



EXAMINING THE DISTANCE LEARNING EXPERIENCES OF PRE-SCHOOL TEACHERS DURING THE COVID-19 PANDEMIC

Received/Geliş Tarihi: 08.12.2025

Online Published / Elektronik Yayın: 22.12.2025

DOI: 10.48166/ejaes.1838326

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ABSTRACT

This study aims to examine in depth the experiences of preschool teachers regarding the learning-teaching processes they continued through distance education during the Covid-19 pandemic. This research is a qualitative study conducted as a case study. The study group consists of five preschool teachers working together at a state-run independent nursery school in Hatay province. The research data were collected using a 'Personal Information Form', an 'Open-Ended Questions Form' and a 'Semi-Structured Interview Form'. Descriptive analysis and content analysis methods were used in the analysis of the research. According to the research results, it was determined that preschool teachers found the distance learning teaching-learning processes unsuccessful; students did not have sufficient technological tools and equipment needed for distance learning processes; and the stakeholders in the process, namely students, parents, and teachers, expressed their views that their competencies regarding the distance learning process were insufficient. Teachers stated that professional development training should be provided to teachers regarding distance learning teaching-learning processes; and that parents should be provided with training through information bulletins about distance learning processes via television or the internet. Furthermore, it was found that teachers expressed the view that, considering the age group characteristics of children in the pre-school period and their lack of reading and writing skills, the activities included in the current pre-school education programme needed to be organized in a way that could be integrated into distance learning processes.

Keywords: Covid-19 Pandemic, pre-school teachers, distance learning, experience

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COVID-19 PANDEMİ SÜRECİNDE OKUL ÖNCESİ ÖĞRETMENLERİNİN UZAKTAN EĞİTİM DENEYİMLERİNİN İNCELENMESİ

ÖZET

Bu araştırmada okul öncesi öğretmenlerinin Covid-19 pandemi döneminde uzaktan eğitim ile sürdürdükleri öğrenme-öğretme süreçlerine ilişkin deneyimlerinin derinlemesine incelenmesi amaçlanmaktadır. Bu araştırma nitel desenli bir çalışma olup durum çalışması şeklinde yürütülmüştür. Araştırmanın çalışma grubu Hatay ilinde devlete bağlı resmi bağımsız anaokulunda birlikte görev yapan 5 okul öncesi öğretmeninden oluşmaktadır. Araştırmanın verileri “Kişisel Bilgi Formu”, “Açık Uçlu Sorular Formu” ve “Yarı Yapılandırılmış Görüşme Formu” kullanılarak toplanmıştır. Araştırmanın analizinde betimsel analiz ve içerik analizi yöntemleri kullanılmıştır. Araştırma sonuçlarına göre; okul öncesi öğretmenleri uzaktan eğitim öğrenme-öğretme süreçlerini başarısız buldukları; öğrencilerin uzaktan eğitim süreçleri için ihtiyaç duydukları teknolojik araç ve donanımlara yeterince sahip olmadıkları; sürecin paydaşları olan öğrenci, ebeveyn ve öğretmen yeterliliklerini uzaktan eğitim sürecine dair yetersiz bulduklarına dair görüş belirttikleri tespit edilmiştir. Öğretmenler uzaktan eğitim öğretme öğrenme süreçlerine ilişkin öğretmenlere mesleki gelişim eğitimleri verilmesi; ebeveynlere ise televizyon ya da internet yoluyla uzaktan eğitim süreçlerine dair bilgilendirme bültenleri ile eğitim verilmesi gerektiğini belirtmişlerdir. Ayrıca öğretmenlerin okul öncesinde dönemindeki çocukların yaş grubu özellikleri ve okuma-yazma yeterliliklerinin olmaması dikkate alınarak mevcut okul öncesi eğitimi programında yer alan etkinliklerin uzaktan eğitim süreçlerine entegre edilebilecek şekilde düzenlenmesine ihtiyaç duyulduğuna dair görüş belirttikleri tespit edilmiştir.

Anahtar kelimeler: Covid-19 Pandemi, okul öncesi öğretmenleri, uzaktan eğitim, deneyim

1. INTRODUCTION

Events such as wars, earthquakes, terrorist attacks, epidemics, and social unrest that are likely to occur worldwide can profoundly affect social order, causing sudden changes in people's lives and negatively impacting their life processes. In this context, one of the processes that can be affected by potential wars, earthquakes, terrorist attacks, epidemics, social unrest, and shortages is educational activities. It is of great importance to design the correct planning and implementation of how educational processes, which are progressing within the framework of organized, planned lives, can be sustained after such sudden events. The likelihood of such events occurring in society creates a need to continue education using alternative methods and techniques. The Covid-19 virus, which emerged in Wuhan, China, towards the end of 2019, spread widely in 2020, causing a pandemic process linked to infectious diseases worldwide. The rapid spread of the virus prompted countries to take various measures to end the pandemic. In light of this information, the increased risk of the virus spreading and infecting others has led to people distancing themselves from social life and spending more time at home, forcing the service sector to create opportunities for working from home, among many other areas where social structures have been affected. The pandemic has rendered face-to-face education ineffective, affecting educational processes. The impacted educational process has created a new area of need regarding the continuation of education through different methods and techniques during the pandemic. Many countries around the world have begun to continue their educational structures through online distance learning. In China, where the virus originated, all levels of education, from pre-school to university, have switched to distance learning, and students have made

efforts to improve accessibility (Lau et al., 2020). In Turkey, the Ministry of National Education has begun to design and implement distance learning activities by increasing the availability of the Education Information Network (EBA). During this process, the first steps have been taken for distance learning activities in cooperation with TRT, the official state channel.

1.1. Importance and Purpose of the Research

Traditional education is seen by teachers as a safer education model, and research indicates that it is more beneficial than distance education (Elçi and Türker, 2022; Özkan- Korkmaz, 2023; Öz 2024). Distance education is a method that is envisaged as complementary rather than an alternative to the problems or perspectives experienced in traditional education. The necessity of being in the same environment in traditional education, the obligation to receive education within a specific time frame, the participation of a specific age group in the educational process, the inability to benefit from educational rights due to financial constraints, inadequacies in educational institutions and teachers, and limitations and problems related to distance learning have justified the integration of the distance learning model into the traditional education model (Ülkü, 2018).

Although distance education is considered to be more flexible than traditional education and has the advantage of not creating time and space constraints, it is up to teachers to plan and implement face-to-face teacher-student interaction in a way that leads to success. In this context, teachers who will organize distance learning processes are expected to have the ability to plan and implement a flexible distance learning process that is tailored to individual circumstances. In the distance learning process, teachers must move away from the role of teaching the lesson and take on the role of a facilitator who guides the learning process (Ülkü, 2018). In distance education processes, teachers take on roles in three stages: pre-implementation, implementation, and post- implementation. The teacher is responsible for roles such as planning the process and lessons, maintaining student interest and motivation, using different methods during the process, responding to feedback, and evaluation (Gülbahar, 2009).

The Covid-19 pandemic caught our country and teachers, who are one of the stakeholders in the education process, unprepared, as it did the rest of the world. Although distance learning applications have emerged in our country with the development of technology, educational processes have generally been planned to be carried out through face-to-face education. This study is important because it will examine in depth the experiences of pre-school teachers regarding distance learning teaching and learning processes, the problems encountered, the competencies of the stakeholders in the process, and their suggestions and evaluations regarding distance learning processes. The absence of any studies in the national literature on the experiences of pre-school teachers with distance learning processes and the lack of sufficient studies in the international literature on the experiences of pre-school teachers with distance learning processes make this study important. The aim of this research is to contribute to the programme and offer suggestions by thoroughly examining the distance learning teaching and learning processes of pre-school teachers.

1.2. Research Question and Sub-Questions

The main research question of this study is: "What are the remote education experiences of pre-school teachers during the pandemic?" Based on this, the sub-questions of the study are listed as follows.

Sub-questions of the Research

What are the positive and negative experiences of preschool teachers reflected in the teaching-learning processes provided through distance education during the pandemic?

1. What are their positive and negative experiences reflected in the teaching-learning processes provided through distance education during the pandemic?
2. What are their views on the use of technology in education and changes in perspectives regarding teaching and learning processes through distance education during the pandemic?
3. What are the problems experienced in the teaching-learning process provided through distance education during the pandemic and the proposed solutions to these problems?
4. What are the suggestions for teachers to use distance learning more effectively in relation to the teaching and learning process provided through distance learning during and after the pandemic?
5. What are their views and suggestions regarding the continuation or termination of distance learning applications after the pandemic period?
6. What are the observations regarding parents and students in the teaching-learning process provided through distance education during the pandemic period?

3. METHOD

3.1. Research Model

This research is a qualitative study conducted as a case study. Creswell (2016) defines qualitative case studies as "*a method in which the researcher collects detailed, in-depth information about real life, a limited system (a case) or multiple limited systems (cases) within a specific time frame (e.g., observations, interviews, audio-visual materials, documents, and reports) to gather detailed data and in-depth information, describing a situation or revealing situational themes.*" Qualitative case studies allow for the detailed and meticulous in-depth examination and investigation of a specific situation (Punch, 2013). The results obtained from in-depth qualitative research explain a problem or situation in reports, supported by the literature (Cresswell, 2016; trans.: Bütün and Demir). In this study, a qualitative case study was preferred because it was desired to thoroughly investigate the experiences of pre-school teachers regarding distance education teaching processes during the COVID-19 pandemic. In this context, the study sought the opinions of pre-school teachers regarding distance education teaching processes during the pandemic, and these opinions were comprehensively evaluated in all aspects.

