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We've All Traveled, We've All Learnt: Virtual Field Trips in Early Childhood Education[1]

Hepimiz Gezdik, Hepimiz Öğrendik: Erken Çocukluk Eğitiminde Sanal Alan Gezileri[1]

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ABSTRACT: Field trips, which are a fundamental element of early childhood education, are activities that provide rich learning experiences for children. However, while planning these activities, factors such as security, permission processes, costs, and the attitudes of families bother early childhood teachers. In addition, it becomes impossible to conduct field trips during periods when mobility is restricted, such as the pandemic. Virtual field trips are considered a solution to eliminate these obstacles that limit traditional field trips. However, there is a significant gap in the literature regarding the implementation of virtual field trips in early childhood education. Based on these two points, this study aims to examine the experiences of kindergarten children and their parents regarding virtual field trips. The study, which was designed as an interpretive qualitative study, included 7 children attending kindergarten within the body of a primary school and their parents. Within the scope of the research, 5 virtual field trips were organized to different destinations, and the experiences of children and their parents were examined. As a result of this analysis, the outcomes of virtual field trips for children and families, factors that increase their effectiveness, and advantages and disadvantages of virtual field trips were revealed.

Keywords: Early childhood education, preschool education, virtual field trips, COVID-19, interpretive qualitative study

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ÖZ: Erken çocukluk eğitiminin temel bir ögesi olan alan gezileri çocuklar için oldukça zengin öğrenme deneyimlerinin yaşandığı etkinliklerdir. Ancak güvenlik, izin süreçleri, gezi masrafları, ailelerin yaklaşımı gibi etmenlerin erken çocukluk eğitiminde alan gezilerin gerçekleştirilmesinde öğretmenleri sınırlandırdığı bilinmektedir. Bunlara ek olarak pandemi gibi hareketliliğin kısıtlandığı dönemlerde alan gezilerini gerçekleştirmek imkânsız hale gelmektedir. Sanal alan gezileri geleneksel alan gezilerini sınırlandıran söz konusu engelleri ortadan kaldırmak için bir çözüm yolu olarak değerlendirilmektedir. Ancak sanal alan gezilerinin erken çocukluk eğitiminde uygulanmasına ilişkin literatürde önemli bir boşluk bulunmaktadır. Bu iki noktadan hareketle bu araştırmada okul öncesi dönem çocuklarının ve ebeveynlerinin sanal alan gezilerine ilişkin deneyimlerinin incelenmesi amaçlanmaktadır. Yorumlayıcı nitel araştırma olarak tasarlanan çalışmada bir ilkokula bağlı anasınıfına devam eden 7 çocuk ve ebeveynleri yer almıştır. Araştırma kapsamında farklı destinasyonlara 5 sanal alan gezisi düzenlenmiş ve çocukların ve ebeveynlerinin deneyimleri incelenmiştir. Bu inceleme sonucunda sanal alan gezilerinin çocuklar ve aileler açısından çıktıları, etkiliğini artıran faktörler, avantajları ve dezavantajları ortaya koyulmuştur.

Anahtar sözcükler: Erken çocukluk eğitimi, okul öncesi eğitim, sanal alan gezileri, COVID-19, yorumlayıcı nitel araştırma

1. INTRODUCTION

Field trips have started to be regarded as a basic element of early childhood education since the early 1930s with the groundbreaking work of Lucy Mitchell (cited in Eckhoff, 2019). Field trips, whose educational benefits have been proven by various research, continue to be a valuable part of the learning experience today (Tunks & Allison, 2020). Field trips, which can also be named educational trips, were defined by Krepel and DuVall (1981) as school or class trips for educational purposes where learners interact with the environment or exhibitions to establish an experiential connection with ideas, concepts, and subjects (as cited in Behrendt & Franklin, 2014). From the perspective of early childhood education, field trips that provide children with the opportunity to get to know their environment, achieve the acquisitions targeted by the curriculum, and learn concepts can be considered educational practices that aim to meet children's first-hand and meaningful learning needs through investigation, problem-solving, and observation (Ministry of National Education [MoNE], 2013).

Although field trips in early childhood education may seem like simple visits to a nearby bakery, train station, or park, they provide rich and interesting learning experiences for children (National Association of Young Children [NAEYC], 2015). Field trips have numerous benefits, such as enriching and expanding the program, strengthening observation skills by engaging children in sensory activities, increasing children's knowledge on a particular subject, and increasing their awareness of their community (Nabors, Edwards, & Murray, 2009). Field trips provide children with primary experiences in using science process skills, such as gathering information, making observations, and making inferences (Seefeldt, 1993). Field trips that stimulate children's sense of curiosity offer them the opportunity to enrich their vocabulary, develop problem-solving skills, acquire new concepts, and expand and deepen their prior learning (Saul, 1993). Moreover, by providing authentic learning opportunities, field trips increase learners' interest and motivation (Behrendt & Franklin, 2014; Hofstein & Rosenfeld, 1996). In addition to all these, field trips can also be used to promote parent involvement, which is one of the most crucial components of early childhood education (Parsons, 1995; Saul, 1993).

It is known that the positive outcomes of field trips, offering rich learning experiences for children, are retained for many years (Falk & Dierking, 1997; Saul, 1993). In their study conducted with a group of primary school students, secondary school students, and adults, Falk and Dierking (1997) revealed that 96% of the participants remembered at least one field trip they participated in during their early school years. Furthermore, it was found that almost all of the participants were able to recall some information – mostly related to the content of the field trip – that they had learned during the field trips in the early years, even years later.

