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**DETERMINATION OF TEACHERS' PERCEPTIONS OF MUSEUM EDUCATION:
A METAPHOR ANALYSIS STUDY¹**

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Abstract

The objective of this study is to identify the metaphors developed by pre-service teachers as regards museum education which is added as an elective course to the curricula of departments related to teaching in the 2018-2019 academic year after gaining popularity in Turkey recently. Thus, the perceptions and perspectives of prospective teachers on museum education, which will have a much more important position in the future education curricula, are revealed. The study group consisted of 60 pre-service teachers. In the study, the metaphors of the pre-service teachers about museum education were determined with a semi-structured form.

Keywords

Educación museística – Profesor de pre-servicio – Metáfora – Arte – Programa educativo

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Introduction

Museums that exhibit cultural and artistic pieces of work related to the communities they belong to are also important educational places where developments such as science and industry can be followed. Museums, which show the artistic and cultural level that the societies reached, are very important places where culture is preserved and transferred from generation to generation, children receive education especially in this direction from a young age, and entertain while educating.

“Museums are the display areas of social memory with their contents, knowledge and often spatial positions. The 'visual elements' put forward in line with historical data indirectly (sometimes directly) contribute to the formation of historical awareness. Museums also help impose new meanings on this consciousness and play an important role in building social memory. In this sense, it can easily be said that museums are indispensable institutions, especially for newly established nations, in terms of transferring the material evidence of the past to the future. It is beyond doubt that the concept of museology and therefore museums play an extremely important role in the structuring of societies and the formation of community identity.”²

In recent years, museum education has become increasingly important, especially with the development of contemporary art education and the emergence of different understandings on this subject. It is observed that museums have reached a critical point in developed European countries in this regard, especially with their contribution to education.

“European and American museums have taken their role of education seriously in addition to their classical museum tasks. Most museums in these regions have special classrooms and workshops. In these workshops, kindergarten children are given realistic archaeological objects, and they are asked to do the same with the clay or paste. Thus, kindergarten students under the control of the teacher meet with archeology and art history at a young age.”³

The museums, which fulfill an extremely important function especially in the education of children from a young age, also offer them a very colorful learning environment. Museums allow young children to learn by living and doing. Since children in a certain age group live in a dream world, museums also contribute to the development of their imagination. In addition, they also improve their creativity, reasoning and observation skills. Children who receive education in such environments can seize the opportunity of comparing the past with the future and learn how to lay claim to their cultural values.

“John Dewey also defined museums as a social educational institution. According to him, learning takes place only by 'doing and living', and museums are the most appropriate extra-school learning environments for this philosophy. He suggested that museums are as important as libraries in school education. According to him, every school should have a museum. On the other hand, even if a museum cannot be established in schools, it should be in cooperation with the nearest museum in the region.”⁴

² E. Şar y T. Sağkol, “On the necessity of museum education lesson in education faculties”, HAYEF Journal of Education Vol: 10 num 2 (2013): 84.

³ M. Şahan, “Museum and Education”, Türk Eğitim Bilimleri Dergisi, Vol: 3 num 4 (2005): 488 – 489.

⁴ C. Karadeniz, “Müze ve toplum: Müzeyle topluma ulaşmak (Museum and society: Reaching the society with the museum)”, İnsan ve Toplum Bilimleri Araştırmaları Dergisi, num 6 Vol: 8 (2017): 21.

Natural History Museums, Children's Museums, Science Museums are important places where individuals can receive informal education. An active learning environment is provided by making the theoretical information received especially in the school more vivid thanks to the museums.

It is not easy to claim that today museum education in Turkey records the important developments that are witnessed in Europe. "European and American museums have undertaken education seriously in addition to their museum duties. The difference between European and American museums with Turkey stems from the way we view events in perspective and lack of education."⁵ That despite the existence of essential infrastructure and a considerable experience museum education in Turkey is not at the desired level can be attributed to the lack of long-term education curricula in this field. Despite not being at the desired level in Turkey, museum education is a topic which is elaborated on by researchers; it has even been added as an elective course in the new pedagogy curricula at universities in 2018-2019 academic year. For this reason, what kind of perception the pre-service teachers have on this subject and how they associate this with a 'metaphor' should be handled as a topic that should be emphasized and considered. The word "metaphor" was derived from the Greek word "metapherein" (meta: beyond, top; pherein: carrying) which means "carrying one thing from one place to another."⁶ Metaphors help people explain the things that they have difficulty in expressing. Lakoff and Johnson defined metaphor as "a material of thought, a form of human understanding, and not only a figure of words but also a figure of thought". According to Lakoff and Johnson (2005), who have conducted essential studies in the field of metaphor, metaphor is related to understanding and experiencing a phenomenon vis-a-vis another phenomenon. Metaphor, a major perception tool, involves the transfer of information from a known area to a new / unknown one.⁷ While trying to perceive any concept in general, human beings liken it to another concept or reveal similar aspects with another concept. This method used makes metaphors, which have recently been considered an important element of reasoning, become even more popular. Therefore, they have an important place especially in learning abstract concepts.

Method

In this study, phenomenology pattern, which is one of the qualitative research strategies, was used and effort was paid to 'reveal individuals' experiences, perceptions and meanings related to a case'.⁸ This pattern focuses on facts that we are aware of but do not have in-depth and detailed understanding of.⁹ In the analysis of qualitative data, "Content analysis" approach was used and the data obtained at the end of the data collection process was summarized and interpreted according to the themes determined.¹⁰

⁵ V. Keleş, "Modern museology and Turkish museology", Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi Vol: 2 num 1-2 (2003): 9.

