

Uludag, G. (2021). Views of preschool teachers on using out-of-school learning environments in preschool education. *International Online Journal of Education and Teaching (IOJET)*, 8(2). 1225-1249.

Revised version received: 22.11.2020Accepted: 04.02.2021Accepted: 14.02.2021

# VIEWS OF PRESCHOOL TEACHERS ON USING OUT-OF-SCHOOL LEARNING ENVIRONMENTS IN PRESCHOOL EDUCATION

Research article

Gonca Uludağ D https://orcid.org/0000-0001-5665-9363

Giresun University, Giresun, Turkey

drgoncauludag@gmail.com

Gonca Uludağ is an Assistant Professor in the Department of Preschool Education at Giresun University, Turkey. She conducted studies in the field of preschool education and published various scientific books. Her research interests include early childhood education, science and mathematics education in early childhood, out-of-school learning and quality in higher education.

Copyright © 2014 by International Online Journal of Education and Teaching (IOJET). ISSN: 2148-225X. Material published and so copyrighted may not be published elsewhere without written permission of IOJET.

## VIEWS OF PRESCHOOL TEACHERS ON USING OUT-OF-SCHOOL LEARNING ENVIRONMENTS IN PRESCHOOL EDUCATION

#### Gonca Uludağ

#### drgoncauludag@gmail.com

#### Abstract

The aim of research was to reveal the views of preschool teachers on using out-of-school learning environments in preschool education. It was a qualitative research conducted by phenomenological method and eleven preschool teachers from Turkey were included in it. The research data was obtained by interview and the interview form prepared by the researcher was used in the interviews. The data was analyzed by using descriptive and content analysis techniques. The findings revealed that preschool teachers described the out-of-school learning concept in compliance with the literature as the 'learning performed anywhere out of classroom/school'. It was considered that out-of-school learning environments had advantages for children in developmental, cognitive and social-emotional terms and for teachers in terms of education processes, vocational and personal development. However, these environments had disadvantages for children in safety, social-emotional, development and in environmentrelated terms and for teachers in process-related and social-emotional terms. The teachers stated that environment, parent, teacher-based problems and safety problems were experienced in the activities performed in these environments. It was determined that the teachers mostly did not consider themselves competitive in conducting activities in these environments due to the lack of knowledge and experience. In the research, some recommendations were made based on the results.

*Keywords:* out-of-school learning, out-of-school learning environment, non-formal learning, preschool teacher, early childhood education

#### **1. Introduction**

Education is one of the processes that maintains its importance through all ages. The one continuing purpose of education, since ancient times, has been to bring people to as full a realization as possible of what it is to be a human being (Foshay, 1991, p.277); learning is the rather permanent effect caused by the experiences of individuals occurring in behavior, information and opinions (Santrock, 2018). 'Learning and education overlap, but they can also be differentiated according to specific characteristics. Education can be seen as a context or setting, but the learning itself is a (lifelong) process' (Norqvist & Leffler, 2017, p.238). According to Senemoğlu (2011), education is performed with valid learning.

Learning is discussed in three groups: formal, non-formal and informal learning (Cameron & Harrison, 2012; Colardyn & Bjornavold, 2004; Eshach, 2007; Ivanova, 2016; Mok, 2011; Souto Otero et al., 2012; Tudor, 2013). Formal learning is the intentional learning designed in accordance with certain targets, performed in a controlled way (UNESCO, 2006). Formal learning is generally performed in the educational institutions and a degree and/or a diploma is granted at the end of the process (Czerkawski, 2016; Levenberg & Caspi, 2010; Van Noy, James & Bedley, 2016; The Council of the European Union, 2012; UNESCO, 2006). Informal learning is mostly performed by observation and imitation and, for this reason; it may cause to acquire unwanted and bad habits (Fidan, 2012). Informal learning is the learning occurring out-



of-school learning environments (here in after OSLE), in the family, in the street, in the cinema etc. happening naturally (Eshach, 2007; Lin & Schunn, 2016; OECD, 2012). Informal learning is performed by observation and imitation and, for this reason, it may cause to acquire unwanted and bad habits (Fidan, 2012). Non-formal learning is the intentional and planned learning occurring in the learning environments other than the formal learning environments (Eshach, 2007; Salmi, 1993; The Council of the European Union, 2012). Non-formal education concept has been firstly used by Coombs and Ahmed (1974) and it has been defined as the learning activities other than the formal education system and it has been stated that adult literacy programs, farmer training programs, various programs related to the society (health, nutrition etc.) may be included within this scope. The characteristics of the formal, non-formal and informal learning (Dib, 1988; Eshach, 2007; Hofstein & Rosenfeld, 1996; Melnic & Botez, 2014; OECD, 2012) were presented in Table 1.

|   | Formal Learning                        |   | Non-formal Learning   |   | Informal Learning                           |
|---|--|---|---|---|---|
| • | It's generally performed in school.    | • | It's performed in the out-of- • school learning environments.                           | • | It may be performed everywhere.             |
| • | It's constructed.                      | • | It's constructed.   | • | It isn't constructed.                       |
| • | It's generally prepared in advance.    | • | It's generally prepared in • advance.   | • | It develops naturally.                      |
| • | Motivation is generally more external. | • | Motivation may be external • but it is generally internal.                              | • | Motivation is generally internal.           |
| • | It's compulsory.                       | • | · · · · · · · · · · · · · · · · · · ·   | • | It's performed voluntarily.                 |
| • | It's teacher centered.                 | • | It may be teacher/guide • centered.   | • | It's learner centered.                      |
| • | Learning is assessed.                  | • | Learning is not generally • assessed.   | • | Learning isn't assessed.                    |
| • | It's successive.                       | • | It's generally not • successive.  | • | It's not successive.                        |
| • | Systematic information is acquired.    | • | Special information is • acquired.  | • | Multi-disciplinary information is acquired. |
| • | It includes formal activities.         | • | It includes out-of<br>classroom,<br>out-of-school and life-long<br>learning activities. | • | It includes daily life activities.          |

Table 1. Formal, non-formal and informal learning

The basic difference between formal, informal and non-formal learning types is that formal learning is performed in schools, non-formal learning is performed in the groups/organizations forming the parts of the society and informal learning is performed in the family, among friends, colleagues etc. which are not included by the first two learning types (Türkmen, 2010). Non-formal learning is a newer concept in the literature when compared to formal and informal learning. UNESCO Institute for Lifelong Learning (2012) defines non-formal learning is learning that is in addition or alternative to formal learning. In the literature, 'out-of-school education' (Eaton, 1998; Salmi, 1993), 'out-of-school learning' (Alleman & Brophy, 1994; Braund & Reiss, 2006; Eshach, 2007; Koosimilia, 2004; Mayer, 1997), 'out of class learning' (Chan, 2016; Strauss & Terezini, 2007), 'out-of-classroom learning' (Nundy, Dillon & Down, 2009) concepts have also been used. It may be mentioned that 'out-of-school learning (here in after OSL)' is used commonly. Science and technology museums, science centers, science camps, aquariums, planetariums, history museums, anatomy museums, national parks, zoos,



farms, nature centers (lakes, rivers etc.), industrial institutions, school gardens, hospitals, postoffices, digital environments, movies and theaters, botanical gardens, historical open areas, libraries, educational environments of nongovernmental organizations are among the OSLE (Eshach, 2007; The Repuclic of Turkey Ministry of National Education [MoNE], 2019a; Walsh & Straits, 2014). It is known that these environments increase the interest on learning and make many contributions to the individuals (Itzek Greulich et al. 2017; Kelly, Ocular & Austin, 2020; Şen, 2019; Weitze, 2004). The use of these environments has an important place in preschool education.