There are also some obstacles to the successful implementation of field trips that contribute to the educational process in a wide range of ways. Reasons such as transportation costs, safety, and surveillance concerns often limit teachers' ability to conduct field trips and thus the opportunities for children to benefit effectively from these learning experiences (Bredekamp, 2017; Pierantozzi, 2008). For example, a study carried out with 505 early childhood educators showed that educators refrained from organizing field trips due to reasons such as feeling uneasy because of safety issues (60.8%), challenging and difficult permission processes (40.4%), travel expenses (24.6%), and the lack of suitable environmental conditions for field trips (20.2%) and the majority of the participants organized field trips only once or twice a year (Erata, 2018). Another study indicated organizing field trips among the areas in which early childhood educators experienced the most difficulty. Teachers generally stated the difficulties they experienced in organizing field trips as the long duration of obtaining necessary permissions and the negative attitudes of families towards field trips due to issues such as health or safety

(Erden, 2010). Likewise, Tutkun, Aydın-Kılıç, Balcı, and Kök (2019) revealed that early childhood educators encountered familial problems, such as financial problems and safety concerns, while planning field trips. In addition to the above-mentioned difficulties teachers encounter, factors such as the COVID-19 pandemic, which has been experienced globally in the recent past, restrict mobility and, therefore, field trips.

Although virtual field trips (VFTs) cannot completely replace physical field trips, they can be considered a solution to achieve the positive outcomes of field trips and remove the obstacles limiting field trips (Morgan, 2015). VFTs can be defined as computer-based simulations of an actual field trip, ensuring that users indirectly experience the targeted location and environment (Hosticka, Schriver, Bedell, & Clark, 2002, cited in Han, 2020a). In the context of educational institutions, VFTs can be defined as field trips carried out virtually using different technologies such as video conferencing applications, augmented reality, and virtual reality for the same purposes as physical field trips, allowing learners to acquire information without leaving their classrooms or places (Garcia, Nadelson, & Yeh, 2023; Zanetis, 2010).

There are two types of VFTs: synchronous and asynchronous. Asynchronous virtual field trips, the common type of VFTs, are not delivered in real time. Asynchronous VFTs are basically conducted via websites containing text, audio, or video resources. Synchronous VFTs are recordable, interactive, and real-time virtual field trip experiences. Synchronous VFTs are real-time learning experiences in which participants obtain various information from other educators or experts in different locations through video conferencing platforms from their location (Kenna & Poter, 2018; Zanetis, 2010).

VFTs enable children to visit places that they cannot visit through traditional physical field trips, such as planets and museums in different countries. Well-planned VFTs help children discover new content, increase their knowledge, and understand the world, in addition to visiting places they have not seen (Morgan, 2020). Additionally, new visits by learners also contribute to developing their vocabulary (Morgan, 2015). Moreover, VFTs enable learners with special needs, who may encounter difficulties in physical field trips, to easily access places further away from their environment (Elleven, Wircenski, Wircenski, & Nimon, 2006).

The above-mentioned advantages offered by VFTs come to the forefront, particularly during periods of restricted mobility, such as the COVID-19 outbreak. As is known, with the COVID-19 pandemic, schools all over the world were suddenly closed, and education was suspended. However, efforts to continue education have gained momentum with the opinions of numerous international organizations, education experts, and researchers indicating that rights to education should be guaranteed and the learning process should continue somehow in times of crisis when students cannot attend school physically (Bonal & González, 2020; Dayal & Tiko, 2020). In Turkey, as in the world, education continued using different models, such as hybrid education and distance education (Alan, 2021; Alan & Sinoğlu-Günden, 2022). Nevertheless, due to the pandemic, these educational models did not make it possible to conduct physical field trips. In this respect, VFTs were regarded as a valuable opportunity to provide rich experiences for learners. Considering the COVID-19 pandemic, respected museums worldwide made virtual tours of their exhibitions available, and some other institutions changed their services for children. For example, the Cincinnati Zoo and Botanical Garden closed to visitors due to the pandemic, started giving online daily lessons on different zoo animals (Tate, 2020). However, despite the spread of VFTs with the COVID-19 pandemic, it is seen that these practices are mostly found and evaluated at the upper levels of education in the literature, and the gap regarding the examination of these experiences, particularly for young learners during the early childhood period, is remarkable (Garcia,

Nadelson, & Yeh, 2023). In this context, based on the fact that physical field trips could not be carried out due to the COVID-19 pandemic and the gap in the literature, this study aims to examine the experiences of a group of kindergarten children and their parents regarding VFT practices.

2. METHOD

2.1. Research Design

This study, which aims to examine the experiences of a group of kindergarten children and their parents regarding VFT practices, has been designed as an interpretive qualitative study (Merriam & Greiner, 2009). Interpretive qualitative study, also called "basic interpretive qualitative" study or "basic qualitative study" (Merriam, 2009; Merriam & Tisdell, 2016), is one of the most common qualitative research designs. The vast majority of qualitative research studies conducted in the field of education and labeled as qualitative studies fall under this design. Researchers conducting interpretive qualitative studies aim to explore and understand how participants make meaning of a situation, process, or phenomenon and how they interpret their experiences (Merriam, 2009; Merriam & Greiner, 2019). Within the scope of this study, the main aim was to understand and reveal how kindergartners and their parents make sense of and interpret their experiences related to VFTs.

2.2. Participants

The study included seven kindergartners and their parents. To determine the participants, criterion sampling, which is a purposeful sampling technique, was used (Patton, 2015). The first criterion to determine the participants was group size, as it affects the child–adult ratio, an indicator of quality in early childhood education (Alan & Erdoğan, 2018). The importance of the child–adult ratio has become more evident, especially in distance education practices in early childhood. Research highlights that it is effective to work with small groups to provide each child sufficient time to interact and share in remote synchronous online education processes (Kim, 2020). The teacher of the kindergarten where VFTs would be conducted was the second criterion by which the participants were determined: She must have sufficient skills to carry out VFTs and be willing to cooperate and participate in the study. For this reason, it was tried to find a group that was not too crowded and a teacher who was willing to carry out VFTs and participate in the study. In this context, a teacher who had a class with an ideal group size and worked with the author in different projects and teaching practicum courses was considered as a potential participant and she was informed about the content and purpose of the study. After the teacher stated that she was willing and volunteered the study was planned to be conducted in her class which was a public primary school's kindergarten in a city located in midwestern Turkey. The participants of the study consisted of 7 children who were officially enrolled in the classroom and participated in the education during the pandemic period and their parents. Three of the children were boys and four were girls. The mother of 5 children, the sister of 1 child, and the mother and father of 1 child took part in the study. Demographic information about the participant children is presented in Table 1.