3.2. Research Group

This research was conducted with a working group consisting of volunteer preschool teachers working in state-run kindergartens in Hatay province. The criteria selected were that the researchers were preschool teachers, worked at the same school, and had experience in distance education. In this context, the working group for the research consisted of five preschool teachers working together at a state-run kindergarten in Hatay province. Personal information about the teachers participating in the research is presented in Table 3.1 below.

Table 1. Personal Information Regarding Preschool Teachers

	T.1	T.2	T.3	T.4	T.5
Gender	Female	Female	Female	Female	Female
Age	31-40	21-30	31-40	31-40	31-40
Professional Experience	11 years and above	6-10 years	11 years and above	11 years and above	6-10 years
Technology in Education	No	No	No	No	No
Distance Learning Experience	No	No	No	No	No

Table 1 shows that all five pre-school teachers participating in the study were female (100%); their ages were generally in the "31-40 age" range (60%); their professional experience was generally "11 years and above" (60%); none of them (100%) had previous experience in using technology in education; none of them (100%) had previous experience in distance education.

3.3. Data Collection Process

In the first stage of the research, a literature review was conducted on teachers' views regarding their distance learning experiences during the pandemic, and measurement tools that could be used in national and international studies were decided upon. Accordingly, a personal information form, an open-ended questions form, and a semi-structured interview form consisting of questions related to the subject were prepared. In this context, the final version of the measurement tools to be used in the research was created with the necessary adjustments based on the opinions obtained by consulting 4 experts working in the field of education programmes and teaching and 3 preschool teachers working in preschool education.

3.4. Data Collection Tools

In this research, a personal information form, an open-ended questions form, and an interview form were used to examine the experiences of preschool teachers regarding the distance education teaching process.

3.4.1. Personal Information Form

The personal information form contains questions prepared by the researcher to determine the information of the research group. The personal information form includes variables such as 'gender, age, place of work, professional experience, management training status in the use of technology in education, and distance learning experiences before the pandemic' to determine the

characteristics of the research. The personal information form was used to identify the teachers in the research group in relation to the specified topic. In this study, the personal information form contains 6 questions to determine the teachers' relationship to the topic.

3.4.2. Open-ended Questions Form Regarding Teachers' Distance Learning Processes

An open-ended questions form was used in the research to determine the views of preschool teachers regarding their distance learning experiences during the pandemic. The open-ended questions form allows participants to answer open-ended questions naturally and sincerely, independently of the researcher, and also allows the researcher to access the truth (Reja, Manfreda, Hlebec, Vehobar; 2003). In this context, the open-ended questionnaire included six open-ended questions designed to examine preschool teachers' experiences with distance learning.

3.4.3. Interview Form Regarding Teachers' Distance Education Processes

In the study, a semi-structured interview form was used in the interactive interview process to determine the views of preschool teachers regarding their distance learning experiences during the pandemic. The semi-structured interview form contains nine open-ended questions to examine preschool teachers' distance learning experiences in depth.

3.5. Data Analysis

3.5.1. Quantitative Data Analysis of the Personal Information Form

In the Personal Information Form, variables such as gender, age, place of work, professional experience, management training status regarding the use of technology in education, and distance learning experiences prior to the pandemic were examined. The quantitative data obtained from the research were analysed using the SPSS 20 programme. Frequency and percentage calculations were used for the analysis.

3.5.2. Open-Ended Questions Form Qualitative Data Analysis

When analyzing the data from the open-ended questions form of the research, content analysis and descriptive analysis methods were used in sequence. The responses provided by the pre-school teachers participating in the study were evaluated by dividing them into six themes. Subsequently, the findings obtained from the opinions related to these themes were supported by direct quotations from the teachers and presented in the findings section of the study. In light of this information, an inductive approach was adopted in the data analysis process in this study, followed by a deductive approach. Content analysis is a scientific approach that aims to systematically examine data in depth and organize information to arrive at concepts and relationships that facilitate the interpretation of data (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, Demirel, 2013). The responses provided by pre-school teachers to open-ended questions were independently categorized into themes by two different experts, after which the themes were compared. The reliability formula proposed by Miles and Huberman (2016) was used to calculate the reliability of the research. The six different questions in the open-ended questionnaire were examined separately by two different experts. Then, using the formula $\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}}$, the reliability

percentage was calculated separately for each question. According to Miles and Huberman, a reliability score above 0.80 indicates that the research results are reliable (Miles and Huberman, 2016; trans: Akbaba Altun and Ersoy).

The reliability coefficient values of the opinions obtained from the open-ended questions form are given in Table 2 below.

Table 2. Content Analysis of Preschool Teachers' Opinions Miles-Huberman Reliability Values

	Opinion Form Qualitative Data Content	Reliability Value
1	• Preschool Teachers' Opinions on Their Experiences Reflected in Teaching Learning Processes	.91
2	• Preschool Teachers' Views on Changes in Their Perspectives on the Use of Technology in Education	.90
	• Preschool Teachers' Views on Changes in Their Perspectives on Distance Education Processes Regarding Changes in Their Perspectives on Distance Education Processes	.87
3	• Preschool Teachers' Opinions on Problems Experienced in Teaching Learning Processes Provided by Distance Education	.85
4	• Preschool Teachers' Opinions on Teaching Provided Through Distance Education Regarding the More Effective Usability of Learning Processes	.94
5	• Preschool Teachers' Opinions on the Continuation or Termination of Teaching and Learning Processes Provided Through Distance Education After the Pandemic	.85
6	• Observations on Parents and Students in Learning Processes Regarding Parents and Students in the Learning Processes.	.87

3.5.2.1. Interview Form Qualitative Data Analysis

In the study, content analysis and descriptive analysis methods were used to analyse the data obtained from semi-structured interviews with preschool teachers. The responses provided by the preschool teachers participating in the study were evaluated by dividing them into six themes. Subsequently, the findings obtained from the views related to these themes were supported by direct quotations from the teachers and presented in the findings section of the study. In light of this information, this study adopted a deductive approach followed by an inductive approach in the data analysis process. Content analysis is a scientific approach that aims to examine the data systematically and in depth, organize the information, and arrive at concepts and relationships that facilitate the interpretation of the data (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, Demirel, 2013). The responses provided by pre-school teachers in the semi-structured interview were independently categorized into themes by two different experts, after which the themes were compared. The reliability formula proposed by Miles and Huberman (2016) was used to calculate the reliability of the research. The nine different questions in the semi-structured interview form were examined separately by two different experts. Then, using the formula $\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}}$, the reliability percentage was calculated separately for each question. According to Miles and Huberman, a reliability score above 0.80 indicates that the research results are reliable (Miles and Huberman, 2016; trans: Akbaba Altun and Ersoy).

The reliability coefficient values of the views obtained from the semi-structured interview

form are given in Table 3. below.

Table 3. Content Analysis of Preschool Teachers' Views Miles-Huberman Reliability Values

	Interview Form Qualitative Data Content	Reliability Value
1	Preschool Teachers' Opinions on Technology-Supported Programmes Used in Preparing and Implementing Teaching Processes Provided by Distance Education and the Use of Technology-Supported Programmes in Preparing and Implementing Teaching Processes	.95
2	Preschool Teachers' Opinions on Technology-Supported Programmes Used in Preparing and Implementing Teaching Processes Provided Through Distance Learning Regarding Technology-Supported Programmes Used in Teaching Processes	.83
3	Preschool Teachers' Opinions on Technology-Supported Programmes Used in Teaching Processes Provided Through Distance Learning Regarding the Views of Stakeholders (Parents, Students) on the Availability of Technological Tools and Software in Teaching Processes	.85
4	Preschool Teachers' Views on the Availability of Technological Tools and Software Among Stakeholders (Teachers, Parents, Students) in Teaching Processes Provided Through Distance Learning Regarding the Knowledge, Skills, and Competency Proficiency of Stakeholders (Teachers, Parents, Students) Regarding Knowledge, Skills, and Competency Sufficiency	.81
5	Preschool Teachers' Views on Learning Provided Through Distance Education Regarding Feedback on Teaching Processes Conducted Through Live Lessons and Assignments	.86
6	Preschool Teachers' Opinions on Feedback Regarding Learning Provided Through Distance Education Their Opinions Regarding Participation in Face-to-Face and Distance Education Processes in Teaching Processes	.87
7	Preschool Teachers' Opinions on Student Achievement in Teaching Processes Provided by Distance Education Regarding Student Achievement in Teaching Processes	.85
8	Preschool Teachers' Views on Learning Provided Through Distance Education Regarding the Continuation of Teaching Processes During the Prolongation of the Pandemic or After the Pandemic	.95
	Preschool Teachers' Opinions and Recommendations Regarding the Evaluation of Teaching Processes Provided Through Distance Learning Regarding Their Evaluation of Teaching Processes	.90

4. FINDINGS

This section presents the findings obtained from the interviews conducted using an open-ended questionnaire and semi-structured interviews. Findings obtained from preschool teachers' responses to questions regarding teaching and learning processes provided through distance education during the pandemic, included in the open-ended questionnaire, are presented. Teachers' responses to questions regarding teaching and learning processes provided through distance education during the pandemic, included in the open-ended questionnaire, were examined under six different themes. These themes are: 'Experiences, Change in Perspective on the Use of Technology in Education, Problems Encountered and Suggested Solutions, Opinions and Suggestions on the Effective Use of the Distance Learning Process, Sustainability of Distance Learning, Observations Regarding Stakeholders'.

