

Metaphors Related to Out of School Learning*

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Abstract. The aim of this study is to determine pre-service teachers' perceptions about the concept of "Out of School Learning" through metaphors. The study is carried out with phenomenology method of qualitative research design. Data were obtained from 131 pre-service teachers studying the 3rd year of the Department of Preschool Teacher of the University of Sakarya, in 2019-2020 fall semester of the academic year. Participants were asked to complete these sentences, "Out of school learning is like..... Because....." Obtained metaphors were analyzed with content analysis with packaged program NVIVO 12. This analyzed was done in 5 stages; 1) coding and debugging, 2) collecting metaphor image samples, 3) developing category and theme, 4) calculating validity and reliability, 5) comments. It is observed that re-service teachers generate well-formed and mostly positive metaphors. In the study, it was seen that pre-service teachers produced 89 well-structured metaphors for out-of-school learning and these metaphors were mostly positive. Metaphors generated by the participant pre-service teachers gathered under 6 conceptual categories as: "experiencing", "authentic learning", "completing", "freedom", "amusement". As a result of the study, it is observed that, pre-service teachers perceived the concept of "out of school learning" as positive, heuristic, accruing by practicing, amusing and life itself.

Keywords: Out of school learning, metaphor, pre-school learning, pre-service teacher, outdoor.

* Ethical approval was obtained from Sakarya University Rectorate Educational Research and Publication Ethics Committee with decision number 09 and dated 20.07.2022.

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1. INTRODUCTION

Today, learning has social functions as well as provides knowledge and skill to children. (Apple, 2012; Özer & Perc, 2020). Factors, such as ease of access to information, the increase in the variety of stimuli, the provision of richer Learning environments to children, lead to significant changes in Learning. These changes continue to affect the content of skills to be taught to children (OECD, 2021). Since ancient times the sole purpose of learning which is one of the processes that maintains its importance in all ages, has been to bring to people as possible to understand what it means to be human. (Foshay, 1991); but learning is a permanent effect that is caused by experiences of individuals in their behaviors, knowledge, and opinions (Santrock,2018). Learning and education overlap but at the same time they differ according to specific objectives. It is stated that education can be seen as a context or an environment, but learning itself (throughout life) is a process (Norqvist & Leffler, 2017, s.238).

In the early stages of life children develop very fast (MoNE, 2013). In this period, learning is defined as one of the best investments of a country has made to prepare their children for learning (Global Partnership of Education, 2020). In this educational process, learning by doing and experiencing should be at forefront. Kostelnik et al. (2014) stated that, learning starts with perception that is by seeing, hearing, tasting, smelling and touching and that children should use all their senses to learn in the best way and that it is important for these children to have first-hand experiences. Active use of out of school environment in preschool learning, helps children gain personal experiences, obtain information through two or more sense organs and examine objects and events in their natural habitats.

Out of school environments are places where children climb, bounce, run, jump and notice their own limits and develop themselves (Kurşunlu, 2018). These environments referred as out of school environments, such as museums (Güler, 2011; Stavrova and& Urhahne, 2010), botanical gardens (Türkmen, Topkaç & Yamık, 2016), planetariums (Sontay, Tutar & Karamustafaoğlu, 2016), Zoos (Yavuz & Kıyıcı, 2012) and aquariums (Rennie & Mc Clafferty, 1995) and factories (Bozdoğan, Okur & Kasap, 2015). Aforementioned environments ensure learning process to be permanent and more amusing (Bozdoğan & Ustaoglu, 2016). Besides it helps children establish a bond between experiences in out of school environment and their school (Lei, 2010) and enables children to gain experience by observing the mixed information learnt at school in their natural habitats (Kola-Olusanya, 2005; Rebar, 2012).