The parents were informed about the study's purpose and content prior to the study. The children's parents were asked to fill out the voluntary participation and parental consent forms, and the children who were allowed to participate in the study took part in the study as participants. The necessary permissions to conduct the study were received from Eskişehir Province Directorate of National Education. The Scientific Research and Publication Ethics Committee of Anadolu University approved

that the study did not violate ethical values and did not pose any threat to children's development. Pseudonyms were used in the study to protect the participants' anonymity.

Table 1. *Information about Participant Children*

Pseudonyms	Gender	Age (months)	VFT experience before study	Education level of mothers	Education level of fathers
Damla	Girl	77	No experience	Undergraduate	Middle school
İpek	Girl	71	Has experience	PhD	Undergraduate
Kerem	Boy	73	No experience	High school	High school
Mert	Boy	68	No experience	High school	Undergraduate
Rengin	Girl	78	No experience	Middle school	Middle school
Sıla	Girl	75	No experience	Middle school	Middle school
Yiğit	Boy	68	No experience	Undergraduate	Undergraduate

2.3.   Data Collection Tools and Data Collection

An information form, structured child interview form, and semi-structured parent interview form were used as data collection tools in the study.

The information form was used to acquire demographic information about children and their experiences related to the research content. The information form was prepared as Google Forms by the researcher and responded to online by the parents.

The child interview form was used weekly to reveal the children's experiences with VFTs. The form developed by the researcher was evaluated by an expert working in early childhood education and finalized. The child interview form created via Google Forms was sent to the parents after each VFT activity by sharing the link in the online communication group of the class. The parents were requested to ask the questions in the form to their children and record the responses. The form consists of four questions, one on the rating scale and three open-ended questions.

The semi-structured interview protocol was employed to reveal the participant parents' experiences and the reflections of the practices on the participants. The form developed by the researcher was evaluated by two experts working in the field of early childhood education and technology integration in education. The form was finalized as a result of these evaluations. After all VFTs were carried out, interviews were conducted with the parents via the Zoom video conferencing platform using the semi-structured interview form. The interview process was recorded with the consent of the participants.

2.4.   Planning and Conducting Virtual Field Trips

Five VFTs were conducted over a four-week period (May 24 - June 18, 2021) within the scope of the present study. These VFTs are as follows:

- "I go to the hospital, I consult my doctor, I protect my health!"

- "I got to the market, I do healthy shopping, I protect my health!"

- "I go to the veterinary clinic; I protect my animal friends!"

- "I go to the fire station; I protect myself and my environment from fires!"

- "I go to the Science and Experiment Center; I raise my awareness of earthquakes and protect myself and my environment!"

Due to the pandemic in the first week of the specified dates, distance education took place in kindergartens within the primary school. Hybrid education practices were carried out in the following weeks as 2 days of face-to-face education and 3 days of distance education. The trip phase of all VFTs was performed as compulsory in the first week and on the days of distance education to allow children to socialize with their peers in the classroom during the face-to-face education processes in the second week. The Zoom video conferencing platform, which children used in distance education activities throughout the year, was preferred in all VFTs since it was familiar to all participants. The current conditions were first considered when determining the destinations of VFTs. In this respect, it was decided that the main theme of the trips would be "protecting." Destinations that might be suitable for children within the scope of this theme and where the researcher could communicate easily were determined. Accordingly, hospitals, markets, veterinary clinics, fire stations, and science centers were considered target destinations for trips. In line with the positive opinion of the class teacher about the themes and destinations, the researcher contacted the relevant destinations. During the interviews, the experts who would guide the VFTs were informed about the children's development and examples of activities they could do with children.

A three-stage approach – pre-trip, trip, and post-trip – is recommended for planning and organizing meaningful and productive field trips (Myers & Jones, 2004). VFTs are also very similar to physical field trips in terms of educational strategies and approaches. Hence, it is important to carry out activities before and after the trip in VFTs, as in physical field trips (Kenna and Poter, 2018). In this respect, all VFTs were planned as pre-trip activity, trip, and post-trip activity. The activities carried out before VFTs aimed to determine and expand children's preliminary knowledge about the destination to be visited. In the pre-trip activities, the place to be visited was determined on Google Maps, and the surrounding area was examined from the street view. For example, in the VFT to the hospital, this practice enabled children to see different parts of the hospital, such as the emergency department entrance and the ambulance waiting area. Moreover, a list of questions concerning the subjects the children were curious about was prepared to ask experts together with the children during the pre-trip activities. The teacher made a presentation or read a book before some VFTs. During the VFTs, the experts showed the children the place they were in and informed the children. During the trip to the hospital, the doctor informed the children about the hospital's departments, the materials she used, how she examined people, and what to do to be healthy. During the trip to the market, the expert made explanations about the different departments and characteristics of the market, healthy foods, the shopping list, and the rules to be followed in the market. During the trip to the veterinary clinic, the veterinarian introduced his office and materials and did a cat's routine checkups, vaccinations, and nail care. During the trip to the fire station, the firefighters informed the children about their duties, the vehicles they use, the way they work, their clothes, and fire prevention and showed the children how they prepared for the fire. During the trip to the science center, the expert informed the children about what to do before, after, and during the earthquake. In the activities carried out after the VFTs, conversations were held on subjects such as answers to questions asked, new information learned, and how children felt, and evaluations were made by asking the children about the acquisitions through the Worldwall application. The researcher and the class teacher participated in the whole process together and carried out activities together. Since the

researcher sent intern students to the class before the implementation, she also participated in different activities of children and met with them.

2.5.   Data Analysis

In interpretive qualitative research, data are analyzed inductively to identify recurring patterns or common themes within the data (Merriam & Greiner, 2019). In this study, the inductive analysis technique (Patton, 2002), which initially requires intensive examination of data, is guided by analytical principles rather than rules, and ends with a creative synthesis, was used to analyse the data (Patton, 2002). In this regard, first, all interviews were transcribed. Afterward, the data were read many times, and codes were assigned to the units meaningful in themselves. This step was followed by identifying the themes that clustered the codes in a meaningful way and explained what the data said (Merriam, 2009; Yıldırım & Şimşek, 2006). Due to the small number of participants, the entire data set was presented to an expert working on technology integration in education for consistency check (Thomas, 2003). The expert analyzed the data individually. Then, the researcher and the expert came together and discussed the similarities and differences in their analyses. After this discussion, the analyses were re-evaluated and finalized.