The second section of the findings examines the findings obtained from the responses given

by pre-school teachers in semi-structured interviews to questions regarding the teaching processes provided through distance education during the pandemic. The responses provided by the teachers in the semi-structured interview were examined under six different themes. These themes are "Learning-Teaching Process, Encountered Obstacles, Competencies, Learning Environment, Assessment, and Recommendations".

4.1. FINDINGS OBTAINED FROM TEACHERS' OPINIONS IN THE OPEN-ENDED QUESTIONNAIRE REGARDING DISTANCE EDUCATION PROCESSES

4.1.1. FINDINGS RELATED TO THE FIRST SUB-PROBLEM

The first sub-problem of the research is "What are the experiences reflected in the teaching-learning processes provided through distance education during the pandemic?" In this regard, the opinions of teachers regarding the experiences of pre-school teachers reflected in the teaching-learning processes provided through distance education during the pandemic, as included in the first sub-problem, were examined under the theme of "Experiences" in the open-ended questions form. It was observed that the opinions were grouped under two different sub-themes: "Positive Experiences" and "Negative Experiences". Teachers' views on their experiences reflected in the teaching-learning processes provided through distance education during the pandemic are presented below.

4.1.1.1 Teachers' Views on the Impact of Remote Education on Teaching and Learning Processes During the Covid-19 Pandemic

The views of pre-school teachers regarding their experiences reflected in the teaching-learning processes provided through distance education during the pandemic process are grouped under two different sub-themes: "Positive Experiences" and "Negative Experiences".

The views of preschool teachers regarding their positive experiences reflected in the teaching-learning processes provided through distance education during the pandemic are presented below.

4.1.1.1.1 Views on Positive Experiences

It was found that preschool teachers' positive experiences reflected in the teaching-learning processes provided through distance education during the pandemic included views such as not experiencing time constraints, maintaining communication with students, and gaining more knowledge about technological education and training tools.

The teachers' views on positive experiences are presented below through direct quotations.

T.2 *"It can instil a sense of responsibility for learning in individuals from conscious families. Other than that, I don't think it has many positive aspects."*

T.3 *"I don't experience time constraints. It's nice to be able to reach my students all day. My parents have learned to spend more quality time with their children."*

T.4 *"My positive experiences are that our communication with our students has not been interrupted."*

It offers the opportunity to teach children as if we were face to face."

T.5 *"I gained more knowledge about technological education and teaching tools. As required by our age group, conducting distance learning activities with parental support increased parent-teacher communication and supported school-family cooperation."*

Teachers' views on negative experiences are presented below through direct quotations.

4.1.1.1.2 Opinions Regarding Negative Experiences

It was found that the negative experiences of preschool teachers reflected in the teaching and learning processes provided through distance education during the pandemic included very low participation in the distance education process, difficulty in getting students' attention, students' lack of technological competence, problems with the student's learning environment, and students' lack of technological tools and equipment. Teachers' views on their negative experiences are presented below through direct quotations.

T.1 *"Very low participation in the learning-teaching activities I conducted through distance education. Not being able to reach enough of my students. Experiencing technical glitches during live lessons."*

T.2 *"Difficulty in getting students to pay attention. The inability to easily establish face-to-face teaching relationships. Encouraging dependence on communication technology."*

T.3 *"There were difficulties for my students who lacked technological proficiency, and we were unable to provide a social environment. The age group is not very suitable for receiving education in front of a screen."*

T.4 *"As a negative experience, we generally encounter difficulties arising from the child's environment. For example, the family not having arranged the child's environment is a major problem. Or the lack of the necessary technological tools for the child to participate in the lesson, or the lack of internet. Difficulties can also arise in some movement-requiring games (due to the family watching or listening)."*

T.5 *"The number of siblings, the parents' employment status, and whether the home environment has the tools and equipment to carry out activities created inequality among children in terms of participation in education. Some parents' lack of seriousness in live lessons negatively affected motivation."*

4.1.2. FINDINGS RELATED TO THE SECOND SUB-PROBLEM

The second sub-problem of the research is: "What are the views of pre-school teachers regarding the use of technology in education and changes in their perspectives on teaching and learning processes through distance education in the teaching-learning process provided by distance education?" In this regard, the open-ended questions in the form of the second sub- problem reveal the views of preschool teachers on changes in their perspectives on the teaching- learning processes provided through distance education during the pandemic, which are divided into two sub-themes: "Changes in Perspectives on the Use of Technology in Education" and "Changes in Perspectives on

Distance Learning Processes." These sub-themes were further analyzed by coding them as "Change in Perspective" and "No Change in Perspective."

4.1.2.1. Teachers' Views on Changes in Their Perspectives on the Use of Technology in Education in the Teaching-Learning Process Provided by Distance Education during the Covid-19 Pandemic

The views of pre-school teachers regarding changes in their perspectives on the teaching-learning processes provided through distance education during the pandemic were examined under the sub-theme "Changes in Perspectives on the Use of Technology in Education," categorized into codes such as "Change in Perspective" and "No Change in Perspective."

The views of preschool teachers regarding changes in their perspectives on teaching and learning processes provided through distance education during the pandemic were examined in light of the sub-theme "Changes in Perspectives on the Use of Technology in Education". Findings were obtained indicating that all teachers had changed their perspectives on the use of technology in education, and it was determined that there were no teachers whose perspectives had not changed.

Teachers' views on changes in their perspectives on the "Use of Technology in Education" regarding the teaching and learning processes provided through distance education during the pandemic are presented below through direct quotations.

T.1 *"I realized that I was lacking in the use of technology and that there were areas I needed to improve."*

T.2 *"Of course, there was a change. I didn't use EBA much, and my knowledge about EBA was limited. I started using computer applications more than pen and paper activities."*

T.3 *"I was always a teacher who was inclined to use technology, but I have developed myself a lot since the pandemic. It is very useful for capturing the children's attention. I think that by immersing ourselves in technology, we are setting an example for children on how to use technology correctly."*

T.5 *"Although it was difficult and unsettling at first to leave the classroom environment where we felt safe and venture into an unfamiliar area, as the frequency of applications increased, my teaching became more effective."*

4.1.2.2. Teachers' Views on Changes in Their Perspectives on the Teaching-Learning Process Provided Through Distance Education During the Covid-19 Pandemic

The views of pre-school teachers regarding changes in their perspectives on the teaching-learning processes provided through distance education during the pandemic were examined under the sub-theme 'Changes in Perspectives on Distance Education Processes'.

Findings indicate that all teachers experienced a change in their perspectives on distance learning processes, and it was determined that no teachers remained unchanged in their perspectives.

Teachers' views on changes in their perspectives on teaching and learning processes provided through distance education during the pandemic are presented below through direct quotations.

T.2 *"I am open to innovation. Although I experienced difficulties, I think I adapted to the teaching-learning process. I ask myself what we can do with the materials we have at home. I started using materials that I did not use normally, such as making skeletons with spoons and working on patterns with spoons. But still, normal education is better."*

T.3 *"I think we have actually understood the importance of social learning. We need our schools for peer learning and socialization. Otherwise, teaching can be done anywhere. We have seen once again that knowledge is very accessible."*

T.5 *"While it was initially thought that distance learning in pre-school education could only be done through homework assignments, I believe that as long as children's attention spans are taken into account, the process can also be supported by video, audio recordings, and live lessons."*

4.1.3. FINDINGS RELATED TO THE THIRD SUB-PROBLEM

The third sub-problem of the research is: "What are the problems experienced by pre-school teachers in the teaching-learning processes provided through distance education and what are the proposed solutions to these problems?" In this regard, the views of teachers on the problems experienced by preschool teachers in the teaching-learning processes provided through distance education during the pandemic and their solution proposals, in the form of open-ended questions, were examined under the sub-theme "Problems Experienced and Solution Proposals" with the codes "Problems Experienced by Teachers and Solution Proposals" (), "Problems Experienced by Parents and Proposed Solutions," and "Problems Experienced by Students and Proposed Solutions."

4.1.3.1. Teachers' Opinions on the Problems Experienced in the Teaching-Learning Process Provided by Distance Education During the Covid-19 Pandemic Period and Solution Proposals Related to These Problems

Teachers' views on the teaching-learning processes provided through distance education during the pandemic, as indicated under the codes "Problems Experienced by Parents and Proposed Solutions" and "Problems Experienced by Students and Proposed Solutions," are quoted directly below.

T.1 *"I do not think distance learning is sufficient or necessary for younger age groups. Young children are inclined to learn by actively doing and experiencing. I believe that education provided by sitting them in front of a screen is harmful rather than beneficial. Education can continue at home during the pandemic by creating a learning environment with their families. A teaching and learning environment can be created with their families in the forest, in nature."*

T.2 *"How is distance learning done? How are live lessons done on EBA? How are student passwords given on EBA? How do you take a screenshot during a live lesson? How do you share videos? How do you share videos on EBA? Questions like these constantly occupied my mind. Through my own efforts, I watched videos, sometimes watching them several times, and discussed them with my friends, thus resolving my issues. If all teachers had been required to attend informative seminars in a virtual environment, perhaps the processes would have been easier."*

T.3'' *PROBLEM: Parents' technological limitations*

SOLUTION: I discuss with parents outside of class about the methods they can use and provide support.