In the first years of life, children develop rapidly (MoNE, 2013). Education in this period is defined as one of the best investments of a country to prepare children for learning (Global Partnership of Education, 2020). In this education process, learning by practicing should be at the forefront. Kostelnik et al. (2014) have stated that learning starts by perceiving, that is seeing, hearing, smelling, tasting and touching, and little children should use all their senses to learn in the best way. In other words, the preschool children should have first-hand experiences. Using OSLE in preschool education actively also provides the opportunity for children to have experiences personally, obtain information through two or more sense organs and examine objects, creatures or events in their natural environments. Accordingly, activities should be held in the OSLE and the advantages of these environments should be used. This is one of the effects that increase the efficacy of preschool education. According to Suntornpithug (1979), the development of a country mostly depends on its human resource and, for this reason, a qualified education is the basic key of the future of a nation. Therefore, high quality of preschool education plays a key role for the future of a nation.

Therefore, teachers should know the teaching methods and techniques which support the development of children best, prepare appropriate learning environments and use appropriate activities and environments. At this point, it may be said that the teacher point of view on the OSL in preschool education has an important role in performing the activities in such environments and using such environments. In the literature, there is research demonstrating the views of various branch teachers on the OSL (Büyükkaynak, Ok & Aslan, 2016; Çepni & Aydın, 2015; Çiçek & Saraç, 2017; Çifçi & Dikmenli, 2016; Selanik Ay & Erbasan, 2016). However, it is observed that mostly the studies on determining the views of the preschool education teachers on field trips have been conducted (Sevinç, 2019; Tutkun et al., 2019; Uzbilir Özçelik, 2018) rather than their views on the out-of-school education and the studies on determining the views of the teachers on the OSL (Ocak & Korkmaz, 2018) and how they perform activities in such environments (Karamustafaoğlu, Ayvalı & Ocak, 2018) have been limited. Determining what the preschool teachers understand from the OSL, how they define this concept, their awareness on OSLE, their views on the advantages and disadvantages of the use of OSLE and their competence completely are important in terms of guiding the studies on providing or increasing the use of the OSLE in preschool education.

#### 1.1. Aim of the Research

The aim of this research was to reveal the views of preschool teachers on using OSLE in education. The answers of the following research questions were searched in this research:

1. How does the OSL is defined by teachers and where are the OSLE?

2. What are the activity types they have performed and think to perform in such environments?

3. What are the advantages of the use of these environments in preschool education from the point of view of children and teachers?



4. What are the disadvantages of the use of these environments in preschool education from the point of view of children and teachers?

5. What are the problems experienced in these environments?

6. How are the competence perceptions of the teachers on performing activities about the OSL and in the OSLE?

## 2. Method

#### 2.1. Research Design

The research was a qualitative study and in a phenomenology design. Phenomenology involves the description of an individual's, or group of individuals', conscious experience of a phenomenon (Christensen, Johnson, & Turner, 2015). According to Yıldırım and Şimşek (2018), phenomenological pattern is a suitable pattern for the research aiming to research the phenomena we are not completely a stranger to but we cannot comprehend completely. 'Phenomenology has been used extensively in psychology and related fields. This is the case because oftentimes it is important to document how people subjectively experience their situations, from their perspectives' (Christensen et al., 2015, p.370). The research was designed in phenomenological patterns as it was aimed to understand how the preschool teachers interpret the OSL and the use of the OSLE in the preschool education and their experiences based on their views.

## 2.2. Participants

The preschool teachers were included in this research who worked in a preschool affiliated to MoNE in Etimesgut district of Ankara in the 2019-2020 school year. In the study, the criterion sampling method was preferred. According to Patton (2014), the logic of criterion sampling is to review and study all cases that meet some predetermined criterion of importance. The criteria can be created by the researcher. In phenomenological research, data source are individuals who experience the phenomenon that the research focuses on and can reflect it (Yıldırım & Şimşek, 2018). Considering the purpose of this research, the participants are teachers with out-of-school learning experiences at least three times. In addition to the criteria, volunteerism was taken as a basis for participation in the study. Thus, eleven preschool teachers who met the specified criteria and volunteered to participate took part in the study. Yıldırım and Şimşek (2018) suggest that the number of participants should be at most 10 in a phenomenological research. On the other hand, Bowden (1996) stated that the sample size could be 15-20 in a phenomenology research (cited in Bowden & Walsh, 2000). According to Cotterell, Ferreira, Hales and Arcodia (2020), the sample size is sufficient until theoretical satisfaction is reached. According to Patton (2014), there are no rules for sample size in qualitative inquiry and the size of the sample depends on what you want to find out, why you want to find it out, how the findings will be used, and what resources (including time) you have for the study (p. 470). In-depth information from a small number of people can be very valuable, if it is rich in content. (Patton, 2014). Accordingly, the number of participants in this study was limited to 11. All of the participant teachers were women and 5 of them graduated from a vocational school for girls, 3 of them graduated from a teacher high school and 3 of them graduated from an Anatolian high school. 10 of them had a bachelor's degree, 1 of them had a master's degree and their vocational years of seniority average was 9 (min. 6, max. 22) and their age average was 32. None of the teachers had a class in undergraduate education, training or course on OSL. All of the teachers performed activities with children in OSLE during their professional lives at least three times. Detailed information about the participants was presented in Annex 1.



Uludag

## 2.3. Data Collection Tools

Interview is the main data collection tool in phenomenological research. Because there is a need for interaction, flexibility and questioning to reveal the experiences and meaning of phenomena (Yıldırım & Şimşek, 2018). For this reason, the research data was obtained using the interview method. Interview is one of the methods used for learning about the information, views, attitudes and behavior of the individuals in various subjects and the possible reasons for these (Büyüköztürk et al., 2019). The interviews are a strong way for reflecting the point of view of the people who have experiences in various subjects on their own experiences (Anagün, 2013). In the research, the interview form approach was adopted as the interview type. According to this approach, researchers collect data on the emotions, views or experiences of the individuals they interview using the questions they prepare. The approach provides researchers the opportunity to change the order and content of questions based on the flow of an interview (Patton, 1987; 2014; Yıldırım & Şimşek, 2018). Accordingly, in the first part of the semi-structured interview form prepared for the research, there were questions on the gender of the teachers, the high school type they graduated, their education levels, occupational experience periods, education on the OSL and the number of the activities they performed in the OSLE. And while preparing the second part of the form, the research studies on the OSL and OSLE, the use of these environments in various parts of education, the views and approaches of teachers on this subject were examined, the opinion of two competent experts, one was competent in preschool education and the other was competent in OSL, and one preschool teacher were asked. According to the received feedback, it was stated that the questions in the second part of the form were appropriate, and thus the form was ready for use.

## 2.4. Data Collection and Analysis

The required permission for performing the interviews was received from the managers of the institution of the preschool education the teachers worked. It was told to the teachers working in the school that the participation in the research was on a voluntary basis, sound recording will be performed in the interviews, the confidentiality of the identity of the participants names' will be protected and the obtained data will be used only for scientific purposes and, accordingly, the teachers willing to participate in the research were included.

The data was obtained in October, 2019. The interviews were performed one to one and face to face in a silent place appropriate for interview, with a sitting arrangement appropriate for performing interviews determined by the school management. The interviews lasted for 438 minutes (min. 34, max. 49). During the interviews, the information provided by the teachers was both noted by the researcher and sound recording was performed. After completing the interviews, the sound recordings were converted into a written document and made ready for analysis.

The data was analyzed using the descriptive and content analysis techniques. Data analysis aims to reveal experiences and meanings in phenomenological research. In the descriptive analysis, the obtained data was summarized and interpreted the themes determined before or the themes demonstrated by research questions. In the descriptive analysis, direct quotations are often included to reflect the views of the individuals interviewed. The content analysis aims to find out the concepts and the relations that can explain the obtained data (Yıldırım & Şimşek, 2018). Within this scope, titles were obtained firstly from the themes formed using the research questions. Then the data texts were examined in titles and the pre-codes were obtained taking the -sentence- as standard. Then the data was reexamined and the new codes obtained by taking the -word- as standard were added in the code list. The similar codes were brought together



and the themes were categorized with a general assessment. The data were reanalyzed by the expert, the views of which were asked while preparing the interview form, independently, and were made. For consistency analysis the coder reliability, Consensus the Percentage=Agreement/(Agreement+Difference of opinion)\*100 formula was used. In this formula, the code assimilations between coders are named as "agreement" and the code differences are named as "difference of opinion". When the reliability rate between coders is 90% and over, it is accepted to be reliable (Miles & Huberman, 1994). As a result of the calculation, the concordance percentage between the coders was determined to be 92.8%. In order to use in reporting the data, the coding of the teachers were described as (Teacher 1 [T1]) and these codes were used in providing direct quotations from the views.