3. FINDINGS

As a result of the analysis of the data acquired within the scope of child and parent interviews, the study findings have been gathered under three main themes. These main themes are as follows: (i) Outcomes for children and their families, (ii) Factors increasing effectiveness, and (iii) General evaluation: advantages and disadvantages. The study findings are presented with direct quotations from the interviews conducted with children and their parents.

3.1.   Outcomes for Children and Their Families

In general, it was seen that the VFTs had positive outcomes for both the participating children and their families.

3.1.1. *Outcomes for Children*

Based on the data acquired from the interviews conducted with the children through their parents, the outcomes of the VFTs for children were gathered under three themes: (i) feelings (ii) knowledge, and (iii) behavior.

3.1.1.1. *Feelings*

It was found that the VFTs performed evoked positive feelings in children. These positive feelings emerged as happiness and excitement.

After each VFT, the parents were requested to ask their children how they felt after the VFT using the online interview form. Table 2 presents the general situation concerning this evaluation. As seen in

Table 2, 32 responses in total were received, and 25 of these responses were in the "I felt very happy" category, and 7 were in the "I felt happy" category.

Table 2. *Participant Children's Feelings After Attending Virtual Field Trips*

Pseudonyms	Virtual field trip attended				
	Hospital	**Market**	**Veterinary clinic**	**Fire station**	**Science center**
Damla	Very happy	Very happy	Not attended	Very happy	Not attended
İpek	Very happy	Very happy	Very happy	Very happy	Happy
Kerem	Very happy	Very happy	Very happy	Very happy	Very happy
Mert	Very happy	Very happy	Happy	Very happy	Not attended
Rengin	Happy	Happy	Very happy	Happy	Happy
Sıla	Very happy	Very happy	Very happy	Very happy	Very happy
Yiğit	Very happy	Very happy	Very happy	Very happy	Happy

After receiving answers about how the children felt, they were also asked about the reason for these feelings. Some of the children's responses are presented below.

I felt very happy. I was very happy when we went to the market. I really felt like I was in the market. (After the VFT to the market, Mert)

I felt very happy. Because I love animals very much, I like to learn about them. (After the VFT to the veterinary clinic, Sıla)

I felt very happy because I liked the veterinarian very much, and her examination of the cat was perfect. (After the VFT to the veterinary clinic, İpek)

I felt happy. I learned how to protect myself. (After the VFT to the science center, Rengin)

I felt very happy because I learned something new, and it made me happy. (After the VFT to the fire station, Damla)

I felt very happy. I had a lot of fun and learned, they explained well. (After the VFT to the fire station, Yiğit)

I felt very happy because I was very curious. (After the VFT to the hospital, Kerem)

The findings acquired from the interviews with the parents also support these statements of the children. All parents stated that the children were happy during and after the VFTs. Following are several quotes from the parents:

I think it was good... Damla learned a lot, she was very happy because she went there, because she went on a trip. She explained all the time. So, it was good. (Damla's elder sister)

Kerem was very happy, he likes such things a lot. (Kerem's mother)

She was happy in general. I didn't interfere with her at all, I just connected her and left her alone in the room, she attended on her own. Then, while she was watching, I sometimes looked at her and saw her watching very carefully. I felt she was watching without taking her eyes off it and liked it. I saw she was having fun. (Rengin's mother)

Both the children's self-reports and the parents' opinions based on their observations show that all the trips made the children happy. It was also revealed that VFTs excited the children. Most parents stressed that their children waited for VFTs with excitement and the process was very exciting for them.

She was sitting excitedly at the laptop. Before, she had been sitting to see her friends. Now, she was sitting, wondering what she would learn this time, whether she would learn something new… The female doctor connected that day, she was waiting with excitement. She would listen to the doctor, what the doctor would tell. She memorized everything in the doctor's room, stethoscope, etc.… She was very excited. She was telling what she had learned in such an excited way. (Sıla's mother)

Afterward, she came and explained in such an entertained and excited way. (Rengin's mother)

İpek's excitement was the same compared to other trips (physical field trips). Despite her young age, she was 3-4 years old two years ago, there was not much difference between her excitement and desire to participate then and now. She wanted to participate again, she was excited again and wanted to see. (İpek's father)

3.1.1.2. *Knowledge*

It was seen that the children had acquired a lot of knowledge within the scope of the VFTs performed. The interviews conducted with the children and their parents revealed that the children had acquired knowledge about the emergency call center phone number, healthy living, preparing shopping lists, earthquake preparedness, the work of veterinarians, the duties of the fire brigade, etc. in the context of the trips' content.

After each VFT, the parents were requested to ask their children what they had learned using the online interview form. Some of the children's responses after different VFTs are given below.

Our teacher presented an activity to us today. In this activity, we learned 1-1-2, that is, the ambulance. We learned what doctors use, a stethoscope, a thermometer, a sphygmomanometer, the doctor's white coat… We learned the number 1-1-2. We learned how to live a healthy life, doing sports, brushing our teeth, sleeping well, getting vaccinated, eating plenty of fruits and vegetables, and drinking homemade ayran. (After the virtual field trip to the hospital, İpek)

I learned what the doctor uses for examination and what a beautiful place Antalya is. (After the virtual field trip to the hospital, Damla)

I learned that you should not get on the shopping cart and not skateboard in the market. (I learned) to buy healthy products and that we can buy only one junk food. (After the virtual field trip to the market, Kerem)

I learned how animals are examined at the vet. There is a scale for big animals, they weigh them. They take the babies of animals with scissors there. The veterinarian cut the cat's nails with a different nail clipper. (After the virtual field trip to the veterinary clinic, Rengin)

I learned the "drop, cover, hold on" movement during disasters. We prepared a go bag. We must go to an assembly area when the earthquake is over. We will not use elevators; we will use the stairs. (After the virtual field trip to the science center, İpek)

I learned what to do during an earthquake. (After the virtual field trip to the science center, Yiğit)

I learned that their clothes are fireproof and there are fire extinguishers and hoses in fire engines. They sometimes go inside during fires and wear masks and tubes to breathe. They don't just put out fires. They rescue cats on trees and help people and those trapped in the well. The fire brigade's number is no longer 1-1-0 but 1-1-2. Sometimes, firefighters help people until the ambulance arrives, rescuing those trapped in the car. (After the virtual field trip to the fire station, İpek)

I learned that the fire should be put out in reverse and there should be a fire extinguisher in the car. In a fire, there should not be cars parked in front of the water-filling place. Otherwise, firefighters will run out of water and cannot extinguish the fire. To be quick, they slide down an iron pole. Their vests are heat-proof. (After the virtual field trip to the fire station, Kerem)

In addition to the children's responses, the parents also frequently emphasized during the interviews that their children had acquired a lot of different knowledge depending on the content of virtual field trips. Some of the parents' statements on this subject are presented below.