PROBLEM: Parents not allocating time for activities sent home.

SOLUTION: I give the children tasks they can do on their own via voice message or encourage them to ask their families for help via voice message.

T.4 *"The most common problem we face is the family not supporting the child in the education and training process. The second is students not being able to participate due to not having the necessary technological tools or internet access. The third is not providing the child with the necessary educational environment. The fourth is that not every activity can be done through distance learning. For the first problem, the solution could be to provide family education. The second problem can only be solved by the state providing internet and technological equipment support for disadvantaged children. For the third problem, we can talk to the parents. For the fourth problem, support for the activity can be requested from the family. Parents can share their observations with us."*

T.5 *"The lack of a clear explanation by the authorities on how to implement distance learning in pre-school education. This caused difficulties in the early stages of implementation. More clear information could be provided on how distance learning is implemented. Over time, children's participation and interest in education decreased. The continuity of interest can be ensured by reducing the duration of activities and increasing one-to-one meetings."*

4.1.4. FINDINGS RELATED TO THE FOURTH SUB-PROBLEM

The fourth sub-problem of the research is: "What are the views and suggestions of preschool teachers regarding the teaching-learning processes provided through distance education during and after the pandemic period in order to enable teachers to use distance education more effectively?"

The views and suggestions of preschool teachers regarding the teaching-learning processes provided through distance education during and after the pandemic, aimed at enabling teachers to use distance education more effectively, were examined under the theme "Views and Suggestions for the Effective Use of the Distance Education Process". Findings obtained from teachers' views and suggestions regarding the effective use of the distance learning process resulted in codes such as "Sustainability of Stakeholder Collaboration," "Need for Professional Development Support," "Need for Field-Specific Programmes," and "Effective Process Management."

4.1.4.1 Teachers' Views on Recommendations for More Effective Use of Teaching and Learning Processes Provided Through Distance Education During the Covid-19 Pandemic

The views and suggestions of pre-school teachers regarding teaching and learning processes provided through distance education during and after the pandemic, in order to enable teachers to use distance education more effectively, are listed below with direct quotations under the codes 'Need for Professional Development Support', 'Need for Field-Specific Programmes', and 'Effective Process Management'.

T.2 *"The more cooperation there is between the child, parents and teacher, the better. Seminars could be organized in a virtual environment to enable teachers to use distance learning more effectively. The success of teachers in distance learning depends on their ability to reach children more easily. For this reason, children should be provided with free internet access. Teachers' personal development should be supported so that they can keep up with the times. In distance learning, children cannot touch their teachers because lessons take place in a virtual environment. To draw children more into lessons, activities that improve teachers' fluency and effective speaking skills could be organized."*

T.3 *"When using applications such as WhatsApp, I prefer to reach children through voice or video calls. Even if parents are uninterested, children are not. I make time for it. I do my preparation beforehand. I always try to keep their curiosity active."*

T.4 *"For teachers to use it more effectively, I believe they should first take courses on the use of technology in education. This will enable them to plan comfortably using technology. The distance learning process is entirely related to the use of technology in education. Therefore, using this technology is essential for teachers."*

T.5 *"Instead of a standard approach for every teacher, in-service training can be provided for distance education applications specific to their own field."*

4.1.5. FINDINGS RELATED TO THE FIFTH SUB-PROBLEM

The fifth sub-problem of the research is "What are the views and suggestions of pre-school teachers regarding the continuation or termination of distance learning applications after the pandemic period?"

The views and suggestions of preschool teachers regarding the continuation or termination of distance learning applications after the pandemic period were examined under the theme of "Sustainability of Distance Learning". Based on the findings obtained from the teachers' views and suggestions regarding the continuation or termination of distance education practices after the pandemic period, as obtained from the open-ended questions form, the codes 'Distance Education Practices Should Be Terminated', 'Distance Learning Practices Should Be Designed in Conjunction with Face-to-Face Education', and 'Distance Learning Practices Should Continue'.

4.1.5.1 Teachers' Opinions and Suggestions Regarding the Continuation of Distance Learning Applications After the Covid-19 Pandemic Period

The responses of pre-school teachers regarding the continuation of distance learning applications after the pandemic period, under the codes "Distance Learning Applications Should Be Terminated", "Distance Learning Applications Should Be Designed Together with the Face-to-Face Education Process", and "Distance Learning Applications Should Continue", are quoted directly below.

T.1 *"Distance learning should be discontinued after the pandemic period. I believe that distance learning should be discontinued after the pandemic due to reasons such as the difficulties*

experienced by teachers and students in distance learning, the difficulty of maintaining students' attention during the education period, the inability to measure and evaluate, and the lack of seriousness in the learning environment."

T.2 "Distance learning should be discontinued after the pandemic period. Not every child is born with equal opportunities. The pre-school period is the period when brain development is most intense and rapid. As the brain develops rapidly during the pre-school period, this period is the least susceptible to environmental influences. School is an environment that is richer in stimuli. This is because most families are inadequate in terms of equipment. It is also a suitable environment for the socialization needs of preschool children. For this reason, distance learning should be discontinued after the pandemic period."

T.3 "After the pandemic period, distance learning should continue in a hybrid learning model (combining distance and face-to-face education). Being at school some days and at home other days can enable children to participate in activities outside of school in their social lives and improve their life skills. Of course, teachers will support this process by assigning tasks and providing guidance."

T.4 "Distance learning should be discontinued after the pandemic period. I do not think distance learning is sufficiently effective. At the same time, children already spend too much time in front of screens. The shorter this period, the healthier it is for children. Distance learning should not be used unless absolutely necessary. Face-to-face communication with children is more effective and efficient."

T.5 "Distance learning should be discontinued after the pandemic period. Pre-school education students have a need for socialization due to their age groups. I believe that the process of behavioral change in a child is most effectively achieved in a school environment."

4.1.6. FINDINGS RELATED TO THE SIXTH SUB-PROBLEM

The sixth problem of the research is "What are the observations of pre-school teachers regarding parents and students in the teaching-learning process provided through distance education?"

Preschool teachers' observations regarding parents and students in the teaching-learning process provided through distance education were examined under the theme of "Observations Regarding Stakeholders." Based on the findings obtained from the teachers' observations of parents and students in the teaching-learning process provided through distance education, using an open-ended questionnaire, the codes "Observations Regarding Parents" and "Observations Regarding Students" were obtained.

4.1.6.1 TEACHERS' VIEWS ON THEIR OBSERVATIONS OF PARENTS AND STUDENTS IN THE TEACHING-LEARNING PROCESSES PROVIDED THROUGH DISTANCE EDUCATION DURING THE COVID-19 PANDEMIC

The responses provided by preschool teachers in the "Observations Regarding Parents" code during the teaching-learning process facilitated by distance education are directly quoted below.

The responses provided under the code "Observations Regarding Parents" are quoted directly below.

T.1 *"Parents wanted to help their children participate in live remote lessons during this period, but some said they couldn't join their children's learning environment because they lacked certain technical resources (internet, connection, zoom application download) or because they were working."*

T.2 *"Families need support with computers and phones. Parents with children in older age groups, in particular, stated that they struggled to keep up with their children. Parents who can devote time to their children are doing wonderful activities and we are progressing interactively with them. But what about those who cannot regularly do activities with their children? Those who cannot devote time to their children at? These parents I mentioned are raising generations that will cause us to experience loss in our future."*

T.3 *"Parents with a high level of awareness began spending more quality time with their children. Families had the opportunity to closely monitor their children's development. Their technological skills improved. However, children and families who were severely affected either joined the race or became indifferent, in my opinion."*

T.4 *"During the pandemic, our parents initially spent effective and productive time with their children by doing all the activities we sent them, but as time went on, we started to receive no feedback. Even though we try to motivate them, they say their children don't want to do it. Sometimes, during my meetings, children even say they don't want to do the videos we send them."*

T.5 *"I think parents find it particularly difficult to keep up with distance learning in families with many children. I have observed that parents who do not fully understand the importance of pre-school education participate less than parents of children in other grades."*

In the teaching-learning process provided through distance education by preschool teachers The responses they provided under the code "Observations Regarding Students" are quoted directly below.

T.1 *"I believe that students' motivation has decreased, that they experience connection problems during the already limited distance learning lesson time, and that, as a result, they are unable to achieve the learning outcomes they should."*

T.2 *"Children's attention is easily distracted. Potentially capable children are learning less than expected due to reasons such as lack of materials at home and parental indifference."*

T.3 *"Some students spend their entire day very poorly with tablets and phones, while some students have learned to use technological devices effectively. Without supervision at home, they began to communicate with teachers. They began to follow their responsibilities. I don't think our students were ready for this process."*

T.4 *"Students initially do things enthusiastically with their parents but gradually start to clash with them. However, an audio task or video call from the teacher is enough to motivate them."*

T.5 *"In preschool-aged children, the routine at home can only progress within a certain framework"*

of rules and order with parental control. Children who are supported and encouraged by their families participate more actively in the process, while those who do not receive the necessary support do not participate to the same extent."

4.2. FINDINGS FROM THE SEMI-STRUCTURED INTERVIEW CONDUCTED WITH TEACHERS REGARDING THE DISTANCE LEARNING PROCESS

This section of the study presents the findings obtained from the semi-structured interview conducted with preschool teachers. The findings obtained from the interview have been organised according to the themes identified in line with the aim of the study. The findings obtained from the semi-structured interview with preschool teachers are divided into six different themes. These themes are "Teaching-Learning Process, Encountered Obstacles, Competencies, Learning Environment, Assessment, and Recommendations".