When literature is examined; “out of school environments” takes part in different statements. It is observed that “out of school education” (Bağrıyanık, 2012; Eaton, 1998; Reiss & Braund, 2004; Salmi, 1993; Tatar &), “out of class learning” (Chan, 2016; Nundy, Dilon & Down, 2009; Okur, Sezer, Güder & Yalçın-Özdilek, 2013; “Out of classroom learning” (Atmaca, 2012; Atmaca & Gökmen, 2013) statements are used. According to Şen (2019) it includes all out of school activities. According to this, school gardens, streets, and parks or nearby hospitals are known to be either an open area or an out of

school learning environment. Additionally, corporate areas, as museums, science centers, zoo gardens and digital media are also known to be out of school learning environments. As a result, out of school learning, was related to formal learning in class. In MoNE (2013) program, considering the achievements and indicators that will be given to children in MoNE (2013) program it appears as another way of performing activities. The out of school environments acknowledged as “a gate to the world” is expressed as an escape from within the four walls. As a result, non-corporate areas, such as school gardens, nearby parks, streets are also excepted as an out of school environments. When aforementioned statements are examined, it is observed that out of school learning is used in different expressions. Although these expressions have different names, they are stated according to their importance in human life. Concepts as used according to their importance in human life are called a metaphor. Metaphors are not just rhetoric to embellish the language we use. Metaphor is stated as explaining a concept, a phenomenon or a fact by resembling to another concept, phenomenon or a fact (Oxford et al., 1998). According to Lakoff and Johnson (2015) “The core of metaphor is to understand and experience one thing according to another thing”. In this context, metaphors enable the individual’s mind course of perception slide to another course of perception and allow the individual to see one certain phenomenon as another phenomenon. Accordingly, in any metaphor relationship, the existence of at least three basic elements should be mentioned; According to (Forceville, 2002); (a) the metaphor, (b) the metaphor source and (c) features thought to be attributed to the subject of metaphor from the source of the metaphor. In any metaphor relation the source of metaphor functions as a cognitive filter in understanding and explaining the subject of metaphor from a different viewpoint.

In an educational context, metaphors play a vital role in conceptualizing and reflecting the nature of learning and are used in establishing a connection between educational theories and personal beliefs (Leavy, McSorley & Bote, 2007). Therefore, it is a beneficial tool in presenting planning and analysis process in education and in close examining teachers’ learning and thoughts regarding learning and teaching (Martinez et al., 2001). In recent years, while it is observed that metaphor analysis is used in different areas of education, it is thought that metaphors can be benefited in enlightening some concepts (Kalra & Baveja, 2012; Saban, Martinez, Salueda & Huber, 2001; Saban, Koçbeker & Saban, 2007; Saban, 2013; Şenel & Aslan, 2014).

Metaphors therefore functions for revealing implicitly implied concepts and acts as a bridge between theory and practice (Mostert, 1992; akt. Leavy et al., 2007). The aim of the study from this aspect is to determine Pre-service teachers’ perceptions on the concept of Out of School learning by way of metaphors. In accordance with this purpose, the problem statement of the study is “What are the perceptions of pre-school teachers about the concept of “out of school learning?”.

2. METHOD

Research Design

This study, which aims to determine perception of pre-service teachers of preschools about the concept of “Out of school learning” by metaphors, is carried out by phenomenology design of qualitative research. (Creswell, 2012). Phenomenology focuses on concepts that we are aware of but have no in-depth and detailed understanding about it (Yıldırım & Şimşek, 2013). In this study existing phenomenon of pre-service teachers’ are revealed and concepts are remarked that is described by this phenomena. From this viewpoint perceptions of pre-service teachers about out of school learning concept is analyzed in depth together with the source of concept.

Participants

Participants of the study are chosen among pre -service teachers attending to Preschool Teaching department who don’t choose “out of school learning” lesson as an elective course and purposeful sampling method (Creswell, 2012) is used. Volunteer participants are composed of 131 Pre-service teachers attending to 3rd grade of preschool Pre-service Teacher Department of University of Sakarya. The study is formed by 89 pre-service teacher who are included in the study, 43 of pre-service teachers are left out of the scope. It is seen that study group is composed of 8.8 % (n 8) of male; 91.1% (n= 82) female pre-service teacher. Ethical approval was obtained from Sakarya University Rectorate Educational Research and Publication Ethics Committee with decision number 09 and dated 20.07.2022.