She showed it to her elder sister, to me, and to her father. She said you should stay here. You should protect your head like this. You should lie on the side. She said everyone should determine his protection area so that everyone can go and hide there when there is an earthquake. She said we should not go down the stairs when there is an earthquake. She said that you should not take the elevator, that you should go down the stairs after the earthquake... Sıla said we should keep our earthquake bag on the coat rack and prepare an earthquake bag with food. (Sıla's mother)

He said that we should put biscuits and water in the bag. I remember this... You know, we should put biscuits in the earthquake bag. Yiğit said, "Let's buy biscuits." (Yiğit's mother)

He explained just like he saw it. The fire brigade's number is 1-1-2 now, he caught the smallest points like this... He learned that you should not play with inflammable materials at home and plug charging and other devices into a socket, and that you should keep dangerous things away from yourself. I think it was very good for him... Seeing it with his friends and teacher and learning by having fun was even better for the child. I mean, it caused him to learn more. (Mert's mother)

After the trip to the fire station, they comprehended the numbers 1-1-2, and 1-1-0 very well. She took us right in front of the fire extinguisher places when we went to the hospital to get vaccinated. Look, Dad, 1-1-0 is written here, but this number has changed. Now, we should dial 1-1-2. For example, she explained that they must change it immediately. (İpek's father)

3.1.1.3. *Behavior*

In addition to positive emotions and acquiring knowledge, VFTs were also found to have positive outcomes in terms of behavior for children. It was determined that the children exhibited behaviors such as preferring healthy foods, preparing earthquake bags, making a list before shopping, and feeding animals with appropriate foods after VFTs. Some of the parents' statements highlighting positive behavioral changes in children are given below.

You studied the earthquake the last. She took out a small bag for herself and put clothes in it. We had a flashlight, and she put it as well. Then, she told us all, one by one, that she needed to put food in it... While explaining, she wants us to apply... Now, she prepares a list and goes to the market. She is sitting and drawing by herself, I will buy this, I will buy that, we should buy this. I take them to the market. I took them to the market a couple of times during this period. She tells

us, this is unhealthy, we shouldn't eat this, we learned this during the lesson. We wouldn't have prepared the list before, but thanks to Sıla, we said let's make a list of what we are going to buy at home. We sat down and prepared the list. We go and do the shopping the way Sıla says. Or we talk about what we should buy and what we should not. Now, we have started to talk with Sıla about whether we can afford it. This is how it happens. (Sıla's mother)

He has friends in the village. When he used to eat junk food with his friends, they used to give it to the cat before. He learned that you should not give such things to the cat. After that, he wants yogurt from me. He asks for bread with yogurt from me, you should give such things, the cat won't eat other things. He doesn't give them already. (Kerem's mother)

Rengin didn't let her sibling get on the shopping cart after the trip to the market. She said that cleaning materials should be put in a separate bag. While we do normal shopping, she is shopping more consciously now. After the trip to the veterinary clinic, she learned that we must take care of the animals outside. So, she made a birdhouse and hung it on a tree. She said she would give Pamuk in the village things he could eat. (Rengin's mother)

3.1.2. *Outcomes for Families*

Based on the data acquired from the parent interviews, the outcomes of VFTs for families were gathered under two themes, as in the outcomes for children: (i) feelings, and (ii) knowledge.

3.1.2.1. *Feelings*

It was found that VFTs evoked positive emotions in families, as in children. It was revealed that all parents were happy that their children had participated in VFTs. It was seen that the parents' happiness originated from reasons such as their children's acquiring knowledge, the happiness of their children, and the fact that a different educational experience was presented to their children. Some of the parents' opinions are presented below.

Since I have never seen it (VFT) in general, my husband and I liked it very much because I saw it for the first time. I really found it very nice because he saw and learned it in his friends' environment by having fun. Thank you very much for preparing it and educating children in this way. Mert explained everything the way he saw it. I was really very happy that he had caught the slightest points, such as the fact that the fire brigade's number is 1-1-2 now, etc., and told them to me. (Mert's mother)

I became very happy when we were told there would be a virtual trip, it was different, I said Sıla would receive an education. It was a very positive thing for me. I was sad because her elder sister had a lot of things, but there was nothing for Sıla. But this virtual trip was very good for us. It went well, so I became very happy. (Sıla's mother)

I think it was a very well-planned thing under today's (pandemic) conditions. For example, if he went to a normal school, there would be a trip under normal conditions. You've compensated for it; it was very nice. Since I became very enthusiastic, I tried to do what I was told and did it with a lot of enthusiasm. I became happier since Kerem was happy. (Kerem's mother)

3.1.2.2. *Knowledge*

As a result of analyzing the data acquired from the interviews with the parents, it was concluded that VFTs were informative for family members. Most parents stated that they learned things that they and other family members did not know together with their children during the implementation process. Some of the parents' statements are given below.