4.2.1. Findings from Teachers' Views on the Teaching-Learning Process Theme

Pre-school teachers expressed their views on the programmes they used during the distance learning teaching-learning process and the methods they employed. The findings obtained from these views are outlined below.

The views of preschool teachers regarding the programmes they used in the distance education learning and teaching process are presented in Table 4.

Table 4. Opinions Regarding the Programmes Used in the Distance Education Learning and Teaching Process

	Programmes Used
T.1.	Zoom, WhatsApp
T.2.	Zoom, WhatsApp, Microsoft Office Programmes (Word, PowerPoint)
T.3.	Zoom, WhatsApp, EBA, Web2 Tools (Chatter Kid)
T.4.	WhatsApp
T.5.	Zoom, WhatsApp, Microsoft Office Programmes

Table 4 shows that pre-school teachers stated that they used programmes such as 'Zoom, WhatsApp, Microsoft Office Programmes (Word, PowerPoint), EBA, Web2 Tools (Chatter Kid)' in their distance learning teaching and learning processes. One teacher's response to the question is quoted directly below.

T.3 "The programmes I use in the distance education process are Zoom, WhatsApp, EBA, and Web2 Tools. I think that Web2 Tools, for example, the Chatter Kid programme, attract children's attention and are effective."

The findings obtained from the opinions of pre-school teachers regarding the methods and techniques used in the distance education learning and teaching process are presented in Table 5.

Table 5. Opinions on the Methods Used in the Distance Education Teaching and Learning Process

	Teaching Methods and Techniques
T.1	Direct instruction, Video presentation (EBA or YouTube)
T.2	Lecture, Presentation
T.3	Lecture Presentation, Video Presentation (EBA or YouTube)
T.4	Direct instruction, Video Presentation (Eba or YouTube)
T.5	Direct instruction, Video Presentation

Table 5 shows that pre-school teachers stated that they used "Straightforward Explanation, Video Presentation (Eba or YouTube), Presentation, Brainstorming" as methods and techniques in the distance learning process. The response given by one teacher to the question is quoted directly below.

T.5 *"Frankly, we have to use straightforward narration in the distance learning process, even if we don't want to. Still, I use brainstorming in the form of competitions to make the lesson interesting. I also use straightforward narration, PowerPoint presentations, and video presentations from EBA or YouTube."*

4.2.2 Findings from Teacher Opinions on the Theme of Encountered Obstacles

Preschool teachers expressed their views on the theme of "Challenges Encountered" reflected in the implementation process under the sub-themes of "Challenges Encountered by Teachers During the Process" and "Challenges Encountered by Parents During the Process." From the views related to these sub-themes, the codes "Barriers Related to the Use of Technology Programmes" and "Barriers Related to Parents' Access to Technology" were obtained.

The findings obtained from the opinions of preschool teachers regarding the obstacles encountered by teachers and parents in the distance education learning and teaching application process are presented in Table 6.

Table 6. Views on the Barriers Faced by Teachers in the Distance Education Teaching and Learning Application Process

Challenges Faced by Teachers Challenges	T.1	Zoom Technical Issues			
	T.2	Zoom Reliability Issues			
		Zoom and WhatsApp Foreign Language Issue			
		WhatsApp Not Granting Moderator Permissions			
	T.3	Zoom Technical Issues			
	T.4	WhatsApp Participant Limitation Zoom Foreign Language Issue			
	T.5	WhatsApp Participant Limitation Zoom Foreign Language Issue			
Regarding Parents Challenges Encountered	Tablet	Mobile Phone	Computer	Printer	Internet
T.1	Yes	Yes	Yes	No	Yes
T.2	Yes	Yes	No	No	Yes
T.3	No	Yes	No	No	Yes
T.4	No	Yes	No	No	Yes
T.5	No	Yes	No	No	Yes

Table 6 shows that teachers and parents expressed their views on the obstacles they encountered in the remote teaching and learning processes.

Preschool teachers stated that they encountered obstacles such as uncertainty about the reliability of the Zoom programme, technical problems, and the programme being in a foreign language in relation to the sub-theme of 'Obstacles encountered by teachers'. Regarding the WhatsApp programme, they stated that they encountered obstacles such as participant limitations, technical problems, the programme being in a foreign language, and not being given moderator authority. One teacher's response to the question is quoted directly below.

T.3 "For example, I will compare Zoom and WhatsApp meetings. I have used both. Now, with Zoom, we have the luxury of turning off the microphones and managing the children ourselves, but that is not the case with WhatsApp. There is static. We experience communication problems. The sound is slightly delayed. The children cannot wait during that time."

Preschool teachers expressed the view that parents generally do not have software and hardware other than mobile phones and the internet, in relation to the sub-theme of 'Barriers Related to Parents'. The response given by one teacher to the question is quoted directly below.

T.2 "I hear this from some of my parents. Especially parents with several children ask me if we can change the time. Because I have observed that computers and phones are insufficient."

4.3. Findings from Teacher Opinions on the Competencies Theme

Based on the views expressed by preschool teachers regarding the theme of 'Competencies' in distance education processes, the sub-themes of 'Teacher Competencies', 'Parent Competencies'

and 'Student Competencies' were formed.

Findings obtained from preschool teachers' views on the sub-themes of 'Teacher Competencies', 'Parent Competencies' and 'Student Competencies' in the distance education learning and teaching process are presented in Table 7.

Table 7. Teachers' Views on Stakeholders' Competencies in the Distance Education Teaching and Learning Application Process

Teachers'		
Competencies	T.1	Inadequacy in Technical Matters Computer Usage Incompetence
	T.2	Knowledge and Skill Inadequacy
	T.3	-
	T.4	Regarding the English Structure of Programmes Foreign Language Deficiency Insufficient Technical Knowledge
	T.5	Insufficient Use of Technology in Education
Parents Competencies	T.1	Insufficient Application Skills Insufficient Participation Rate
	T.2	Inadequate Educational Status Insufficient Participation Rate
	T.3	Insufficient Participation Rate (Process design with sibling support)
	T.4	High Application Skills
	T.5	Insufficient Foreign Language Skills
Student Programmes Competencies	T.1	Insufficient Ability to Use Independent
	T.2	Inability to Use Independent Programmes
	T.3	Inability to Use Independent Programmes
	T.4	Inability to Use Independent Programmes
	T.5	Inability to Use Independent Programmes

Upon examining Table 7, it is observed that pre-school teachers have expressed their views on the 'competencies' theme regarding the competencies of teachers, parents, and students, who are stakeholders in the process.

It was found that preschool teachers expressed their views on "teacher competencies" as follows: teachers' lack of computer skills, lack of technical knowledge, lack of information skills, lack of foreign language skills related to the English structure of the programmes, and lack of technology use in education. The response given by one teacher to the question is quoted directly below.

T.4 *"We are really quite inadequate in technical matters. Especially since most of the programmes are in English. Our knowledge of English is at primary, secondary and high school level. So, we have a bit of trouble, but I generally look it up when there's something I don't know, to see what it means. We try to learn that way, there's nothing else we can do. We haven't had any training in this area anyway. I have never had any knowledge of web2 tools or educational technologies until now. I really haven't had any training, but if we actually had a good computer at our disposal, we might try to learn."*

It has been found that pre-school teachers expressed the view that there is a lack of application skills, a lack of participation, a lack of educational status, a lack of application skills, and a lack of foreign language skills in relation to 'parental competence'. The answer given by a teacher to the question is quoted directly below.

T.1 *"Frankly, based on the feedback I received from parents, they were just as surprised and bewildered as we were. During this process, it was said that there would be distance learning and face-to-face education. Since decisions were made based on the situation, these decisions surprised them too. There are subjects they are inadequate in, in terms of these applications. Many of them already say they cannot participate because of work. I think they may need training too. But whether they can find the time for that is another matter."*

It was found that pre-school teachers expressed the view that there was a lack of ability to use independent programmes in relation to 'student competencies'. The response given by one teacher to the question is quoted directly below.

T.5 *"WhatsApp is already part of our social lives, so the children were already familiar with using it. That's why they have no trouble with voice messages or video feedback, but when it comes to Zoom or EBA, a parent's supervision is definitely needed to open and close them. Even though we can read and write, we struggled because our English is not good enough. Now they have reached an advanced level in terms of turning the microphone on and off. In the early days, this also caused us a lot of difficulty. They would turn it on or off without realising."*

4.4. Findings from Teacher Opinions on the Learning Environment Theme

Findings obtained from preschool teachers' views on the 'Learning Environment' theme are as follows: 'Comparing Live Lessons with Distance Learning Applications and Feedback', 'Interest and Participation in Face-to-Face Education and Distance Learning', 'Comparing the Process of Face-to-Face Education and Distance Education with Success Criteria', and 'Students' Success in the Teaching-Learning Application Process in Face-to-Face Education and Distance Education'.