Data Collection Process

Participants are asked to complete the statements; “Learning is like.....” “Because.....” in data collection process of this study which aims to determine perception of Pre-service teachers about the concept of “out of school learning”. Thus, pre-service teachers are asked what the desired concept is likened and ask to justify the likened metaphor. Volunteer participants in class are asked to complete the statements “Out of school learning is like..... Because.....” on a piece of paper with the first thing that comes to their mind. Participants are not asked to put their identities in order to obtain a transparent and sincere answers, and pre-service teachers are symbolized as T1, T2, T3 in order to make comments in the finding section.

Data Analyze

Obtained metaphors are analyzed with content analysis method and NVIVO 12 package program is used. Content analysis is a data analysis technique that aims to reach detailed theme and concepts since the content analysis is obtained by descriptive analysis with resolving data more in-depth (Krippendorff, 2013). The following steps are taken in data analysis process under 5 headings; (1) coding and eliminating, (2) gathering sample metaphor image, (3) developing category and theme, (4) calculating validity and

reliability, (5) calculating frequencies and commenting data (Aydın, 2010; Bektaş & Karadağ, 2013; Kalyoncu, 2012; Sabah, Koçbeker & Saban, 2007; Saban, 2008).

Coding and Eliminating

Primarily data are alphabetically listed. Total of 43 out of 131 forms that are gathered from pre-service teachers are left out of assessment either if it is not filled or not justified. 89 data left to be coded. Coding is used to come out more clearly (Keller, 1995).

Gathering The Sample Metaphor Image

At this stage, the metaphors are listed in an alphabetical order and raw data is examined once again and metaphor statement is chosen as a sample from the pre- service teachers' statements that each represent a metaphor. Thus a sample metaphor list is formed by compiling metaphor images that is supposed to be the best representative of each metaphor. This list is compiled for two main purposes; (a) as a reference guide in gathering metaphors under certain categories and (b) to validate data analysis process and for comments of this study.

Category and Theme Development

At this stage, metaphor images produced by the participants are examined in respect to their common features. It is observed how each metaphor image conceptualize out of school learning concept by using "sample metaphor list" formed about six metaphors during this process. For this purpose, each metaphor image produced by participants are analyzed in respect to (1) metaphor subject, (2) metaphor source and (3) relation between metaphor subject and metaphor source. Then each metaphor image is related to a certain theme and formed 6 different conceptual categories.

Calculating Validity and Reliability

Validity and reliability are the two most important criterions in order to ensure (or increase) the credibility of research results. "Reporting of the gathered data and explaining how the researcher obtained the results are among the important criteria of validity in a qualitative research." (Yıldırım & Şimşek, 2005). Specific to this study, two important process is carried out to enable the validity of the results of the research; (1) data analysis process is explained in detail (especially how 6 conceptual category is formed), (2) a sample metaphor image is compiled that is supposed to be the best representative of each metaphor for the six metaphor obtained from the research results and these metaphor images are given in the results section. An expert opinion was asked to verify if metaphor images obtained from the 6 conceptual categories represent the related conceptual category. In accordance with this purpose, field expert was given two lists; (a) List of 89 sample metaphor images in an alphabetical order and (b) a list comprise of the names and specifications of 8 conceptual category. Field expert was asked to match metaphor images of the first list with the 6 conceptual categories in the second list (without leaving any metaphor images unmatched) using both lists. Later

matchings made by the expert were compared with the researcher's own category. Consensus and disagreement numbers determined in the comparisons and the reliability of the research was calculated by using Miles and Huberman's (1994) formula ($\text{Reliability} = \text{consensus} / (\text{consensus} + \text{disagreement}) \times 100$). In a reliability study performed specifically for this research, 84.4% reliability was obtained.

Calculating Frequencies and Interpreting Data

At this stage, formed categories put into tables and pre-service teachers' usage frequencies of these metaphors were expressed in terms of frequency and percentage. Data were interpreted according to obtained findings.