> *I learned some things I didn't know. For example, I also learned a lot of things during that earthquake VFT. We also learned a lot of things due to the experts' connecting. (İpek's mother)*

> *You planned it very nicely, you really prepared it very well to spend the process in the most entertaining way. I think you should continue this. We also had a lot of fun and learned a lot of nice things. (Kerem's mother)*

> *There were things I didn't know as well. I also learned something when Rengin explained it. What I learned… For example, I would not try to put out the fire with a cold, very wet towel, so I learned this…. It had a great impact on her sibling. For example, she always tells her sibling what she learns, she definitely makes him work, and she tries to teach everything she has learned. (Rengin's mother)*

3.2. Factors Increasing Effectiveness

As a result of the interviews conducted with the parents, the factors playing a role in the effectiveness of VFTs were gathered under two themes. According to the parents' opinions, (i) content and planning and (ii) expert's characteristics were the factors increasing the effectiveness of VFTs.

3.2.1. *Content and Planning*

The parents stressed that the fact that the content addressed within the scope of VFTs was interesting and intriguing for children and that it was presented with pre-trip and post-trip activities within a certain plan increased the effectiveness of the process. The statements of some parents in this regard are presented below.

> *I think the teacher must prepare more here. Now, it is necessary to arouse curiosity or mention interesting topics. …. So, in remote virtual trips, it is very important that the teacher prepares in advance. I think it's the same when it is well planned and the content is well planned. All of them (children) learned though. Okay, maybe they couldn't touch; they couldn't experience that atmosphere, that climate at that moment, but if we think about it in terms of learning, in terms of raising awareness in them, I think it had an equivalent effect (with traditional physical field trips). (İpek's father)*

> *The activities are completely planned and programmed. There is preparation in advance, and then whoever introduces the places to visit introduces them. I think you do question-and-answer afterward. I'd give it 10 out of 10. Because it is a very nice activity during which you can come home and communicate with us from home. Your preparation in advance, for example, the fact that the child prepares such questions, you find the questions he cannot answer, and the other party, for example, the doctor answers them are really effective. I think it had a very nice impact on the child. It's as effective as one-on-one, face-to-face training. (Rengin's mother)*

3.2.2. *Expert's Characteristics*

The parents indicated that the ability of the expert who met the children at the destination visited within the scope of VFTs to make an effective explanation suitable for the children's level increased the quality of the process. The statements of some parents on this issue are given below.

I would like to visit it as well, but they provided very good education in this virtual environment. The people we met explained it very well. They introduced it well and did their job nicely. They can't do more. They explained very well, and we were very impressed. (Sıla's mother)

The content and the person who prepares it are also important. Yes, it is carried out remotely, but you may not be able to achieve anything targeted. As I have said, the person who makes explanations is very important. ... We started with the doctor first. It was productive. I liked the doctor. She explained it very well. It was important that she explained it at the level of kindergarten children in a way they could understand. I think the doctor was very good at this. She said interesting things. She could have used technical terms, but she didn't. Maybe another doctor wouldn't have created the same effect. That's why I say whoever makes explanations is very important. (İpek's father)

3.3. General Evaluation: Advantages and Disadvantages

During the interviews with the parents, they were asked to evaluate VFT practices in general. The parents' general evaluations were gathered under two themes: (i) advantages and (ii) disadvantages of VFTs.

3.3.1. *Advantages*

In the parents' general evaluations, it was seen that the advantageous aspects of VFTs were gathered under three sub-themes. The parents evaluated the virtual field trips as advantageous in terms of (i) providing ease of concentration, (ii) providing opportunities for the participation of others, and (iii) providing location independency.

3.3.1.1. *Providing ease of concentration*

Considering the children's ability to focus and concentrate, the parents stressed that environmental stimuli and being together with their friends on physical field trips could sometimes cause children to experience difficulties focusing and concentrating. Hence, the parents stated that VFTs provided an ease of focusing for children. The opinions of some parents in this regard are shared below.

For example, preschool children came to our market a couple of times. I witnessed it first-hand. Three or two classes came at the same time. Now, a lot of things can happen. There was no such unity among children. They can get dispersed when you bring them. They may not be able to focus like this while wandering around when they enter the market. However, they didn't do much like that on the screen, they didn't disperse. Children can get dispersed face-to-face, no matter what you do. There are a lot of stimuli, for example, there is a cash desk on the other side. They can

look at cash desks and at people. Since there are too many stimuli, they can get distracted face-to-face. (İpek's father)

Children adapt more during the virtual trip because the subject is completely there, there is an activity in the full sense and children can get into it. But during the activity outside, they want to play with their friends, they look left and right. So, children inevitably get distracted there.... They are completely involved in that activity when they sit down and establish a connection in the virtual trip. I mean, those conversations, speeches, questions and answers, etc. are more effective since they don't get distracted by other things. (Rengin's mother)

3.3.1.2. *Providing opportunities for the participation of others*

Another point that the parents stressed concerning the advantages of VFTs was that other individuals at home could also participate in VFTs in addition to children. The parents, who regarded this feature of VFTs as an advantage, indicated that they, siblings of the participating children, and even their cousins could participate in VFTs with the teacher's permission. Some of the parents' opinions are presented below.

Even his elder brother learned with him, I mean, next to him. You know, his brother was standing next to him like that. They told me not to do like that but to do like this. They discussed it with his brother, and it happened in a mutual way. (Mert's mother)

Her sibling was among the most affected. He participated as well most of the time. Since he wanted a lot, our teacher allowed him to participate as well. He was also very impressed and liked it very much. (Rengin's mother)

There were a lot of children, they came to our house, it was very nice. There were her cousins and my sister's daughter. For example, she was very satisfied during the visit to the fire station. She said, Mom, the teacher allowed, and I asked a question. It actually left a good impression on our family. We all made a tour and listened to you, sitting in the back. It's an advantage that all of us could visit and see it. It was a bit like a family tour for us. (Sıla's mother)

3.3.1.3. *Providing location independency*

The parents emphasized that VFTs provided location independency and indicated this as an advantage. The parents evaluated the location independency provided by VFTs as both participating in VFTs from the desired location and performing VFTs to the desired destination. Some of the parents' views are presented below.