#### 2.5. The Researcher's Role

In qualitative research, the researcher knows the field closely, spends time in the field related to the research subject, and is in close contact with the participants involved in the research. Therefore, the researcher may become a natural dimension of the data collection process. At this point, the researcher should ensure that the data collection and analysis process is not affected by the prejudices and assumptions of the researcher (Yıldırım & Şimşek, 2018). In this study, the researcher took an active role in determining the research model and data collection tools, and in conducting the data collection process and analysis. The researcher chatted with the participants before the research (also the researcher and the participants were preschool educators) and trust was established in the participants as a result of these pre-interviews. Thus, they gave the researcher's questions more realistic and honest answers. In order to ensure the validity and reliability of the researcher presented her information and views in discussion and conclusion. The researcher acted in accordance with ethical principles while reporting the process.

#### 3. Findings

The findings are grouped under six headings; In some titles, themes, categories, codes, and figures containing the frequencies of the codes were presented.

#### 3.1. Definition of the OSL and Examples for OSLE

All of the teachers defined the OSL as the 'learning performed anywhere out-ofclassroom/school'. It was observed that the teachers gave the definition of the OSL by using examples. Some of the views of the teachers on the definition are as follows:

"Firstly, I think of China, Japan, and Far East. In those regions, they have children go out by making dressed even in winter. By looking at that, we may say it's the learning happening anytime and anywhere out-of-school" (T1).

"I was interested in the forest schools in some articles I read. Then I researched such places for my son. I just liked them. For out-of-school learning, I may say -the learning not happening in the classroom environment-. For example in the garden, museum" (T4).

The themes, categories, codes and the frequencies of the codes obtained from the answers given by the teachers to the question *'Where are the OSLE?*' were presented in Figure 1.



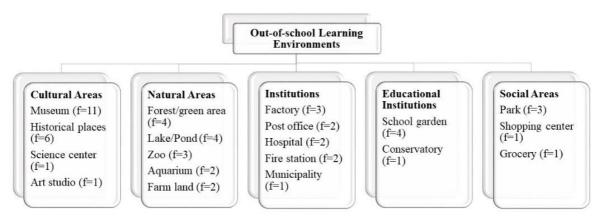


Figure 1. OSLE

Based on Figure 1, examples for OSLE theme were grouped in five categories: cultural areas (f=20), natural areas (f=15), institutions (f=10), educational institutions (f=5) and social areas (f=5). The views of the teachers about the examples for OSLE were as follows:

"... Anywhere we made a field trip is an out-of-school learning environment. These are museums, theatres, cinemas, factories, municipalities... For example, we went for a conversation in the municipality (with the children). All these are out-of-school learning environments" (T3).

"School garden! For example, I use it actively. Zoos and especially museums, Anitkabir, toy museum, MTA (Martyr Cuma Dağ) Natural History Museum. To tell the truth, such environments and opportunities are found more in Ankara. Before, I worked in a district of another city, there was not any museum etc. there. Only the school garden was an out-of-school learning environment" (T4).

## 3.2. Activities Performed and Possible to be Performed in OSLE

'What kind of activities can be performed in OSLE? What kind of activities do you perform?' In the above question, the teachers discussed the OSLE in two categories: school garden and the other environments and they stated that they performed Turkish (f=11), science (f=11), movement (f=11), play (f=11), art (8), maths (f=5), music (f=5), drama (f=2) and preparation for reading and writing (f=2) activities and these were based on the acquisition in their plans. The teachers stated that they did not perform planned activities in the other OSLE as they did in the school garden (f=7) and they performed only field trips in these environments, they did not perform the activities planned, applied and assessed based on any acquisition. However, some of the teachers (f=4) stated that they performed planned activities in such environments though these were not often, and they had science (f=3), Turkish (f=2), art (f=2), play (f=1) and music (f=1) activity experiences in these environments. It was determined that the teachers thought that they can perform field trip (f=11), science (f=11), Turkish (f=8), play (f=6), art (f=6), music (f=6), maths (f=5), movement (f=4) and drama (f=1) activities in OSLE other than school garden in accordance with the acquisitions. Some of the views of the teachers on the activities performed in the OSLE are as follows:

"We play in the garden, we read books, and learn songs. We made simple experiments within the plan. In other places (out-of-school)... To tell the truth, I don't know if maths activity can be performed but I think art activities, experiments, Turkish activities can be performed" (T2).



"I use the garden actively for all the activities. If you ask for the activities other than trips, which activities did we perform when we went to museums?... To tell the truth, I didn't go by planning an activity. It was like this -We went, we saw, we came back-. That's all" (T4).

## 3.3. Advantages of the OSLE

The themes, categories, codes and the frequencies of the codes obtained from the views of the teachers on the advantages of the OSLE for children and teachers were presented in Figure 2 and Figure 3.

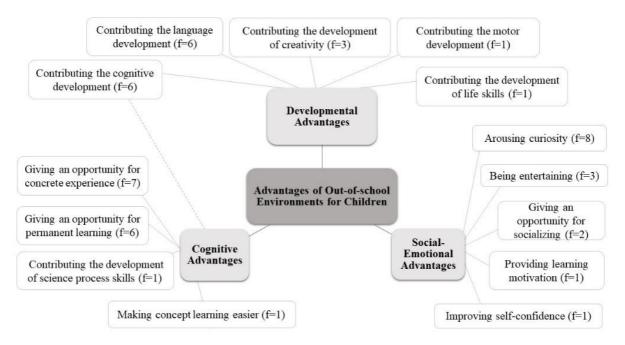


Figure 2. Advantages of the OSLE for children

Based on Figure 2, the advantages of the OSLE for children were grouped in three categories: in developmental (5 codes), cognitive (4 codes) and social-emotional terms (5 codes). Some of the views of the teachers on this theme are as follows:

"That is to say, if we think about a concept we include in our daily plan, children may not have enough interest in the classroom environment because they are in the same classroom, the same environment every day. But it becomes easier to understand when we go to an environment where we can teach that concept. It both makes my work easier (as a teacher) and it's important for children to learn a concept and for a permanent learning. That children learn in that environment (out-of-school) what I tell, by seeing, touching, feeling, I mean, concretely will provide permanent learning" (T10).

These children are like unformed dough. For example, the experiments in Feza Gürsey Science Center are catchy, intriguing. These environments provide the opportunity to learn the things children have never heard before. Parents cannot provide such opportunity" (T6).



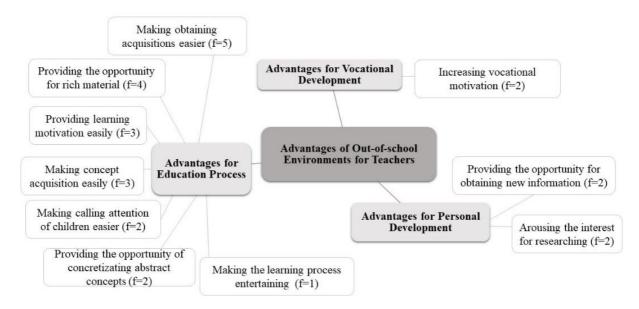


Figure 3. Advantages of the OSLE for teachers

Based on Figure 3, the advantages of the OSLE for teachers were brought together in three categories: education process (7 codes), vocational development (1 code) and personal development (2 codes). Some of the views of the teachers on this theme are as follows:

"Firstly, drawing attention to learning becomes easier. Children follow me more carefully. The place we visit provides me ease of working and materials. That it changes my class routine provides me motivation. I feel more willing to teach, tell, I feel excited. In short, such kinds of things..." (T1).

"In fact, I also learn with my students and teach them in such environments by having fun. As the environment is different, materials draw the attention of children more. I mean, in a real environment, children learn. It becomes easier for children to learn. It makes my education process easier but such an environment should be appropriate for children... There are places which I have gone with the children for the first time. I also learn new things with them in those environments" (T5).