3. FINDINGS

As a result of the analysis of the obtained data, pre-service teachers' metaphors about "out of school learning" were included in this section. To begin with metaphors are given generally and later they are shown separately together with the categories they belong. Participant pre-service teachers produced well-structured 89 metaphors about the concept of "out of school learning".

Table 1.

Metaphors produced in the study and their frequency values

Rank	Name of the Metaphor	f	%	Rank	Name of the Metaphor	f	%
1	Life	20	22.4	23	Course	1	1.1
2	Learning by experience	9	10.1	24	Correct deficiencies	1	1.1
3	Experience	5	5.6	25	Being a family	1	1.1
4	Play	5	5.6	26	Life jacket	1	1.1
5	Free events-Learning	4	4.4	27	Therapy	1	1.1
6	Tour	3	3.3	28	Amused Learning	1	1.1
7	Application of in class learning	3	3.3	29	Difficult Learning	1	1.1
8	Teacher	3	3.3	30	Street	1	1.1
9	Environment	3	3.3	31	Learning by discovery	1	1.1
10	Perform what is learnt	2	2.2	32	Experience different environment	1	1.1
11	Complementary Reinforcing	2	2.2	33	Space	1	1.1
12	Learning in touch with	2	2.2	34	Surprise Egg	1	1.1
13		1	1.1	35		1	1.1

14	nature	1	1.1	36	Attend school Willingly	1	1.1
15	Informal Learning	1	1.1	37	Practice	1	1.1
16	Imitation	1	1.1	38	Live the book	1	1.1
17	Active Learning	1	1.1	39	Vitamin	1	1.1
18	Nature	1	1.1	40	Learn at school	1	1,1
19	Observe	1	1.1		Street		
20	Opportunity Training	1	1.1				
21	Permanent Learning		1.1			89	100
22	Authentic Learning		1.1		Total		
	Virtual Reality						
	Social Learning						

In this study 89 metaphors are produced by pre-service teachers. It is observed that 20 (22.4%) metaphors are related to life; 9 metaphors (10.1%) are related to Learning by experience; 5 metaphors (5.6%) are related to experience; and 5 metaphors (5.6%) are related to play. In addition, it is observed that metaphors developed by participant pre-service teacher concept about out of school learning are compiled under six conceptual categories. These categories are given in figure 1.

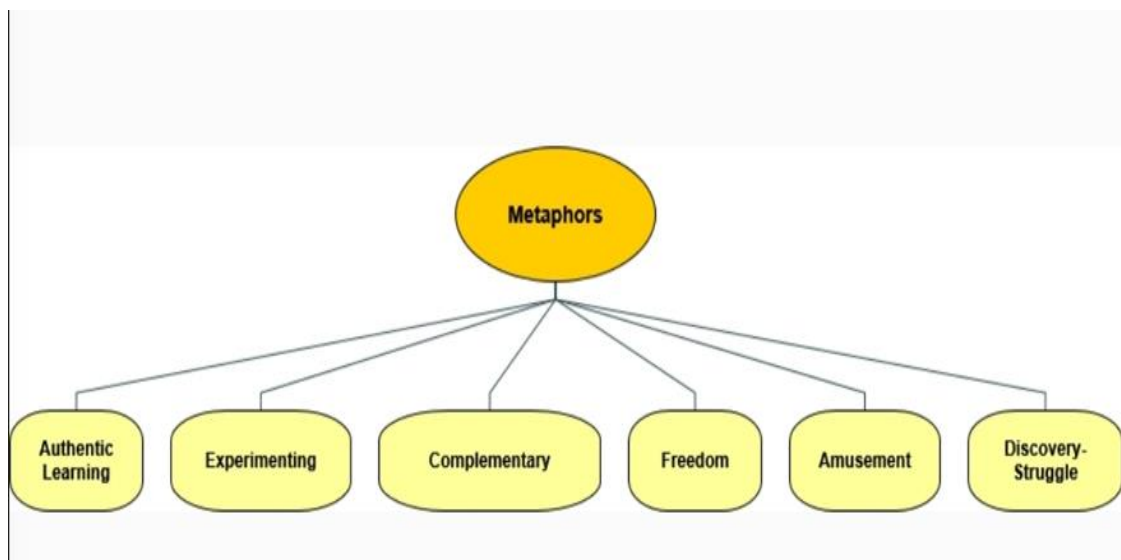


Figure 1. Conceptual Category Diagram

Conceptual categories in metaphors about out of school learning developed by participant pre-service teachers and codes composed of these categories are given in Table 2.