Findings obtained from preschool teachers' views on the sub-theme "Interest and Participation in Face-to-Face Education and Distance Education" are presented in Table 8

Table 8. Interest and Participation in Face-to-Face and Distance Education Teaching and Learning Application Processes

	Face-to-face Education	Distance Learning March-April Period	Distance Learning May-June Period
T.1	14	7-8	3-4
T.2	15	7-8	5
T.3	24	15	3-4
T.4	19	16	2-3
T.5	16	15	2-3

Upon examining Table 8, it was found that preschool teachers stated that interest and participation levels were low during the period when they switched from face-to-face education to distance education in March, April, May, and June, based on their observations of students' interest and participation in classes during the months of March, April, May, and June when distance education was implemented, compared to their current numbers during the period when they provided face-to-face education. It was found that teachers expressed the view that interest and participation levels were low in the teaching and learning process during the months of March and April, and that interest and participation levels in distance learning lessons fell to even lower levels in May and June. The response given by one teacher to the question is quoted directly below.

T.3 *"I had 24 students. Normally, they had no absences unless they were ill. During the distance learning process, I can say that there were about 15 students on average, but then a few months later, especially after Ramadan, there was a dispersion and distancing. We could call it the relaxation of the summer holidays. It decreased later on. It was very good at first, but then it decreased."*

The views of pre-school teachers on the sub-theme of "Live Lessons and Distance Education Teaching and Learning Application Process Feedback" are presented in Table 9.

Table 9. Teachers' Opinions on Feedback on the Live Lesson and Distance Education Teaching and Learning Application Process

	Views on Live Lessons	Views on Education Through Assignments
T.1	Individual assessment Live lessons are effective	Advantages of individual Assesment limitations Difficulty of the control process
T.2	Live class instant feedback opportunity	Low feedback percentage
T.3	Live lessons are effective	Difficulty of the control process
T.4	If the guideline is from the teacher more effective	If the instructions come from the parent less effective
T.5	Live Lessons are Beneficial Live Lessons Offer Immediate Feedback	-

Upon examining Table 9, it is evident that preschool teachers have expressed their views on the advantages and disadvantages of the live lesson teaching process and the assignment-based teaching process they have implemented in their distance education teaching and learning processes. In line with these views, it was found that preschool teachers stated that live lessons had limited individual assessment, were more efficient, increased effectiveness as the teacher provided the instructions, and offered the opportunity for immediate feedback. Regarding teaching processes conducted through assignments in distance education, it was found that they expressed views on the advantage of individual assessment, the difficulty of the control process, and the fact that the effectiveness is reduced when the instructions are given more by parents. The answer given by one teacher to the question is quoted directly below.

T.3 *"In live lessons, the children are with me, and I tell them directly what I have to say. So, I guide them, and my motivation rate in this regard increases. But in the messages I send on WhatsApp, if the parent cannot engage with them, there is nothing motivating for the child because they cannot see it. If the mother does not care either, it just gets lost in the mix. In my WhatsApp conversations, I generally think about continuing by talking directly to the children via voice messages or by recording videos. I also used to inform the parents to please let the children listen to them. In short, I get better feedback when the child hears me. In other words, I need to communicate."*

The findings obtained from the views of preschool teachers on the sub-theme of "Face-to-Face Education and Distance Education Teaching-Learning Application Process Success Rates" are presented in Table 10.

Table 10. Teachers' Views on the Success of the Face-to-Face Education and Distance Education Teaching-Learning Application Process

	Face-to-Face Education and Distance Views on Education	Reason
T.1	The face-to-face education process is successful	Process Under Teacher Supervision
T.2	The face-to-face education process is successful	Process Under Teacher Supervision
T.3	The face-to-face education process is successful	Process Under Teacher Supervision
T.4	The face-to-face education process is successful	Process Under Teacher Supervision
T.5	The face-to-face education process is successful	Process Under Teacher Supervision
T.1	Distance learning process unsuccessful	Low Participation Rate
T.2	Distance learning process unsuccessful	Low Parental Support
T.3	Distance learning process unsuccessful	Methods and Techniques Not Adapted to Distance Learning
T.4	Distance learning process unsuccessful	Process Under Parent Supervision
T.5	Distance learning process unsuccessful	Process Under Parent Supervision

Upon examining Table 10, it was found that preschool teachers expressed the view that the face-to-face education process was successful because it was under teacher supervision. The response given by one teacher to the question is quoted directly below.

T.2 *"Even when we struggle to get the children's attention in the classroom, when we use programmes such as EBA, WhatsApp or Zoom, the children's attention span is even shorter. We cannot make eye contact. We are less able to establish rapport because we cannot see the child face-to-face. Unfortunately, not every child is born with equal opportunities. We cannot reach all of them. Even if they are not very successful in class, the child is doing it in some way. That child's educational attainment has decreased, and their success has decreased. I think this will also affect our future generations."*

The findings obtained from the views of pre-school teachers on the sub-theme of "Students' Achievement Levels in the Face-to-Face Education and Distance Education Teaching- Learning Application Process" are presented in Table 11.

Table 11. Teachers' Views on Student Achievement in the Face-to-Face and Distance Education Teaching-Learning Application Process

	Face-to-Face Education and Distance Education Process Regarding Student Achievement	Reason
T.1	Successful in the face-to-face education process Low success in the distance learning process	Process Under Teacher Supervision
T.2	Successful in face-to-face education process Failure in distance learning	Social learning advantage Presence of distracting elements
T.3	Successful in face-to-face education process Failure in distance learning	Peer learning environment advantage Change in method and technique (Switching to direct instruction)
T.4	Face-to-face education process successful Failed in the distance learning process	Process under parental initiative
T.5	Face-to-face education process successful Failure in the distance learning process	Process under teacher supervision Process under parental initiative

Table 11 shows that preschool teachers expressed their views on student success in face-to-face and distance learning teaching and learning processes. It was found that the reasons for student success in the face-to-face teaching and learning process were "the process being under teacher supervision and the advantages of social and peer learning". It was found that the reasons cited for students' failure in the distance learning process were "the presence of distractions, changes in methods and techniques, and the process being at the initiative of parents' interest." The responses given by two teachers to the question are quoted directly below.

T.1 *"In pre-school education, assessment is not exam-based. In this case, how can we assess the child in distance learning? This is the problem. In face-to-face education, we experience many things with the student in the classroom. We do many activities. When playing games and singing songs, we have the opportunity to get to know the child. We have the opportunity to observe and assess their development, but I think we cannot assess this very well in distance education, and I think we will not be able to assess it."*

T.3 *"When we are face-to-face in a live lesson, it inevitably becomes more effective, as if we are explaining and they are listening in some places. This is not very suitable for this age group. Even if we try our best, sometimes it doesn't work. That's why I think methods and techniques are also very*

important. The age of these children also contributes to this. Perhaps it would work better with a slightly older age group, but that's not the case here."

4.5. Findings from Teacher Opinions on the Evaluation Theme

Findings obtained from pre-school teachers' views on the theme of 'Evaluation' regarding the distance learning teaching and learning application process have formed the sub-themes of 'Effectiveness', 'Efficiency', 'Sustainability', and 'Success of the Distance Learning Application Process'. The views of preschool teachers on the sub-themes of 'Effectiveness', 'Efficiency', 'Sustainability', and 'Success of the Distance Education Implementation Process' within the 'Evaluation' theme regarding the distance education teaching-learning implementation process are presented in Table 12.

Table 12. Teachers' Opinions Regarding Their Assessment of the Distance Education Teaching-Learning Implementation Process

	Effectiveness	Efficiency	Sustainability Distance	Education Implementation Process Success Status
T.1	Unsuccessful	Unsuccessful	Unsuccessful	Unsuccessful
T.2	Unsuccessful	Successful	Undecided	Unsuccessful
T.3	Unsuccessful	Unsuccessful	Undecided	Unsuccessful
T.4	Unsuccessful	Unsuccessful	Undecided	Unsuccessful
T.5	Unsuccessful	Unsuccessful	Undecided	Undecided

Table 12 shows that pre-school teachers expressed their opinions regarding the 'effectiveness, efficiency, sustainability, and implementation processes of distance education' in relation to the teaching and learning processes of distance education. It was found that teachers expressed their views as unsuccessful in terms of 'effectiveness', successful and unsuccessful in terms of 'efficiency', unsuccessful and undecided in terms of 'sustainability', and unsuccessful and undecided in terms of the 'success status of the distance education process'. One teacher's response to the question is quoted directly below.

T.1 "If we had a choice, I am sure that distance learning would not be the method any of us would choose. Especially for the 4-5-6 age group who cannot read or write. But out of necessity, even if it is not effective, we teachers are doing our best to make it effective. The distance learning process is not effective. Compared to face-to-face education, I don't think it is efficient either. I hope we don't have to continue like this and return to face-to-face education as soon as possible. I can say that distance education is unsustainable. The distance education process is not successful."

Based on the findings obtained from the views of pre-school teachers on the theme of "Recommendations" regarding the distance learning teaching-learning application process, three sub-themes have been created: "Recommendations for Teachers", "Recommendations for Parents", and "Recommendations Regarding the Distance Education Implementation Process."

Preschool teachers' "Recommendations" regarding the distance learning teaching- learning

application process "Recommendations for Teachers", "Recommendations for Parents", and "Recommendations Regarding the Distance Education Implementation Process" are presented in Table 13.

Table 13. Teachers' Views on Recommendations Regarding the Distance Education Teaching-Learning Implementation Process

	Recommendations for Teachers	Recommendations for Parents	Recommendations Regarding the Distance Learning Implementation Process
T.1	Use of Technology In Education In-Service Training	The Necessity of Education	Continue the Current Distance Education Model
T.2	Use of Technology In Education In-Service Training	EBA and TRT TV Channel Parent Information Program	Continue the Current Distance Education Model
T.3	Use of Technology In Education In-Service Training	The Necessity of Education	The Necessity of Adapting Methods and Techniques to Distance Education
T.4	Use of Technology In Education In-Service Training	The Necessity of Education	Continue the Current Distance Education Model
T.5	Use of Technology In Education In-Service Training	EBA and TRT TV Channel Parent Information Program	Continue the Current Distance Education Model

Upon examining Table 13, it was found that preschool teachers made recommendations regarding "teachers, parents, and implementation processes" in relation to distance education teaching and learning processes.