## 3.4. Disadvantages of the OSLE

The themes, categories, codes and the frequencies of the codes obtained from the views of the teachers on the disadvantages of the OSLE for children and teachers were presented in Figure 4 and Figure 5.



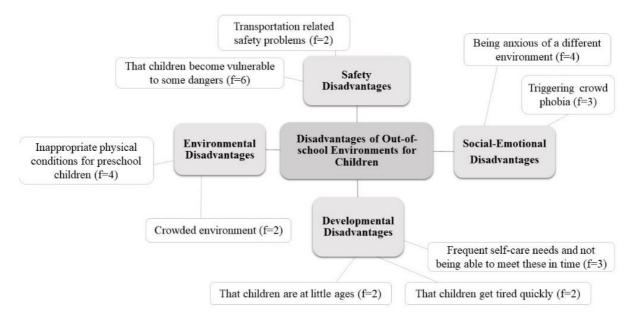


Figure 4. Disadvantages of the OSLE for children

Based on Figure 4, the disadvantages of the OSLE for children were grouped in four categories: in safety (2 codes), social-emotional (2 codes), developmental (3 codes) and environmental terms (2 codes). The most mentioned disadvantages are the safety related disadvantages. Some teachers stated that these environments did not have any disadvantages for children, no problem would be experienced with good planning. Some views of the teachers on this theme are as follows:

"Some children have attachment anxiety. For example, one of my students cried on the trip. He thought he would stay there. Some children may wet their clothes, while dealing with them the soul of the activity disappears. These children feel embarrassed against their friends and they feel shamed as there are foreign people around. I think it's an important disadvantage" (T6).

"Every environment has dangerous dimensions for children. For this reason, we have to observe them continuously. There are problems in transportation. Children may take of their safety belts during travelling and they want to go their friends. Certainly, this becomes risky. I mean transportation is dangerous, for the security of children" (T8).

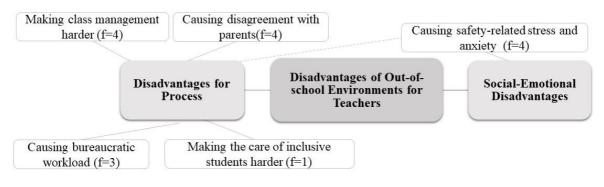


Figure 5. Disadvantages of the OSLE for teachers



Uludag

Based on Figure 5, the disadvantages of the OSLE for teachers were grouped in two categories: in terms of process (4 codes) and in social-emotional terms (1 code). Some views of the teachers on this theme are as follows:

"The simplest ones are the ones I experience when I go out to the school garden. Children run and sweat when they are out, parents-tell us not to have children go out-, and they say 'my child's slippers get muddy'... We are also limited and we cannot go out of the classroom. I mean the greatest disadvantage is having problems with parents, we cannot agree on this matter. For this reason, my phobia is really to go out-of-school and try to do something" (T2).

"...First of all, you may be highly on the alert and in panic. That is, you always have the risk of ignoring, not noticing a child there in your mind. It's very hard to perform education while thinking about safety risks. This is the greatest risk. It's easier to manage children at school but it's harder out-of-school. This is all about the environment" (T3).

## 3.5. Findings on the Problems experienced in the activities performed in the OSLE

The themes, categories, codes and the frequencies of the codes obtained from the views of the teachers on the problems they experienced in the activities they performed in the OSLE were presented in Figure 6.

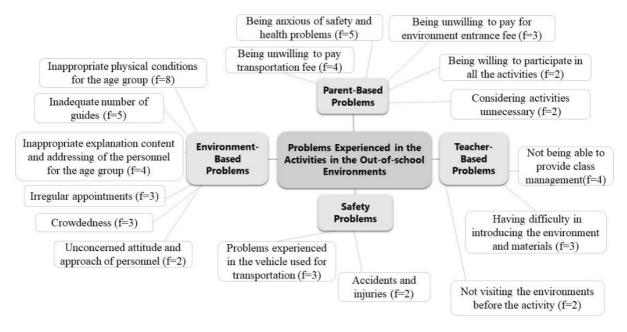


Figure 6. Problems experienced in the activities in the OSLE

It is observed in Figure 6 that the problems experienced in the activities in the OSLE are gathered in the environment (6 codes), parent (5 codes), teacher (3 codes) based problems and safety problems (2 codes) themes. The teachers stated that they mostly experience environment-based problems. Some of the views of the teachers on this theme are as follows:

"Sure, we have problems. Dangerous situations may be experienced. For example, I also don't know the environment we go to. I don't know where to move, to go towards... It becomes hard to lead children when you don't know the environment. At first, it also drew my attention. I try to understand but time passes. For this reason, I think, it will be better if someone gives us information about the place we go. This generally does not happen. In fact, I do not think about going and seeing the place in advance. I may say there are problems caused by this. And the places may be too crowded even we get an appointment from them. This year, we went to a place and it was so bad that I can't even remember it...Personnel shouted continuously, they



said -hurry up!-, children were little and they could not move rapidly, I told them but they did not understand, they did not allow us to look and examine. One of the children started to cry, I was so sad" (T7).

"Classroom management is easier in the classes where there are more girls. Boys become silent in such classrooms. But if there is not a trainee teacher with you, you will have this kind of anxiety: Something bad may happen. I count (children) while entering in and going out. There's always anxiety (about safety). And children have such anxiety: What if I am lost?-Some of them, children at the age of 4, do not let go of teacher's hand for not being lost" (T9).

"...We make planning before the activity, get an appointment etc. But generally, we cannot get an appointment for the date we want, it's too full (places). Then, transportation fees should be collected from the parents a few days before the activity and this becomes a workload for us. Sometimes, some parents turn it into a problem. In fact, they know about that activity well in advance but these kinds of problems are experienced" (T10).

## 3.6. Competence to Perform Activities in the OSLE

Two teachers stated that they were competent in performing activities in the OSLE, based on their professional experiences, two teachers stated that they were partly competent in this subject and seven teachers stated that they were not competent in this subject. The reason was asked to the teachers who stated that they were partly competent or not competent in performing activities in those environments. The teachers stated that they were not competent due to the lack of experience (f=6) and lack of knowledge (f=5). Some of the views on the competency of performing activities in the OSLE are as follows:

"There is always something to learn, there is no stop in learning. There are lots of things I don't know, we should always learn. But if you ask whether I'm competent, I may say I'm competent. Of course I apply an activity. I have performed this profession for many years, I believe I have gained experience with many activities... I support trying and learning. It's important to gain experience" (T11).

"I may say partly. Because I do not have much experience. Maybe I will perform very well but I should obtain additional knowledge. I should see good, correct examples. I feel a lack of experience and knowledge. It is not a matter discussed especially. I mean I don't have knowledge. As a matter of fact, these activities are performed for a few times due to the reasons I mentioned" (T8).

"I feel no competence. I didn't have education on these. I try to do something one my own or with what I see from my colleague. I need more detailed learning" (T2).

"There is no problem if the school management plans it and we go together but I don't feel competent if I plan it. I didn't have much experience" (T7).

## 4. Discussion and Conclusion

As a result of the research, it was determined that all of the teachers defined the OSL as the 'education performed anywhere out-of-classroom/school'. In addition, museums, historical places, forests, green areas, lakes/ponds, factories, school gardens and park etc. were given as examples of the OSLE. Şen (2019) has stated that the OSL includes all the activities out of the classroom and everywhere is a learning environment. Therefore, it may be mentioned that the OSL definitions of the teachers and the examples they gave for these environments were in accordance with the literature. It may be mentioned that the teachers defined the OSL as learning out-of-school and stated school gardens as one of these environments were remarkable. According to Loxley et al. (2010), the 'out-of-school' concept starts with school



gardens and includes the places visited far from school, that is, the OSLE starts with school gardens and it spreads towards the immediate surroundings. At this point, the awareness of some teachers related to the school garden is important.