Table 2.

Metaphors and Conceptual Categories about the concept of Out of School Learning

Conceptual Categories	Metaphors (Codes)	Participants (%)	Metaphor f (%)
Authentic Learning	Life (20), environment (2), authentic learning (1), learning in touch with nature (1) virtual reality (1), social learning (1),	26	29,2
Experience	Learning by experience (9), experience (5), practice (1), active learning (1), observe (1), informal Learning (2), apply what is learnt (2), nature (1), opportunity training (1), permanent learning (1), imitation (1), live a book (1).	26	29,2
Complementary	Reinforcing complementary (2), application of in class learning (3), course (1), life jacket (1), teacher (3), vitamin (1), be a family (1), correct deficiencies (1), teaching at school /school (1)	14	15,7
Freedom	Free activity- education (3), Informal Learning (1), Be in a different atmosphere (1), Tour (3), Street (1),Play (1)	10	11,2
Amusement	Play (4), Amused Learning (1), Therapy (1), Lone working (1), School attending willingly (1), Surprise egg (1),	9	10,1
Discovery- Struggle	Space (1), Learning by discovery (1), Difficult learning (1), environment (1)	4	4,49
Total		89	

As seen in table 2, six subcategories are obtained when metaphors formed by pre-service teachers are categorized according to their similarities. These categories were

set as “Experience, Freedom, Authentic Learning, Reinforcing, Amusement and Discovery-Struggle” and these categories were discussed separately below. While Experiment (n=26) and Authentic learning (n=26) comprise more than half of the analyzed metaphors, Reinforcing (n=14), Freedom (n=9), Discovery-Struggle (n=4) comprise the other half. These metaphors are shown below.



Figure 2. Diagram of Frequency Density of Conceptual Category

When categorized metaphors about the concept of out of school learning formed by pre-service teachers were analyzed it is observed that “Authentic Learning”, “Experiencing” and “Reinforcing” categories have the highest frequency density levels. Findings on these categories are given below separately.

Findings on Conceptual Categories

Out of School Learning as By Experiencing

First conceptual category related to the metaphor of the out of school learning obtained from the study is “Experimenting”. It is observed that 26 pre-service teachers generate well formed (%29,2) metaphors in this category. The highest frequency density among these metaphors is respectively; Learning by practicing (f=9; 10.1%), experiencing (f=5;

6.6%), informal Learning (f=2; 2.2%), applying what's learnt (f=2; 2.2%). When metaphors produced by pre-service teachers related to the concept of out of school learning are analyzed, it is observed that metaphors generally are learning by practicing, learning by experience and practice based learning. For instance, a pre-service teacher stated that out of school learning is like learning by experience. Because children get the opportunity of learning by seeing and experiencing for themselves, expressing that they see learning by doing, the other pre-service teacher stated that "out of school learning is like an informal learning. Because learning in question is about learning by excursively, visually and by experiencing and stated that it is an informal learning which is not a planned learning, and the other pre-service teacher stated that out of school learning is learning like exercising. Because lessons are generally thoric at school. Learning out of school became permanent by practicing and experiencing and stated that out of school activities are based on exercising and experiencing and in class activities are rather based on theory.

Out of School Learning as Authentic Learning

First conceptual category obtained from the study related to the metaphor of Out of school learning is the concept of "experience. It is observed that total of 26 pre-service teachers (15.7) produce well-formed metaphors. The metaphors having the highest frequency rate are respectively; life (f= 20, 22.4%) and environment (f=2, 2.2%). When metaphors produced by pre-service teachers related to out of school learning are analyzed, it is observed that they are generally related to life.