It was found that teachers suggested that in-service training on the use of technology in education should be provided "for teachers" in the distance learning teaching-learning process. The response given by one teacher to the question is quoted directly below.

T.2 "As teachers, we should always be open to innovation, but the whole world and the whole of Turkey were taken aback. Because distance education happened all of a sudden. I think if in-service seminars, even if they were compulsory, we would all be in a much better position. Besides, I think we are lacking."

It was found that teachers suggested that education should be provided 'for parents' in the distance education teaching and learning process and that parent information bulletins could be provided on the EBA and TRT platforms. The response given by a teacher to the question is quoted directly below.

T.5 "In the early days, parents also struggled a lot, especially on Zoom, because the language was English. Like us, they learned by trial and error over time. At least on TRT and EBA, training could have been provided for parents on how to use these educational technologies. That way, they could all have access."

It was found that teachers suggested continuing with this model regarding the

implementation of distance education in the distance education teaching and learning process.

T.5 *"The current framework seems to have been prepared taking into account the attention span of children. Therefore, I think this framework can be continued."*

5. DISCUSSION

Early childhood teachers have expressed the view that students' interest and motivation in distance learning processes declined over time during the pandemic. Studies in the field literature indicate that the use of technology and different applications in education increases student motivation (Higgins, Huscroft-D'Angelo, Crawford, 2019; Sosin et al., 2004). This finding from the study may be attributed to the fact that, even though technology and different applications are used in the distance learning process, the lack of interaction and naturalness of the process compared to face-to-face education causes students to lose interest and motivation.

In their study, Niemi and Cousa (2020) concluded that even though distance education processes were implemented successfully, students experienced a loss of interest and motivation due to their dissatisfaction with the interaction and naturalness of the face-to-face education process. Furthermore, the study concluded that teachers, another stakeholder in the distance learning process, also expressed the view that they did not find the process successful and were dissatisfied with distance learning. Studies in the field literature indicate that teachers' dissatisfaction with distance education processes is related to not feeling prepared for distance education activities (Alea et al., 2020; Fauzi et al., 2020; Mukoviz, 2016; Van der Spoel et al., 2020); superficial teaching (Niemi and Cousa, 2020; Yurtbakan and Akyıldız, 2020); and dissatisfaction with their ability to partially fulfil their duties online (Fauzi and Khushuma, 2020; Tümkän and Tümkän, 2020). The results of this study are consistent with the findings of studies in the literature.

Preschool teachers stated that teachers, parents, and students lacked sufficient knowledge, skills, and competence regarding the implementation of distance education processes. When examining these perceived shortcomings, it is seen that the shortcomings relate to the areas of 'integration of technology into education and foreign language' for teachers, 'ability to use independent programmes' for students, and 'use of technology and foreign language' for parents. With the pandemic also affecting educational practices, the decision to switch to distance learning caught teachers, who are stakeholders in the process, unprepared. In this context, it is seen that teachers have deficiencies in planning, implementation, and evaluation related to the integration of technology into education and the distance learning process, as well as in the use of technological tools, and that they need support in these areas (Alea et al., 2020; Fauzi et al., 2020; Van der Spoel et al., 2020). The lack of knowledge, skills, and competence of parents, another stakeholder in the distance learning process, regarding their participation in the process has a negative impact on the process. Tümkän and Tümkän (2020) state that parental involvement in distance learning processes increases student motivation. In order for the distance education process to be successfully coordinated, the

stakeholders in the process must work together and benefit from professional development services related to the process (Aliyyah et al., 2020; Fauzi et al., 2020). In this context, they expressed the view that teachers need to receive professional development training on planning, implementing, and evaluating the distance learning process, while parents need to obtain information from parent information bulletins via television channels or the internet. In this context, they recommend that preschool teachers, as stakeholders in the process, should receive professional development training on the planning, implementation, and evaluation of distance education and the integration of technology into educational practices, while parents, another stakeholder, should obtain information from parent information bulletins via television channels or the internet.

The study found that one of the factors affecting distance learning processes is that students do not have the technological and hardware tools they need for the distance learning application process. It can be said that when planning and implementing distance learning programmes during the pandemic, the availability of the technological and hardware tools that students will need during the process and the socio-economic status of families are conditions that must be taken into account. Students' participation in distance education is directly proportional to their access to the necessary technological and hardware tools and their families' socio-economic status (Aliyyah et al., 2020; Sönmez et al., 2020). In this context, it can be considered that one of the reasons for the low participation rates of students in the distance learning process is that they do not have the technological and hardware tools they need.

Regarding the problems experienced in the implementation of distance education teaching and learning processes, teachers stated that they encountered problems such as the foreign language of the programmes they used in the distance education process, uncertainties about the reliability of the programmes, and participant limitations of the programmes. They also expressed their views on the problems they experienced in adapting the activities included in the pre-school education programme to the distance learning process and stated that innovations should be made in the pre-school education programme to ensure that the activities in the pre-school education programme are successfully implemented in distance learning processes. This situation can be attributed to the characteristics of the age groups of the children and their lack of reading and writing skills. In their study, Sönmez et al. (2020) concluded that the programme content should be enriched by taking age groups into consideration, particularly in distance learning activities conducted through the Education Information Network (EBA) used in Turkey. In this context, the views presented in the study suggest that distance learning applications conducted through the Education Information Network (EBA) fail to fully meet expectations regarding the pre-school education programme and age groups.

It was concluded that preschool teachers indicated that there were necessary changes in their methods and techniques during the implementation of distance learning processes and that they generally used the 'Lecture' method in distance learning lessons, which they did not prefer to use in

face-to-face education. It is thought that the change in the methods and techniques used by teachers in the distance education process was influenced by variables such as changes in lesson duration, changes in learning environments, students' interest and attention levels, and differences in interaction. In this context, teachers stated that their success rates in terms of efficiency and effectiveness were negatively affected due to the mandatory methods and techniques used in their distance education practices. Gündüz (2013) concluded in his study that teacher candidates found distance education activities to be less effective than face-to-face education activities, while Yurtbakan and Akyıldız (2020) concluded in their study that teachers did not find the process instructive in terms of covering the topics. The results of this study are consistent with the findings of Gündüz (2013) and Yurtbakan and Akyıldız (2020).

6. RESULTS AND RECOMMENDATIONS

6.1. Findings

1. It was concluded that preschool teachers found teachers, parents, and students, who are stakeholders in distance education learning and teaching processes, to be inadequate in terms of knowledge, skills, and competence.
2. It was concluded that teachers, who are stakeholders in distance education learning and teaching processes, indicated a need for professional development training, while parents indicated a need for training related to the process.
3. It was concluded that students do not have sufficient access to the technological tools and equipment necessary for the implementation of distance learning and teaching processes.
4. It was concluded that distance learning and teaching processes cannot replicate the interactive effect of face-to-face education, and therefore students' success rates have decreased.
5. It was concluded that distance learning processes did not satisfy teachers, and teachers viewed the process as unsuccessful.
6. It was concluded that the activities included in the pre-school education programme were not successfully adapted to distance learning and teaching processes.

6.2. Recommendations

6.2.1. Recommendations for Implementation

1. Professional development training on the use of technology in education and distance learning processes can be organized for pre-school teachers.
2. Training sessions on distance learning processes and applications could be organized for parents via television or the internet.
3. Activities included in the pre-school education programme can be reorganized to integrate them into distance learning teaching and learning processes.
4. The Ministry of National Education may provide technological equipment support to

students who are unable to benefit from distance learning processes in order to increase process participation and make distance learning processes more successful.

6.2.2. Recommendations for Researchers

1. This research was conducted with pre-school teachers working at the same school in Hatay province. Similar studies could be conducted with teachers working in other provinces on the same subject.
2. This research examined the distance learning experiences of preschool teachers at the preschool education level. Studies on this topic could be organized with teachers from different levels and different branches.