It was determined that the teachers rather performed planned activities in the school garden, and the main activities were Turkish, science, movement and play activities. Büyükkaynak et al. (2016) have also found such a finding, they have determined that the mostly used OSLE used by the science teachers are school gardens due to the limited opportunities of school. According to another finding obtained, all of the teachers think that field trips and science activities can be performed in the OSLE. Some of the teachers have stated that they only perform field trips in the OSLE, they don't perform planned activities as in school gardens, and this process includes only a tour. At this point, we should mention the importance of the planned and systematic activities to be performed in the OSLE in preschool education. Aslan (2019) has stated that seeing the tours made to the OSLE only as a way of fun and tour is an obstacle in using these environments appropriately. Taylor et. al. (1997) have stated that only well planned out-of-school activities will help children understand the world better.

As a result of the research, it was determined that some teachers had experience in the OSLE. Accordingly, it was observed that science activities were the main activities among the activities performed in both school gardens and the OSLE. It has also been observed in the research of Ocak and Korkmaz (2018) preschool teachers have stated that these environments are suitable for science activities. However, the field trips should not be considered only within the scope of science education activities (MoNE, 2013). It may be considered that preschool children's natural curiosity for recognizing and understanding the world were effective in this result of the research. Children, in the period from birth to the age of three, are interested in why events happen, they see people around them as the source of information and learning. The children at the age of 3 and 5 are interested in things and living creatures and, as a natural result of this curiosity, they start to define the characteristics of things and living creatures they observe using their senses; they develop their problem solving, researching, examining skills between the ages of 5 and 8 (Campbell & Howitt, 2015). This interest of children in science makes science education important in preschool education. Also, teachers may think that the natural places such as science museums, science centers, aquariums, zoos, lakes, forests are more ideal and appropriate for science activities. Accordingly, it may be mentioned that the teachers need to be informed and supported on the fact that they can use these environments for all kinds of activities actively. The frequency and continuity of the activity types performed in the OSLE are important as much as the variety of these activity types. DeMarie (2001) has emphasized that the OSL activities are a part of the program applied for little children but preschool children should have experiences more than one in this field.

According to teachers, there are many advantages of using these environments. When considered for children, it has been stated that these environments have mostly developmental, cognitive and social-emotional advantages. Accordingly, teachers may think that the OSLE are important and they contribute to the development, effective and permanent learning due to its characteristics. It has been observed that similar findings have been obtained in several research studies. In the research conducted by Karamustafaoğlu et al. (2018), preschool teachers have stated that the OSLE activities affect the cognitive, emotional, motor skills positively. In the Karaca et al. (2016) conducted with the children at the age of 5-6, it has been determined that the area tours of teachers give the opportunity of learning by practicing, provides permanent learning through experiences and supports social life experiences. Also, it has been observed that there are teachers' views in the literature stating that the OSLE provide an advantage for older children. For example, the social sciences teachers included in the research of Çepni and Aydın (2015) think that the OSLE provides an opportunity for learning by practicing, they



provide effective learning in students and embody information. Similarly, primary school teachers (Selanik Ay & Erbasan, 2016), geography teachers (Çifçi & Dikmenli, 2016), science teachers (Büyükkaynak et al., 2016; Çiçek & Saraç, 2017; Demir & Öner Armağan, 2018), history teachers (Türkmen, 2019) also think that the OSLE provide various benefits for children. Nabors, Edwards and Murray (2009) have also stated that the out-of-school activities take children from the traditional classroom environment, enrich education programs, provide experience opportunities, develop the observation skills of children by motivating the senses of children and increase the knowledge and understanding of children in the world. In the experimental study conducted by Yıldırım (2020) with 7th grade students, it has been concluded that using the OSLE such as botanic parks, science fairs, science museums, natural history museums, observatories, anatomy exhibitions and energy parks in science education has an important effect in improving the science learning motivation of students. Also in many research studies in the literature, it has been observed that the activities in the OSLE have positive effect for children (Beiers & McRobbie, 1992; Bowers, 2012; Collins et al., 2020; Escribano-Miralles & Molina Puche, 2015; Grenee et al., 2018; Lee & Jung, 2019; Munley, 2012; Peleg & Baram Tsabari, 2011; Randler, Kummer & Wilhelm, 2012; Uludağ & Erkan, in press; Whitesell, 2016). The teachers have stated that the OSLE provide advantage for teachers in especially educational processes; these environments make obtaining these acquisitions easier, provide rich materials and they can motivate children for learning more easily. In addition, the advantages for vocational and personal development have also been mentioned and teachers have stated that these environments make them willing to research, provide opportunity to learn new information and increase vocational motivation. It has been observed that these environments are important in terms of the efficacy of education and professional and personal development of teachers.

According to teachers, these environments have disadvantages as well as their advantages. It has been observed that the disadvantages for children are mostly in safety terms and the developmental and social-emotional disadvantages and the environment-related disadvantages follow the safety disadvantages. Teachers have mentioned that taking children out-of-school causes several safety problems, children become vulnerable to dangers (meeting with adult foreigners, getting lost etc.), accident risk during transportation and other possible problems and mentioned these as disadvantages. In the theme of the disadvantages in terms of development; it was stated that these environments did not have suitable physical structure for preschool children (for example that restrooms were not designed for little children, the areas including materials were not at the length and eye level etc.), some materials in these environments may be dangerous for children and there was a risk of getting lost for children. That these environments were too crowded many appointments were made for several schools or groups, little children had risks of being pushed, being caused fall, being run over due to being in the environments where older children and little children were together and not being able to use these environments actively were stated as disadvantages. When the socialemotional disadvantages were examined, that the anxiety of children increased due to being in a different environment and the crowd phobia was triggered codes were observed. According to Dillon et al. (2006), when the out-of-school activities are planned, teachers should take the factors such as fears, phobias, experiences and the preferences and styles in the OSL into consideration. The teachers stated that children needed self-care often as they were little (water, toilet needs etc.) but these needs cannot be met on time in OSLE, especially in the out-ofschool activities performed with the children at the age of 3-4, children got tired quickly due to reasons such as transportation, intense movement, walking/standing for a long time. In the research, it was also found that the disadvantages of the OSLE were in terms of process and in social-emotional terms for teachers. Teachers considered that planning and performing activities in such environments would make class management harder, cause disagreement with



parents, bureaucratic workload and they described these as disadvantages for themselves. Uzbilir Özçelik (2018) have obtained a similar finding in their research, preschool teachers and primary school teachers the factors such as difficult student control, bureaucratic workload and transportation problems posed a challenge for them. It was determined that the use of these environments caused disadvantages and another matter was difficulty in meeting the self-care needs of inclusive students. This finding may be evaluated with findings in the environmentbased disadvantages theme under the topic of the disadvantages of the OSLE for children and in the environment-based problems theme caused by the activities performed in these environments. The teachers considered that the physical structure and opportunities of these environments were not appropriate for the age and development characteristics of preschool children. It may be mentioned that this situation was more important for the inclusive students with special needs. In research by Karadeniz Akdoğan et al. (2019), it has been determined that seven museums located in Ankara with child workplace have been examined in terms of being suitable for the use of the individuals with special needs and it has been determined that related arrangements have not been performed in the workplace environments. That the environments such as museums, science centers, aquariums, and planetariums are designed and equipped appropriate for the use of little children are important for the effective use of these environments by teachers and children. It was determined that the social-emotional disadvantages which the teachers described as disadvantages for themselves were the anxiety and stress caused by taking children out-of-school and the possibility of not being able to provide their safety.