It was very nice; he could visit the place he wanted from where he was sitting. He spent time in the places he was interested in together with his friends or with you, from the place he was sitting, in his own environment. Of course, it was advantageous to do so. (Kerem's mother)

I think it was very good, so I can really say it was the best you could do. You know, they made a trip without going out, they could ask questions with their friends. (Yiğit's mother)

You know, there was no difficulty because we were always at home. Otherwise, we might not have attended. It could have been difficult. (Sıla's mother)

For example, I think you organize a trip to the hospital in normal times. It will be very hard. There are patients, and hustle and bustle there. We actually saw that hustle and bustle when she opened the door and showed the corridor, didn't we? It is difficult. It is a difficult field trip; you can't go there. Which hospital will you visit with the child? And even if there is no pandemic, when you take children to the hospital and even if the slightest thing happens to them, they will say, you took them to the hospital, so they might be infected. I don't necessarily say this for the pandemic. You can't make such a field trip. I think it's very advantageous for some field trips. In this way, you can take children to places that cannot be visited and can pose a danger... It can be any place in the world. (İpek's father)

3.3.2. *Disadvantages*

In the parents' general evaluations, it is seen that they mostly stressed the positive aspects of VFTs considering the pandemic conditions. However, they indicated (i) the limited use of senses as a disadvantage of VFTs.

3.3.2.1. *Limited use of senses*

The parents who compared VFTs with traditional physical field trips stated that children have the chance to fully experience the environment during physical field trips. The parents, emphasizing that VFTs only appeal to the senses of sight and hearing, evaluated this situation as a disadvantage. Some opinions of the parents in this regard are given below.

Actually, it's better to see it in person. On the aviation trip (mentions a trip attended by her elder daughter), we saw more things. We walked and looked around by touching with our hands. We examined the planes. Without seeing and touching. You know, we saw as much as could be seen on the internet, in the virtual environment. Of course, it would be better otherwise, face-to-face. We saw how it moves by touching it with our hands. But now we see as much as it could be seen on the internet, in the virtual environment. It was also nice, as much as the conditions allowed. We asked as many questions as we wanted. We also got answers to our questions. I mean, okay, you want to go out and take a trip, but I think it was good in virtual reality. It would have been nice if we had made a trip though. (Sıla's mother)

I mean, of course, when you visit a place, it is more tangible. For example, they made a trip to the science center and examined the scientific instruments themselves, as far as they could see. Visiting a place is different. As I said, it was also probably a different experience for him. If they had taken a regular trip to the fire station, they would have got in a fire truck. They would have seen something different, maybe it would have been like this. I'm sure what they saw was enough, but they would have seen it first-hand. (Kerem's mother)

4. DISCUSSION and CONCLUSION

The present study investigated the experiences of a group of kindergarten children who visited various destinations via virtual field trips during a period when the COVID-19 pandemic prevented physical field trips and their parents. As a result of this investigation, the outcomes of VFTs for children and families, the factors that increase the effectiveness of virtual field trips, and their advantages and disadvantages were revealed. It was found that VFTs evoked positive emotions in children, including happiness and excitement, and provided them with various knowledge and positive behaviors compatible with the content of the VFTs conducted. Likewise, it was concluded that VFTs aroused positive emotions in parents and helped family members acquire various information. It was determined that two factors, namely content and planning and the characteristics of the expert providing support in VFTs, played an important role in achieving these positive outcomes, in other words, performing VFTs in a quality way. Within the scope of the study, providing the ease of concentration due to relatively few environmental stimuli, providing opportunities for the participation of other individuals in the family, and providing independence in terms of both the current and target space were evaluated as advantages of VFTs, whereas the possibility of using only the senses of sight and hearing and the inability to use other senses was regarded as a disadvantage.

VFTs offer children an entertaining and interesting way to learn new concepts. When evaluated from the perspective of the ecological systems theory, VFTs that allow children to have new and different experiences support their development and learning by positively shaping their microsystems (Jones & Park, 2015). Different studies conducted with children showed that children found VFTs entertaining and wanted to experience these trips again (Cheng & Tsai, 2019; Han, 2020a) and they acquired knowledge and improved their understanding through these experiences (Cardullo & Wang, 2022; Delacruz, 2019). Likewise, the current study also indicated the affective outcomes of VFTs for children, such as happiness and excitement, cognitive outcomes, such as information about the content addressed during VFTs, and behavioral outcomes, such as preferring healthy foods, preparing an earthquake bag, making a list before shopping, and feeding animals with appropriate foods. These outcomes are the signs of a real learning experience for children (Katz, 1994). At this point, it can be stated that VFTs support children's development and learning.

Upon evaluating the learning experience through VFT in the context of families, it was found that the families were happy and acquired new knowledge through this experience. The families generally associated their happiness and information acquisition with the positive learning experience of their children – virtual field trips – and the positive outcomes created by this experience in their children – emotions, information, and behavior. While children's positive emotions and acquiring various knowledge and behaviors caused their families to feel happy, the families acquired knowledge as a result of the children's transfer of information or directly experiencing VFTs as participants. The aforementioned results are in line with the arguments put forward by the family systems theory and ecological systems theory. The family systems theory regards family members as interconnected parts and argues that each member impacts the others in predictable and repetitive ways (Welch, 2011). This theory emphasizes that the impact of family members on each other is interactional and reciprocal (Essa, 2007). The ecological systems theory draws attention to the importance of relationships between early childhood education programs (school) and families in the same system (microsystem) by putting the child in the center. According to the ecological systems theory, the child and family, child and school, and family and school reciprocally affect each other (Bredekamp, 2017). Within the scope of the current research, it can be stressed that VFTs performed from the school's side of the triad of child, family, and

school have positive impacts on families both directly and through children. Moreover, different studies found that developmentally appropriate and qualified educational practices in early childhood education have direct and indirect positive outcomes on families (Alan, 2020; Gültekin, et al., 2022). When evaluated in this respect, it can be said that VFTs have the potential to provide numerous benefits for families as well as children when performed in a developmentally appropriate and qualified way.