REFERENCES

- Alea, L. A., Fabrea, M. F., Roldan, R. D. A., & Farooqi, A. Z. (2020). Teachers' Covid-19 awareness, distance learning education experiences and perceptions towards institutional readiness and challenges. *International Journal of Learning, Teaching and Educational Research*, 19(6), 127-144.
- Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia. *Journal of Ethnic and Cultural Studies*, 7(2), 90-109.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. K., Karadeniz, Ş., & Demirel, F. (2013). *Scientific Research Methods*, Pegem Academy, Revised 14th Edition, Ankara.
- Creswell, J. W. (2016). *Qualitative research methods: Qualitative research and research design according to five approaches*. (Translation Editors: Bütün M. and Demir S. B.) Siyasal Publishing House. Ankara
- Elçi, İ., & Tünkler, V. (2022). Social studies teachers' experiences of the emergency distance learning process during the COVID-19 period and their predictions about the new normal. *JYaşadıkça Eğitim*, 36(2), 307-324.
- Fauzi, I., & Khusuma, I. H. S. (2020). Teachers' elementary school in online learning of COVID- 19 pandemic conditions. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 5(1), 58-70.
- Gülbahar, Y. (2009). *E-learning*. Ankara: Pegem Academy.
- Gündüz, A. Y. (2013). *Prospective teachers' perception of distance education* (Master's thesis, Sakarya University).
- Higgins, K., Huscroft-D'Angelo, J., & Crawford, L. (2019). Effects of technology in mathematics on achievement, motivation, and attitude: A meta-analysis. *Journal of Educational Computing Research*, 57(2), 283-319.
- Lau, J., Yang, B., & Dasgupta, R. (2020). Will the coronavirus make online education go viral. *Times Higher Education*. Retrieved 4 December 2020, from <https://www.timeshighereducation.com/features/will-coronavirus-make-online-education-go-viral>
- Miles, B. M., & Huberman, M. A. (2016). *Qualitative data analysis* (Translated by S. Akbaba Altun and A. Ersoy). Ankara: Pegem Academy.
- MukovıZ, O. P. (2016). The examination of primary school teachers' readiness for distance learning in the lifelong education system. *GLOKALde*, 2(1), 27-44.
- Öz, H. (2024). *Reflections of distance education on social studies lessons during the Covid-19 pandemic: a phenomenological study* (the case of Muğla province) (Unpublished master's thesis). Institute of Educational Sciences, Muğla Sıtkı Koçman University, Muğla.
- Özkan-Korkmaz, N. (2023). *An examination of social studies teachers' views on the distance education*

- process* (Unpublished master's thesis). Institute of Social Sciences, Afyon Kocatepe University, Afyonkarahisar.
- Simonson, M., Smaldino, S., & Zvacek, S. (2015). *Teaching and learning at a distance. Foundations of distance education* (Sixth Edition). Charlotte, NC: Information Age Publishing. Access.
- Niemi, H. M., & Kousa, P. (2020). A case study of students' and teachers' perceptions in a Finnish high school during the COVID pandemic. *International Journal of Technology in Education and Science*.
- Punch, K. F. (2013). *Introduction to social research: Quantitative and qualitative approaches*. Sage.
- Reja, U., Manfreda, K. L., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. closed-ended questions in web questionnaires. *Developments in Applied Statistics*, 19(1), 159–177.
- Simonson, M., Zvacek, S. M., & Smaldino, S. (2019). *Teaching and Learning at a Distance: Foundations of Distance Education 7th Edition*. IAP.
- Sosin, K., Lecha, B. J., Agarwal, R., Bartlett, R. L., & Daniel, J. I. (2004). Efficiency in the use of technology in economic education: Some preliminary results. *American Economic Review*, 94(2), 253-258.
- Sönmez, M., Yıldırım, K., & Çetinkaya, F. Ç. (2020). Evaluation of the Distance Education Process Associated with the Novel Coronavirus (SARS-CoV2) Outbreak Based on the Opinions of Classroom Teachers. *Electronic Turkish Studies*, 15(6), 855-876
- Tümkan, F., & Tümkan, Ş. (2020). Evaluation of the Effects of the Changes Created by the Mandatory Break in Education During the Pandemic Period on Education in Primary Schools. *Electronic Turkish Studies*, 15(4), 1163-1184.
- Ülkü, S. (2018). *Primary school teachers' attitudes towards distance education* (Doctoral dissertation, Master's Thesis). Abant İzzet Baysal University Institute of Educational Sciences).
- Van der Spoel, I., Noroozi, O., Schuurink, E., & van Ginkel, S. (2020). Teachers' online teaching expectations and experiences during the Covid19-pandemic in the Netherlands. *European journal of teacher education*, 43(4), 623-638.
- Yurtbakan, E., & Akyıldız, S. (2020). Primary School Teachers', Primary School Pupils' and Parents' Views on Remote Education Activities Implemented During the Covid-19 Isolation Period. *Electronic Turkish Studies*, 15(6), 949-978.

COVID-19 PANDEMİ SÜRECİNDE OKUL ÖNCESİ ÖĞRETMENLERİNİN UZAKTAN EĞİTİM DENEYİMLERİNİN İNCELENMESİ

Bu araştırma, Covid-19 pandemisi sürecinde okul öncesi öğretmenlerinin uzaktan eğitim yoluyla yürüttükleri öğretme-öğrenme süreçlerine ilişkin deneyimlerini derinlemesine incelemek amacıyla nitel araştırma yaklaşımıyla gerçekleştirilmiştir. Durum çalışması deseninin kullanıldığı araştırmanın çalışma grubunu, Hatay ilinde aynı resmi bağımsız anaokulunda görev yapan beş okul öncesi öğretmeni oluşturmaktadır. Veri toplama sürecinde “Kişisel Bilgi Formu”, “Açık Uçlu Sorular Formu” ve “Yarı Yapılandırılmış Görüşme Formu” kullanılmış; elde edilen veriler betimsel analiz ve içerik analizi ile çözümlenmiştir.

Araştırmanın yöntem bölümünde, veri analiz sürecine ilişkin detaylar özellikle vurgulanmış ve açık uçlu sorular ile görüşme formundan elde edilen verilerin iki uzman tarafından tematik olarak sınıflandırıldığı belirtilmiştir. Miles ve Huberman güvenilirlik katsayısı hesaplanmış ve tüm temalarda güvenilirlik düzeyinin .80’in üzerinde olduğu görülmüştür. Bu durum, araştırmada elde edilen bulguların güvenilirliğini artıran önemli bir unsur olarak değerlendirilmiştir.

Araştırmanın bulgularına göre öğretmenlerin uzaktan eğitime ilişkin deneyimleri hem olumlu hem de olumsuz yönleriyle ortaya çıkmaktadır. Olumlu deneyimler arasında, öğrencilerle iletişimin tamamen kopmaması, öğretmenlerin teknoloji kullanımı konusunda yeni beceriler edinmesi ve bazı ailelerin çocuklarıyla daha kaliteli zaman geçirmeye başlaması yer almaktadır. Bununla birlikte öğretmenler, uzaktan eğitimin genel olarak okul öncesi yaş grubunun gelişimsel özelliklerine uygun olmadığını ifade etmişlerdir. Olumsuz deneyimler oldukça yoğun olup; düşük katılım oranları, öğrencilerin dikkat sürelerinin kısa olması, çocukların bağımsız teknoloji kullanım becerilerinin yetersizliği ve ev ortamındaki öğrenme koşullarının sınırlılığı başlıca sorunlar olarak öne çıkmaktadır. Öğretmenler özellikle teknolojik araç gereç eksikliğinin, internet sorunlarının ve ailelerin uzaktan eğitim sürecindeki yetersiz desteğinin öğrenme sürecini olumsuz etkilediğini belirtmiştir. Çalışmada, ailelerin eğitim sürecine aktif katılımının kritik olduğu ancak bazı ailelerin hem teknik hem pedagojik açıdan yetersiz kaldığı görülmüştür. Öğretmenlerin uzaktan eğitime ilişkin bakış açılarında belirgin değişimler olduğu da bulgular arasındadır. Tüm öğretmenler teknoloji kullanımına yönelik farkındalıklarının arttığını, dijital araçları daha etkili kullanmayı öğrendiklerini ve uzaktan eğitim sürecini yönetebilmek adına yeni yöntem ve teknikler geliştirdiklerini ifade etmiştir. Buna rağmen, öğretmenler okul öncesi eğitimin temel niteliğinin sosyal, duyuşsal ve psikomotor gelişim odaklı olması nedeniyle yüz yüze eğitimin yerini uzaktan eğitimin alamayacağı konusunda hemfikirdir. Araştırmanın sonuçları, öğretmenlerin büyük çoğunluğunun uzaktan eğitim sürecini “etkisiz”, “verimsiz” ve “başarısız” bulduğunu göstermektedir. Öğretmenler değerlendirme yaparken özellikle etkileşim eksikliği, dikkat dağınıklığı, ailelerin yetersiz desteği ve program içeriklerinin uzaktan eğitime uygun olmamasını gerekçe göstermiştir. Ayrıca çocukların sosyal etkileşimden uzak kalması,

akran öğrenmesinin gerçekleşmemesi ve etkinliklerin sınırlı biçimde uygulanabilmesi öğrencilerin gelişimsel kazanımlarını olumsuz yönde etkilemiştir. Araştırmada, uzaktan eğitimin pandemi sonrası dönemde okul öncesi düzeyinde sürdürülmesine ilişkin görüşler genel olarak olumsuzdur. Öğretmenlerin çoğu uzaktan eğitimin tamamen sonlandırılması gerektiğini savunmakta; yalnızca bir öğretmen, yüz yüze ve uzaktan eğitimin bir arada kullanılabileceği hibrit bir modelin belirli koşullarda uygulanabileceğini belirtmektedir.

Sonuç olarak, araştırma okul öncesi eğitim kurumlarında uzaktan eğitimin yapısal, pedagojik ve teknolojik açıdan çeşitli sınırlılıklara sahip olduğunu ortaya koymaktadır. Öğretmenler teknoloji entegrasyonu konusunda mesleki gelişim eğitimine ihtiyaç duyduklarını; ailelerin ise bilgilendirilmesi ve sürece daha etkin katılması gerektiğini belirtmektedir. Ayrıca okul öncesi eğitim programındaki etkinliklerin uzaktan eğitime uyarlanabilir şekilde yeniden düzenlenmesi ve dezavantajlı öğrenciler için teknoloji desteği sağlanması gerektiği sonucuna ulaşılmıştır.