It was determined that the problems that teachers experienced during performing activities in these environments were environment, parent, teacher based problems and safety problems. The teachers stated, as they stated in the disadvantages title, that they mostly faced the environment-based problems and the inappropriate physical conditions of the environments for preschool children, lack of guides, that personnel did not make explanations appropriate for the developmental levels of children and their addressing was not appropriate were some of these problems. At this point, it is required to emphasize the suitability of the OSLE preschool children. For example, the subjects such as that the exhibitions in a museum are designed in the way that children can see them, the tables and chairs in the workplaces of museums are appropriate, explanatory information can address the age group and its comprehensibility are quite important. In addition, that parents had negative attitudes as they had the anxiety that children would have safety and health problems, they did not want their children to participate in the activities, they found these kinds of activities unnecessary, they did not want to pay the transportation and entrance fees were described as the parent-based problems. A similar finding has also been obtained by the research of Tutkun et al. (2019). According to the teacher another parent-based problem was that almost every parent wanted to participate in every activity and this situation caused the groups to be crowded and the activities to be deviated from their aim. The request of the parents and the finding that teachers considered this as a problem may be mentioned as remarkable. Family participation studies have an important place in preschool period. Including parents in the out-of-school activities both provides them to gain awareness and have information about the importance of these activities in the development of their children (Tutkun et al., 2019). But the matter stated by the teachers in this finding was the increase in the number of participants and the problems caused by this increase. It may be considered that the inadequacies in planning activities, and the fact that the parents were not informed adequately on the aim and process of activities and the abovementioned safety and health concerns of parents were effective in these problems. The teacher-based problems of the process were that teachers did not visit the environments where the activities would be performed before taking children there, they did not know the environments and the materials in these environments and they didn't have enough information on this subject. Türkmen (2015)



has also determined that primary school teachers do not visit the environments they will teach before going OSLE. Also, it may be considered that it is inevitable that these problems lead to the classroom management problems. For a successful out-of-school activity, it is important that teachers are prepared, visit the environment where they will teach before their activity and meet with the personnel (Behrendt & Franklin, 2014). Also, the teachers stated that there was always safety based problems and risks. It was observed that both parents and teachers had fear and anxiety about safety and health. Feeling fear and anxiety are among the important obstacles of the activities to be performed in out-of-school (Dillon et al., 2006). Teachers should take safety into consideration when they will perform activity in these environments and be prepared for all the unexpected situations (Behrendt & Franklin, 2014) and they should consider whether such environments are suitable in health and developmental terms (Taylor et al., 1997).

According to another finding of the research, most of the teachers did not consider themselves competent in performing activities in the OSLE and they explained the reason for this as the information and experience inadequacy. Uzbilir Özçelik (2018) have obtained the finding in their study with preschool and primary school teachers that there is a significant difference between the self-efficacy scores of the teachers working in the state schools and the teachers working in the private schools and this difference is in the favor of the private school teachers. According to Dillon et al. (2006), the lack of confidence of teachers in performing education in the OSLE are among the factors affecting the quality of OSL. Teachers should obtain information in various ways and have experience on the processes through the studies performed under the guidance of experts. In recent years, several OSLE activities have been included in the Teachers' Vocational Study Program announced by MoNE (MoNE, 2016; 2017; 2018; 2019b). In addition, the MoNE published the Out-of-school Learning Environments Guide in 2019, it has been aimed in the guide that the teachers and the students in all the education levels associate the OSLE such as museums, science centers, art centers, historical and cultural places, libraries, natural protected areas and archeological sites, techno parks, industrial institutions open to visit and universities with the education programs of the basic education and use them by the help of the teacher guide books to be prepared using this way; they know these environments more closely; and that students learn the acquisitions in the education programs by practicing (MoNE, 2019a). Also in the teacher training programs at bachelor's level, by 2018, 'Out-of-school Learning Environments' course has been added in the occupational knowledge elective courses pool (Turkish Council of Higher Education, 2018). These studies are important developments in terms of gaining awareness on education, obtaining information and experience in the OSLE.

As a result, it was determined that preschool teachers described the OSL concept in accordance with the literature, they can give examples of these environments, they performed a couple of activities in these environments, they thought that using these environments in preschool education had some advantages and disadvantages for children and teachers, they faced some problems while performing activities in these environments and they generally did not find themselves competent in performing activities in OSLE.

#### 5. Recommendation

The recommendations on the research result are as follows:

• Teachers may have competence by performing applied programs on the use of the OSLE in preschool education under the guidance of experts providing knowledge and experience to teachers. So, the problems defined as disadvantages by the teachers will be avoided or minimized.



- The environments such as science centers, museums, aquariums may be prepared for education by being designed appropriate for preschool children, by this way it may be provided that these environments are used more effectively.
- The personnel working in the OSLE may participate in the program for being informed about the age and developmental characteristics of preschool children, so these environments may be made centers of attraction for the education of little children.
- Awareness on the importance of the OSL process and the OSL activities may be raised in parents by several studies.
- School managements should be in cooperation with teachers in taking the safety precautions for the use of these environments, the performance of appropriate processes should be provided by eliminating the anxiety on this matter.

## 6. Conflict of Interest

The authors declare that there is no conflict of interest.

## 7. Ethics Committee Approval

The authors confirm that the study does not need ethics committee approval according to the research integrity rules in their country.

## 8. Acknowledgement

This study was presented as an oral presentation at the First International Congress on Informal Learning, which was held in Nevsehir, Turkey between the dates of 1-3 November 2019.



## References

- Alleman, J., & Brophy, J. (1994). Taking advantage of out-of-school opportunities for meaningful social studies learning. *Journal the Social Studies*, 85(6), 262-267.
- Anagün, Ş. S. (2013). Görüşme [Interview]. In S. Baştürk (Ed.), *Bilimsel araştırma yöntemleri* [Scientific research methods] (pp. 299-326). Ankara: Vize Publishing.
- Aslan. A. (2019). *Out-of-school learning environments activities: Case of Trabzon.* Paper presented at the I. International Congress on Informal Learning, Turkey, November 1-3.
- Behrendt, M., & Franklin, T. (2014). A Review of research on school field trips and their value in education. *International Journal of Environmental and Science Education*, 9(3), 235-245.
- Beiers, R. J., & McRobbie, C. J. (1992). Learning in interactive science centers. *Research in Science Education*, 22, 38-44.
- Bowers, B. (2012). A look at early childhood programming in museums. *Journal of Museum Education*, 37(1), 39-47. doi: 10.1080/10598650.2012.11510716
- Bowden, J. A., & Walsh, E. (2000). Phenomenography. Melbourne: RMIT Press.
- Braund, M., & Reiss, M. (2006). Toward a more authentic science curriculum: The contribution of out-of school learning. *International Journal of Science Education*, 28(12), 1373-1388.
- Büyükkaynak, E., Ok, Z., & Aslan, O. (2016). Science teachers' views on out-of-school learning environments in science education. *Kafkas University Journal of Institute of Social Sciences, Additional Issue* (1), 43-60.
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2019). *Eğitimde bilimsel araştırma yöntemleri* [Scientific research methods in education] (27<sup>th</sup> ed.). Ankara: Pegem Academy Publishing.
- Cameron, R., & Harrison, J. L. (2012). The interrelatedness of formal, non-formal and informal learning: Evidence from labour market program participants. *Australian Journal of Adult Learning*, 52(2), 277-309.
- Campbell, C., & Howitt, C. (2015). Science in early childhood. In C. Campbell, W. Jobling, & C. Howitt (Eds.), *The place of science in the early years* (pp.7-13). Melbourne: Cambridge University Press.
- Chan, H. W. (2016). Popular culture, English out-of-class activities, and learner autonomy among highly proficient secondary students in Hong Kong. Universal Journal of Educational Research, 4(8), 1918-1923.
- Christensen, L. B., Johnson, R. B., & Turner, L. A. (2015). *Research methods design, and analysis.* (12<sup>th</sup> ed.). London: Pearson Education Limited.
- Çepni, O., & Aydın, F. (2015). Social sciences teachers' views on out-of-classroom environments. *The Journal of Academic Social Science Studies*, 39(3), 317-335.
- Çiçek, Ö., & Saraç, E. (2017). Science teachers' opinions about experience in out of school learning environments. *Kırşehir Faculty of Education Journal*, 18(3), 504-522.
- Çifçi, T., & Dikmenli, Y. (2016). Geography teachers views with regard to teaching geography outdoors. *Kırşehir Faculty of Education Journal*, *17*(1), 363-382.