The potential of VFTs to provide benefits for children and families is associated with numerous factors. This study determined that two factors play an important role in the effectiveness of VFTs, namely content and planning and the characteristics of the expert providing support in VFTs. The parents emphasized that performing VFTs by supporting them with appropriate planning and activities before and after the trip increased the effectiveness of practices. Likewise, the literature draws attention to the fact that good practices in VFTs are similar to good practices in other activity types in early childhood education and require appropriate planning. Effective VFTs (i) involve constructivist and collaborative learning, asking and answering questions, (ii) encourage children to problem-solving, (iii) ensure the participation of all children, (iv) establish connections with the curriculum, and (v) provide a series of experiences that enable children to develop new skills (Kirchen, 2011). In addition to these elements, it is considered very important to plan and implement VFTs together with pre-trip and post-trip activities, as in physical field trips, for VFTs to yield effective results (Kenna & Potter, 2018). Accordingly, it can be stated that the fact that the VFTs realized within the scope of the study were prepared and implemented considering the mentioned elements increased their effectiveness and contributed to achieving positive outcomes for children and families.

Another point stressed by the parents within the scope of the study was that the effectiveness of VFTs was increased by the fact that the experts were qualified and able to transfer the content appropriately for children. Effective VFTs involve quality interactions between learners and between learners and experts (Morgan, 2015; Stoddard, 2009). Hence, it is essential that experts who will take part in VFTs know children's developmental levels and can interact easily with children. It can be stated that communicating with experts and providing information about children, sharing what children are curious about, and discussing what can be done during the trip prior to VFTs can facilitate experts' quality interaction with children and, thus, increase the effectiveness of VFTs.

It is known that VFTs have numerous advantages. In the present study, the parents evaluated VFTs as advantageous in terms of providing ease of concentration to children, providing opportunities for the participation of other family members in addition to children, and providing location independency. The parents stressed that children could not see the entire environment visited during VFTs, but this provided an advantage in terms of attracting children's attention and enabling them to concentrate. The parents, indicating that some travel destinations (for example, the market) have quite intense stimuli, emphasized that visiting these destinations through VFTs was effective. Supporting this view of parents, the literature discusses the impacts of environments containing intense environmental stimuli on children's development, particularly attention skills, with the perspective that the excess of anything may be harmful (Ball, Mercado, & Orduña, 2019; Fisher, Godwin, & Seltman, 2014; Ruff & Capozzoli, 2003). For example, a study showed that in a classroom with dense visuals on the walls, children's attention was distracted a lot, they were busier with tasks other than the task they were requested to do, and they achieved fewer learning acquisitions (Fisher et al., 2014). In this regard, it can be said that VFTs may be suitable for trips to environments that will prevent children from concentrating and make it difficult for them to focus.

Another point that the parents specified in the context of the advantages of VFTs was that other individuals at home could also participate in the trips together with their children. This is very important in terms of promoting both learning together and family involvement. In the literature, it was stated that sharing VFTs with family members might be a tool to strengthen the family-school bond, which would enable parents to contribute to their children's learning process at home (Morgan, 2015). However, it is known that teachers encounter negative attitudes from families at the point of planning and implementing field trips in early childhood education (Erden, 2010). In this respect, the fact that family members experience VFTs and become aware of their positive outcomes may also affect their perspectives on traditional physical field trips.

Finally, the parents indicated providing location independency as an important advantage of VFTs. VFTs give their participants the opportunity to go wherever they want without leaving their location. The literature has frequently emphasized this positive feature of VFTs (Delacruz, 2019; Kirchen, 2011; Morgan, 2015). Some trip destinations may not be safe and practical, especially for young children, or it may not be possible to go to some destinations at the present moment, such as other planets and the depths of the seas (Çalışkan, 2011; Delacruz, 2019; Kirchen, 2011). In such cases, enriching the learning process with VFTs supports children's development and learning. In this regard, it can be stated that VFTs play a facilitating role in reaching the desired place from the desired location to support development and learning.

Although the benefits of VFTs are known, it is also known that they cannot completely replace traditional physical field trips. The learning experience can be enriched through VFTs. Nevertheless, especially in asynchronous VFTs, learners are only provided with an experience that is considered important by content developers and cannot experience a multidimensional process in which all senses are fully used, as in physical field trips (National Research Council [NRC]), 2009). The fact that VFTs do not allow the use of all senses was the only issue that the parents specified as a disadvantage concerning the virtual trips realized within the scope of the study. Likewise, the above-mentioned issue is among the most frequently mentioned disadvantages of VFTs in the literature. For example, in a study carried out with primary school students, students emphasized that virtual field trips lacked realistic sensory experiences, such as touching (Han, 2020b). Therefore, it is recommended that teachers use VFTs as a complement to early childhood practices in which other senses are activated, pursue children's interests, and expand their learning (Kirchen, 2011).

It can be said that the results of the current study reveal a generally positive picture concerning the use of VFTs in early childhood education. However, it should be remembered that VFTs cannot replace physical field trips or should not be performed with the sole purpose of using technology (Kirchen, 2011). VFT experiences have the potential to benefit children when carried out in a developmentally appropriate way. As with all early childhood education practices, VFTs should be used alone or in combination with other practices to support and expand children's development and learning, considering the best interests of children.

4.1. Limitations and Recommendations for Future Research

In this study, synchronous VFTs were carried out by connecting with experts at target destinations via video conferencing. In addition to this virtual reality technology can also be used within the scope of VFTs, which offer the opportunity for participants to visit actual or imaginary places virtually, and virtual laboratory experiences and game experiences can be offered to participants (Duong, 2022). In this

respect, future research can address the use of VFTs enriched with different applications in early childhood education.

In the current study, data were collected from both children and their parents to examine the use of VFTs in early childhood education in detail. However, educators' perspectives could not be reflected in the study. Investigating the views and practices of educators on VFTs in future studies may contribute to a better explanation of the subject.

The present study revealed a generally positive picture concerning the use of VFTs in early childhood education. This may have originated from the fact that VFTs were implemented in the distance education process, which teachers generally consider a negative experience (Bay-Dönertaş, Akkaya, & Erkılıç, 2022). Hence, it may be recommended to examine VFT practices during face-to-face education in future studies.

Only the interview technique was employed as a data collection tool in this study. Future research can be diversified in terms of data collection methods. Moreover, the views of the children in the study were obtained through the structured interviews conducted with their parents, which did not make it possible to broaden the children's views. In future research, it may be recommended that researchers, experts in interviewing children, collect data with more flexible practices such as semi-structured interviews with children.

Conflict of Interest

The author declares that she has no conflict of interest.

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