One Pre-service teacher said, "Out of school learning is like life itself. Because learning happens not only in school but in every aspect of life" while expressing it's life itself, another Pre-service teacher stated, "Out of school learning is like a mirror of life. Because excursions, visited sites are facts of our lives, that it is a natural process for children to see and experience them on site" and emphasizes that it's a foundation of life and that the learning environments should be related to life, which means an authentic learning.

Out of School Learning as A Complementary

The first conceptual category of the study related to the metaphor of out of school learning is the concept of "complementary". In this category it is observed that 14 pre-service teachers (15.7%) produced well-structured metaphors. Among these metaphors, metaphors with the highest frequency rates respectively are; teacher (f =3, 3.3%), reinforcement, correcting deficiencies. When metaphors produced by pre-service teachers related to the concept of out of school learning are analyzed, it is observed that produced metaphors are generally related to completing and reinforcing the learning. For instance, in one pre-service teachers' statement "It is like a continuation of school. Because students can learn information that was not taught at school" the Pre-service teacher emphasizes the completion function while in the other pre-service teacher's statement "It is like being a family. Because the relation between teacher and student is

not limited only with school”, pre-service teacher emphasizes the reintegration, reinforcement functions of out of school learning.

Out of School Learning as Freedom

The first conceptual category of the study related to the metaphor of out of school learning is the concept of “complementary”. In this category it is observed that 10 Pre-service teachers (11.2 %) produced well-structured metaphors. Among these metaphors, metaphors with the highest frequency rates respectively are free Learning-activity (f=3, 3.3%), only one Pre-service teacher used the other metaphor as an informal Learning, “experiencing different environment” “excursions”, “Street”, “play”. In one of Pre-service teacher’s statement on free Learning-activity metaphor having the highest frequency, “It is like a free activity. Because it is not clear when and where can it be taught? It is a random concept, while in other Pre-service teacher’s statement “It is like free Learning. Because there is no certain grade to be earned, education is chosen according to student’s interest.” Pre-service teacher emphasizes that time; environment and program to be applied are free.

Out of School Learning as Amusement

The first conceptual category of the study related to the metaphor of out of school learning is the concept of “complementary”. In this category it is observed that 9 Pre-service teachers (10.1 %) produced well-structured metaphors. Among these metaphors, metaphors with the highest frequency rates respectively are “game” (f=4, 4.4%), only one Pre-service teacher used the other metaphor as “amusedly learning”, “therapy”, “lone working”, “school attending willingly”, “surprise egg”. One pre-service teacher stated “It is like a game. Because it always progresses amusedly” for the game metaphor, in another pre-service teacher’s statement “It is like a game. Because it amuses children” for the same category, preservice teacher emphasizes the amusement aspect of out of school learning.

Out of School Learning as Discovery- Struggle

The first conceptual category of the study related to the metaphor of out of school learning is the concept of “discovery-struggle”. In this category it is observed that 4 Pre-service teachers (4.4 %) produced-well-structured metaphors. All the Pre-service teachers used only one statement in these metaphors so there is no metaphor with a highest frequency rate. Frequency rates of all metaphors are equal to 1. Stated metaphors are respectively; “space”, “learning by discovery”, “troublesome learning”, “environment”. For instance, one Pre-service teacher stated “It is like a space” It always arouse interest” for the concept of out of school learning while emphasizing the direction of discovery of curiosity, another Pre-service teacher stated “it is a troublesome learning. Because it bears a financial burden” for the concept of out of school learning emphasizes struggle.

4. RESULTS, DISCUSSIONS AND SUGGESTIONS

In this study we carried out, we try to find out Pre-service teachers' perceptions on the concept of out of school learning by means of metaphor analyzes. Participant pre-service teachers produced total of 89 well-structured metaphors. It is observed that life (f=20,22.4%), learning by experience (f=9,10.1%), experience (f=5, 5.6%) , game (f=4, 4.4%), application of in class learning (f=3, 3.3%), teacher (f= 3.3%) free Learning/activity (f=3, 3.3%); excursions (f=3, 3.3%); are the metaphors having the highest frequency rates among metaphors produced in the 8 study. When obtained metaphors put into conceptual categories, it is observed that metaphors mostly gathered under authentic learning and experiencing categories. These categories form 58.4% of total metaphors. In this respect when more than half of the Pre-service teachers were asked about out of school learning concept, most of them used statements related to "authentic learning" and "experience" category.