- Colardyn, D., & Bjornavold, J. (2004). Validation of formal, non-formal and informal learning: policy and practices in EU member states. *European Journal of Education*, 39(1), 69-89.
- Collins, C., Corkery, I., McKeown, S., McSweeney, L., Flannery, K., Kennedy, D., & O'Riordan, R. (2020). An educational intervention maximizes children's learning during a zoo or aquarium visit. *The Journal of Environmental Education*, 1–20.
- Coombs, P. H., & Ahmed, M. (1974). Attacking rural poverty how nonformal education can *help*. Baltimore and London: The Johns Hopkins University Press.
- Cotterell, D., Ferreira, J., Hales, R., & Arcodia, C. (2019). Cultivating conscientious tourism caretakers: A phenomenographic continuum towards stronger sustainability. *Current Issues in Tourism*, 1-17. doi: 10.1080/13683500.2019.1577369.
- Czerkawski, B. C. (2016). Blending formal and informal learning networks for online learning. *International Review of Research in Open and Distributed Learning*, 17(3).
- DeMarie, D. (2001). A trip to the zoo: Children's words and photographs. *Early Childhood Research and Practice*, 3(1).
- Demir, N., & Öner Armağan, F. (2018). Science teachers views about informal learning environments: planetarium. *Journal of Social and Humanities Science Research*, 5(30), 4241-4248.
- Dib, C. Z. (1988). Formal, non-formal and informal education: concepts/applicability. *AIP Conference Proceedings*. *170*(300). doi:10.1063/1.37526
- Dillon, J., Rickinson, M., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., & Benefield, P. (2006). The value of outdoor learning: Evidence from research in the UK and elsewhere. *School Science Review*, 87(320), 107-111.
- Eaton, D. (1998). *Cognitive and affective learning in outdoor education*. (Unpublished PhD. Dissertation). University of Toronto, Canada.
- Escribano-Miralles, A. & Molina Puche, S. (2015). La importancia de salidas escolares y museos en la enseñanza de las ciencias sociales en Educación Infantil. Análisis de un caso a partir del modelo CIPP. CLIO. History and History teaching, 41. Retrieved from <u>http://clio.rediris.es/n41/articulos/EscribanoMolina2015.pdf</u>
- Eshach, H. (2007). Bridging in-school and out-of-school learning: Formal, non-formal, and informal education. *Journal of Science Education and Technology*, *16*(2), 171-189.
- Fidan, N. (2012). *Okulda öğrenme ve öğretme* [Learning and teaching at school] (3<sup>th</sup> ed.). Ankara: Pegem Academic Publishing.
- Foshay, A. W. (1991). The curriculum matrix: Transcendence and mathematics. *Journal of Curriculum and Supervision*, 6(4), 277-293.
- Global Partnership of Education. (2020). *What we do: Early education*. Retrieved from https://www.globalpartnership.org/what-we-do/early-education
- Greene, J. P., Erickson, H. H., Watson, A. R., & Beck, M. I. (2019). The play's the thing: experimentally examining the social and cognitive effects of school field trips to live theater performances. *Educational Researcher*, 47(4), 246–254.
- Hofstein, A., & Rosenfeld, S. (1996). Bridging the gap between formal and informal science learning. *Studies in Science Education*, 28, 87-112.



- Itzek Greulich, H., Flunger, B., Vollmer, C., Nagengast, B., Rehm, M., & Trautwein, U. (2017). Effectiveness of lab-work learning environments in and out of school: A cluster randomized study. *Contemporary Educational Psychology*, 48, 98–115.
- Ivanova, I. V. (2016). Non-formal education. Russian Education and Society, 58(11), 718-731.
- Karaca, N. H., Şenol, F. B., Akyol, T., & Aral, N. (2016). Field trips in pre-school education. *The Journal of International Social Research*, 9(45), 590-597.
- Karadeniz Akdoğan, K., Durmaz, E., Kimzan, İ., & Acer, D. (2019). Museum workshops as a learning environment. *Journal of Ankara Studies*, 7(2), 399-413.
- Karamustafaoğlu, S., Ayvalı, L., & Ocak, Y. (2018). Okul öncesi eğitimde informal ortamlara yönelik öğretmenlerin görüşleri. [Teachers' opinions on informal environments in preschool education]. *Journal of Research in Informal Environments, 3*(2), 38-65.
- Kelly, K. R., Ocular, G., & Austin, A. (2020). Adult-child science language during informal science learning at an aquarium. *The Social Science Journal*. doi: 10.1080/03623319.2020.1727226
- Koosimilea, A. T. (2004). Out-of-school experiences in science classes: Problems, issues and challenges in Botswana. *International Journal of Science Education*, 26(4), 483-496.
- Kostelnik, M. J., Soderman, A. K., & Whiren, A. P. (2014). *Developmentally Appropriate Curriculum- Best Practices in Early Childhood Education* (5<sup>th</sup> ed.). London: Pearson.
- Lee, K. S., & Jung, S. K. (2019). Effect of aquarium visiting and education program on scientific knowledge, creativity, cognitive proficiency, and behavioral characteristics of young children. *The Journal of Eco Early Childhood Education and Care*, 18(3), 99-126.
- Levenberg, A., & Caspi, A. (2010). Comparing perceived formal and informal learning in faceto-face versus online environments. *Interdisciplinary Journal of E-Learning and Learning Objects*, 6, 323-333.
- Lin, P., & Schunn, C. D. (2016). The dimensions and impact of informal science learning experiences on middle schoolers' attitudes and abilities in science. *International Journal of Science Education*, 38(17), 2551-2572.
- Loxley, P., Dawes, L., Nicholls, L., & Dore, B. (2010). *teaching primary science: promoting enjoyment and developing understanding*. London: Pearson.
- Mayer, R. E. (1997). Out-of-school learning: The case of an after-school computer club. Journal of Educational Computing Research, 16(4), 333-336.
- Melnic, A. S., & Botez, N. (2014). Formal, non-formal and informal interdependence in education. *Economy Transdisciplinarity Cognition*, 17(1), 113-118.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* (2<sup>nd</sup> ed.). London: Sage Publishing.
- Mok, O. N. A. (2011). Non-formal learning: Clarification of the concept and its application in music learning. *Australian Journal of Music Education*, 1, 11-15.
- Munley, M. E. (2012). *Early learning in museums: A review of literature*. Smithsonian Early Enrichment Center. Retrieved from <u>https://www.si.edu/Content/SEEC/docs/mem%20literature%20review%20early%20lea</u> <u>rning%20in%20museums%20final%204%2012%202012.pdf</u>
- Nabors, M. L., Edwards, L. C., & Murray, R. K. (2009). Making the case for field trips: What research tells us and what site coordinators have to say. *Education*, *129*(4), 661-667.



- Norqvist, L., & Leffler, E. (2017). Learning in non-formal education: Is it "youthful" for youth in action?. *International Review of Education*, 63, 235–256.
- Nundy, S., Dillon, J., & Dowd, P. (2009). Improving and encouraging teacher confidence in out-of-classroom learning: The impact of the Hampshire Trailblazer Project on 3–13 curriculum practitioners. *Education 3-13, 37*(1), 61-73.
- Ocak, İ., & Korkmaz, Ç. (2018). An examination of the views of science and pre-school teachers on non-formal learning environments. *International Journal of Field Education*, 4(1), 18-38.
- OECD (2012). *Higher education and adult learning recognition of non-formal and informal learning.* Retrieved from <u>http://www.oecd.org/edu/skills-</u> <u>beyondschool/recognitionofnon-formalandinformallearning-home.htm</u>
- Patton, M. Q. (1987). *How to use qualitative methods in evaluation* (2<sup>nd</sup> ed.). California: Sage Publishing.
- Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice (4<sup>th</sup> ed.). California: Sage Publishing.
- Peleg, R., & Baram Tsabari, A. (2011). Atom surprise: Using theatre in primary science education. *Journal of Science Education and Technology*, 20, 508–524.
- Randler, C., Kummer, B., & Wilhelm, C. (2012). Adolescent learning in the zoo: Embedding a non-formal learning environment to teach formal aspects of vertebrate biology. *Journal* of Science Education and Technology, 21, 384-391.
- Salmi, H. (1993). Science center education: Motivation and learning in informal education. (Unpublished PhD Dissertation). University of Helsinki, Helsinki.
- Santrock, J. W. (2018). Davranışçı ve sosyal bilişsel yaklaşımlar [Behavioral and social cognitive approaches]. (N. G. Karaman, Trans.). In D. M. Siyez (Trans. Ed.), *Eğitim Psikolojisi* [Educational Psychology] (Translate of the 5<sup>th</sup> ed.) (pp. 216-252). Ankara: Nobel Academy Publishing.
- Selanik Ay, T., & Erbasan, Ö. (2018). Views of classroom teachers about the use of out of school learning environments. *Journal of Education and Future, 10,* 35-50.
- Senemoğlu, N. (2011). *Gelişim, öğrenme ve öğretim: Kuramdan uygulamaya* [Development, Learning and Teaching: From Theory to Practice] (20<sup>th</sup> ed.). Ankara: Pegem Academy Publishing.
- Sevinç, E. (2019). Preschool teachers' beliefs and practices related to the processes of field trips. (Unpublished master's thesis). Middle East Technical University, Turkey.
- Souto Otero, M., Ulicna, D., Schaepkens, L., & Bognar, V. (2012). *Study on the impact of nonformal education in youth organisations on young people's employability.* Retrieved from <u>https://issuu.com/yomag/docs/reportnfe\_print/35</u>
- Strauss, L. C., & Terenzini, P. T. (2007). The effects of students in and out-of-class experiences on their analytical and group skills: A study of engineering education. *Research in Higher Education*, 48(8), 967-992.
- Suntornpithug, S. (1979). Children and the science museum, Bangkok. *Museum International*, *31*(3), 189-192.



