rated story time and sing-alongs as less effective than educators did. The reasons for more negative perceptions in parents than in teachers might be due to the fact that families saw their children first-hand and perceived them as less engaged and more distracted during these activities than educators were able to see. In addition, during the pandemic, families increased their reading of books and other in-person activities with their children, and this might have led them to perceive online activities as less effective.

**Teacher/Families Support and Communication**

Lastly, the fourth research question explored the level of support and communication that teachers and families experienced during this time. The results have shown that both groups experienced a great deal of support from the school administration; they felt they were able to maintain effective communication, and many felt that communication increased while children were learning online. Nevertheless, families felt more support than teachers did from respective school administrations. Similarly, families felt more supported by teachers than teachers felt by families.

**Limitations**

This study has several limitations. First, this research relies solely on survey data because of the pandemic. Observational tools will further enrich the study of family and educators’ experiences while attempting to engage young children with online learning.

Second, the study consisted of a small sample in a large metropolitan area in the U.S. The pandemic presented a unique opportunity to study a worldwide phenomenon. Shaik (2022) explored the challenges early childhood providers face in South Africa. Specifically, the changes made to address the technological inequities in economically disadvantaged communities. Nonetheless, further research is necessary to explore these processes in international contexts and varied settings such as rural or suburban neighborhoods.

Lastly, this study explored the experiences of children who were solely learning online. Further research is necessary to establish the effectiveness of combined methods in early childhood. Past research has shown that pre-service teachers training to become early childhood educators did not consider taking classes solely online to be effective. Yet, they valued a combination of in-person and online instruction (Plotka & Guirguis, 2020). Further research can explore the effectiveness of the combination of online and in-person experiences for young children. It is possible that when given the opportunity to socialize in person on some days, young children will benefit from storytime or other online interactions with children and teachers they often see.
Lessons Learned and Implications for the Future

As online early childhood education is expected to expand around the world, the lessons learned during the pandemic should prove informative for working with young children and their families. Explicitly the lesson learned regarding families and educators’ values of early childhood education, both groups’ online experiences, and the level of communication and support experienced by both groups.

One of the most important lessons learned was that families and educators were aligned in their values for their children’s education and their experiences with online learning. Yet, they did not find the online classroom was highly effective in meeting their children’s goals. Specifically, their most important goals of socialization and play had suffered the most in the online environment. Socialization and play are cornerstones of early childhood education, and expanding online learning might result in a delay in the development of these fundamental skills. The results of the present study have shown that online environments are more effective at facilitating academic skills. By shifting early childhood programs online, school readiness might be prioritized at the expense of socio-emotional development and well-being.

Another important lesson learned was that, in general, families had more negative experiences than educators, while educators were more optimistic about online learning. Virtual teaching makes it harder for educators to “read” children’s experiences, making it easy to overestimate their ability to engage children in learning activities. At the same time, with direct contact with children, families were able to perceive more gaps in children’s experiences. Overall, online learning can generate a mismatch between families’ and educators’ experiences and can lead educators to misunderstand children’s experiences. Furthermore, both families and teachers agreed that for activities to be effective, an adult at home needs to spend a substantial amount of time guiding children. This can take a toll on parents who are juggling work and other responsibilities, leading parents to rate online learning more negatively. Further research can explore whether families with fewer responsibilities, such as those who are not working from home or who do not have multiple caregiving responsibilities, have more positive attitudes towards remote learning. Similarly, since these conditions are tightly related to socio-economic status, further research can explore whether families with more resources experience virtual learning more positively.

Finally, the last important lesson was that virtual learning is an adequate environment for supporting parent-teacher communication. This should be considered for future practice as education programs can expand the modes of communication with parents and facilitate family-school connections through virtual platforms not used before the pandemic. The findings of this study and the lessons learned during the COVID-19 pandemic should prove useful in future years as parents and educators navigate new ways to learn, teach, work, and communicate.

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