Sturm and Bogner (2010) and Behrent and Franklin (2014) in a study they carried out; define the out of school learning as excursions to sites such as zoos, botanical gardens, planetariums, various natural environments where direct research and observation can be made. Hofstein and Rosenfeld (1996) in a study they carried out, defined the out of school learning as learning by experience in an authentic environment. In this aspect, pre-service teachers' statements in this study show parallelism to those statements in the authentic learning category. Besides, they stated that the purpose of out of school learning as (1) strengthen perception and observation ability; (2) ensure personal growth and social development; (3) gain experience at first hand; (4) associate and interpret what's learnt. In terms of firsthand experience and presenting concrete life, it overlaps with "experience" as a conceptual category. Metz (2005) in a study he carried, he argued that Teacher trainee programs should be in cooperation with the out of school learning environments (museums and science centers) in order to provide strong authentic learning environments.

Olsen, Cox-Peterson and McComas (2001) stated that Pre-service teachers are required to gain long-term experience in such environments before their service begin in order for children completely benefit from learning- teaching opportunities of out of school learning environments. In this respect it is important to experience the out of school environments that supply authentic learning. In this study apart from the categories of "authentic learning" and "experience", metaphors produced consist of "complementary" "freedom", "Amusement" and "discovery-struggle". It is possible to unify life experiences which is a condition of associating Daily life with out of school learning environments. Funny experiences during out of school activities bear powerful consequences when established a connection with past experiences (Stocklmayer & Gilbert, 2002). Knap (2000) in his study determined that primary school students gained permanent information, became experienced and their interest increased towards subjects. In the affective dimension, in the end of the study it is emerged that out of school learning activities arouse curiosity towards science and natural events, positively effect pre-

service teachers' attitudes to lessons, increase interest levels towards scientific subjects, help to understand the importance of out of school environments and increase their self-confidences related to tour organizations. Similarly, in Paris and others' study (1998) it is observed that out of school activities increase students' biology knowledge and their interest towards science in certain levels. In the life skill dimension, out of school activities cause pre-service teachers gain experience, make them become sensitive to their environment, impress team spirit, increase sense of responsibility, bring science career awareness, and increase self-confidence. It is concluded that it provides the opportunity to associate science subjects with Daily life. Therefore, the significance of "complementary" category is mentioned by emphasizing the completion of life skills with school. Ünal, Kalçık and Satuk (2016) emphasize the effect of out of school learning environments on life skills should be investigated in detail.

Inclusion of out of school learning environments to learning-teaching process by excursions are more amusing, flexible, natural, rich in various school learning activities that cannot be performed in school and its discovery compared to formal learning environments, as a result provide all individuals of all ages with the opportunity to learn through direct experiences and obtain information by discovering are seen as an important advantage (Taylor & Caldarelli, 2004). From this aspect discovery-struggle category is important. Ay, Anagün and Demir, (2015) mentioned similar results in their study. They emphasized that children's active participation in out of school learning environments and that such environments should be provided to children.

When these studies are examined, it is seen that pre-school teachers perceive the metaphors obtained positively. It is observed that pre-service teachers perceive metaphors as amused activities that provides opportunity to experience with sense organs, that learning environments are related to realistic facts, that provides real life experience, that complements education/learning, that is realized by doing and living, that provides exploration opportunity to children.

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Ethical approval was obtained from Sakarya University Rectorate Educational Research and Publication Ethics Committee with decision number 09 and dated 20.07.2022.

Statement of Contribution of Researchers to the Article:
Authors equally contributed the article.
Conflict of Interest Statement
There is no conflict of interest.
Statement of Financial Support or Acknowledgment:
No financial support was received from any institution for this study. No Acknowledgment.