- Şen, A. İ. (2019). Okul dışı öğrenme nedir? [What is out-of-school learning?]. In A. İ. Şen (Ed.), Okul Dışı Öğrenme Ortamları [Out-of-school Learning Environments] (pp. 1-20). Ankara: Pegem Academy Publishing.
- Taylor, S. I., Morris, V. G., & Cordeau-Young, C. (1997). Field trips in early childhood settings: expanding the walls of the classroom. *Early Childhood Education Journal*, 25(2), 141-146.
- The Council of the European Union (2012). *Council Recommendation (Annex)*. Retrieved from <u>https://eur-lex.europa.eu/legal-</u> content/EN/TXT/?uri=celex%3A32012H1222%2801%29.
- The Rebuplic of Turkey Ministry of National Education (2013). *Okul Öncesi Eğitim Programı* [Preschool Education Program]. Ankara: Directorate General for Basic Education.
- The Rebuplic of Turkey Ministry of National Education (2016). Öğretmenlerin 2016 Haziran Dönemi Mesleki Çalışma Programı [Teachers' Vocational Study Program for June 2016]. Retrieved from https://oygm.meb.gov.tr
- The Rebuplic of Turkey Ministry of National Education (2017). *Öğretmenlerin 2017 Eylül Dönemi Mesleki Çalışma Programı* [Teachers' Vocational Study Program for September 2017]. Retrieved from <u>https://oygm.meb.gov.tr</u>
- The Rebuplic of Turkey Ministry of National Education (2018). *Öğretmenlerin 2018 Eylül Dönemi Mesleki Çalışma Programı* [Teachers' Vocational Study Program for September 2018]. Retrieved from <a href="https://oygm.meb.gov.tr">https://oygm.meb.gov.tr</a>
- The Rebuplic of Turkey Ministry of National Education (2019a). Okul Dışı Öğrenme Ortamları Kılavuzu [Out-of-School Learning Environments Guide]. Retrieved from https://drive.google.com/file/d/1LsgaEQLQFonXsDDVzrZEEcrqPtQkPsT1/view
- The Rebuplic of Turkey Ministry of National Education (2019b). Öğretmenlerin 2019 Kasım Dönemi Mesleki Çalışma Programı Programı [Teachers' Vocational Study Program for November 2019]. Retrieved from <u>https://oygm.meb.gov.tr</u>
- Tudor, S. L. (2013). Formal non-formal informal in education. *Procedia Social and Behavioral Sciences*, 76, 821-826.
- Turkish Council of Higher Education (2018). *Öğretmen Yetiştirme Lisans Programları* [Undergraduate Programs for Teacher Training]. Retrieved from <u>https://www.yok.gov.tr/kurumsal/idari-birimler/egitim-ogretim-dairesi/yeni-ogretmen-yetistirme-lisans-programlari</u>
- Tutkun, C., Aydın Kılıç, Z. N., Balcı, A., & Kök, M. (2019). Examination of preschool teachers" views about field trip activities. *OPUS-International Journal of Society Researches*, 14(20), 469-487.
- Türkmen, H. (2010). A historical perspective on informal (out-of-school) science education and its integration into our education. *Cukurova University Faculty of Education Journal*, 3(39), 46-59.
- Türkmen, H. (2015). Primary teachers point of view about science teaching in outdoor learning environments. *Journal of European Education*, 5(2), 47-55.
- UNESCO (2006). Synergies between formal and non-formal education: An overview of good practices. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000146092/PDF/146092eng.pdf.multi



- UNESCO Institute for Lifelong Learning (2012). UNESCO guidelines for the recognition, validation and accreditation of the outcomes of non-formal and informal learning. Hamburg: UIL.
- Uludağ, G., & Erkan, N. S. (in press). Effect of the science education program with the activities in the out-of-school learning environments on the science process skills of the 60-72 months old children. *Hacettepe University Journal of Education*. doi: 10.16986/HUJE.2020064760
- Uzbilir Özçelik, G. (2018). Investigation of preschool and classroom teachers' views about application of challenging experiences and self-efficacy during scientific field trips. (Unpublishing master's thesis). İstanbul Aydın University, Turkey.
- Van Noy, M., James, H., & Bedley, C. (2016). *Reconceptualizing Learning: A Review of the Literature on Informal Learning*. NJ: Rutgers Education and Employment Research Center.
- Walsh, L., & Straits, W. (2014). Informal science learning in the formal classroom. *Science and Children*, 51(9), 54-58.
- Weitze, M. D. (2004). *Science centers: Examples from the U.S. and from Germany*. Retrieved from <u>http://sci-ed.org/documents/Weitze.pdf</u>
- Whitesell, E. R. (2016). A day at the museum: The impact of field trips on middle school science achievement. *Journal of Research in Science Teaching*, 53(7), 1036-1054.
- Yıldırım, A., & Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative Research Methods in the Social Sciences]. (11th ed.). Ankara: Seçkin Publishing.
- Yıldırım, H. İ. (2020). The effect of using out-of-school learning environments in science teaching on motivation for learning science. *Participatory Educational Research*, 7(1), 143-161.



| Participant | Gender | Age | Vocational<br>years of<br>seniority | High school education<br>(School type) | Higher<br>Education<br>(Degree) | Training<br>or<br>course<br>on OSL |
|-------------|--------|-----|-------------------------------------|--|---------------------------------|------------------------------------|
| T1          | Female | 28  | 6                                   | Anatolian High School                  | Bachelor's degree               | -                                  |
| T2          | Female | 30  | 9                                   | Vocational School for Girls            | Bachelor's degree               | -                                  |
| T3          | Female | 29  | 7                                   | Teacher High School                    | Master's degree                 | -                                  |
| T4          | Female | 33  | 11                                  | Anatolian High School                  | Bachelor's degree               | -                                  |
| T5          | Female | 34  | 10                                  | Vocational School for Girls            | Bachelor's degree               | -                                  |
| T6          | Female | 28  | 7                                   | Anatolian High School                  | Bachelor's degree               | -                                  |
| T7          | Female | 32  | 7                                   | Vocational School for Girls            | Bachelor's degree               | -                                  |
| T8          | Female | 30  | 8                                   | Vocational School for Girls            | Bachelor's degree               | -                                  |
| Т9          | Female | 29  | 8                                   | Teacher High School                    | Bachelor's degree               | -                                  |
| T10         | Female | 29  | 7                                   | Teacher High School                    | Bachelor's degree               | -                                  |
| T11         | Female | 44  | 22                                  | Vocational School for Girls            | Bachelor's degree               | -                                  |

| Annex 1. Informa | tion about the | participants |
|------------------|----------------|--------------|
|------------------|----------------|--------------|