⁶ Ö. Kararımak y B. Güloğlu, "Metafor: Danışan ve psikolojik danışman arasındaki köprü. (Metaphor: The bridge between client and counselor)", Türk Psikolojik Danışma ve Rehberlik Dergisi num 4 Vol: 37 (2012): 122.

⁷ E. Güveli; A. S. İpek; E. Atasoy y H. Güveli, "Pre-service teachers' metaphor perceptions about the concept of mathematics", Turkish Journal of Computer and Mathematics Education, Vol: 2 num 2 (2011): 140.

⁸ A. Yıldırım y H. Şimşek, Qualitative research methods (9th Edition) (Ankara: Seçkin Yayıncılık, 2013), 84.

⁹ A. Yıldırım y H. Şimşek, Qualitative research methods... 78.

¹⁰ A. Yıldırım y H. Şimşek, Qualitative research methods... 259.

Sample

Prospective teachers studying at Northern Cyprus universities are the universe of the study, and 60 students studying at these universities constitute the sample of the study. The sample groups were selected by random method among students studying in the fields of natural sciences and social sciences. These students consist of people studying in different teaching departments of universities (Turkish Teacher Education, Special Education Teaching, Preschool Teaching, Mathematics Teaching etc.).

Collection of Data

An open-ended written opinion form was used as data collection tool. The measurement tool used in collecting the data was created by the study of the literature by the researchers. In addition, expert opinion on the tool was received, and it was arranged in line with the opinions and given its final form. With the purpose of collecting data, students were asked to complete the expression "Museum education is like/similar to; because..." as they found appropriate. In this way, based on the emotions, thoughts and experiences of the pre-service teachers, they first included the element that museum education revived in their minds and then tried to explain why they thought this way. Thus, the metaphors that teacher candidates derive regarding museum education and the reasons for choosing metaphors were obtained.

Analysis and Interpretation of Data

As this research is a qualitative study, content analysis and percentage frequencies were used in the analysis of data. In addition, the metaphors of the participants regarding museum education were divided into conceptual categories and analyzed. 60 teacher candidates were asked to derive metaphors related to museum education, and then among those 60 metaphors that were derived, similar ones and those without explanations were eliminated and the number was reduced to 50.

In this study, in order to obtain reliability, relevant written opinion forms, rationale and conceptual categories were presented to an expert in Educational Sciences. After matching the metaphors and categories, these data were compared with the matches made by the researcher. As a result of this comparison, the formula "Reliability = Agreement / Agreement + Disagreement x 100" (Miles and Huberman, 1994)¹¹ was used to determine reliability and the resulting Reliability was found as = $46/46 + 4 \times 100 = 92\%$. The results obtained were found to be satisfactory for the reliability of the study.

Objective of the Study

The objective of this study is to reveal the perceptions and perspectives of pre-service teachers as regards museum education which has become more popular in Turkey in recent years. Accordingly, answers to the following questions were sought:

1. What are the metaphors displayed by pre-service teachers studying at Northern Cyprus universities regarding museum education?

¹¹ M. B. Miles y A. M. Huberman, *Qualitative data analysis: An expanded sourcebook* (2nd Edition) (Thousand Oaks-California: Sage Publications, 1994).

2. What conceptual categories do these metaphors constitute?
3. What are the pre-service teachers' perceptions and perspectives on museum education?

Findings

The metaphors obtained in the study conducted with pre-service teachers related to museum education were divided into several conceptual categories which are presented in the table below. A total of 9 categories were formed using the collected metaphors and the metaphors were matched with relevant categories; the frequencies and percentages of these categories were also given.

Category	Metaphors within the category	f	%
Education-Teaching	Active learning (<i>twice</i>), A kind of laboratory education, free learning, learning by living, socio-cultural learning, practical learning, reinforcement, documentary, science, brainstorming, spiritual knowledge store	12	24
Tools-Materials and Items	Hard disk, Television, Phone, Book, Computer, Cycling, Traveling in the car, Car, Time machine, Iron, Encyclopedia	11	22
Abstract concepts	A unique wealth, Fun, Dream, Social memory, Imagination, Culturing, Observing, Finding life	8	16
Places	Theater, Palace, Botanical garden, Workshop, Traveling to different places	5	10
Food and nutrients	Bread and water, Food, Nutrients, Medicine and vitamins,	4	8
Illuminating objects	Guiding light, Star, Sun	3	6
Means of transportation	Plane, Car, High-Speed Train	3	6
Nature and natural events	Rainbow, Ocean	2	4
Family Members	Mother, Father	2	4
TOTAL		50	100

Table 1

Metaphors, conceptual categories, number of students (f) and percentages (%) put forward by pre-service teachers regarding the concept of "Museum Education"

According to the table above (Table 1), it is seen that the category that pre-service teachers concentrate most on is "Education-Training" (24%), and the second place is occupied by "Tools-Materials and Items" (22%). The categories discussed later are "Abstract Concepts" (16%), "Places" (10%), "Foods and Nutrients" (8%), "Illuminating Objects" (6%), "Means of Transportation" (6%), "Nature and Natural Events" (4%) and "Family Members" (4%).

It can be seen that important inferences and analyzes can be achieved through the metaphors given in the table above (Table 1). As it can be understood from the table, the most emphasized category is "Education-Training" (24%) with a rate of 24%. The metaphors in this category are "Active learning (twice), A kind of laboratory education, Free learning, Learning by Living, Socio-cultural learning, Practical learning, Reinforcement, Documentary, Science, Brainstorming, Spiritual knowledge store". This shows that teacher candidates mostly describe museum education with the concept of education and training. The explanations provided for some of the metaphors given here are directly related to education. For example; "Active learning" metaphor is explained as "Students learn by living by doing here", while "Science" metaphor is explained as "Learning is done by doing some experiments here". Again, the "Learning by living" metaphor is defined as "The student can experience the knowledge he / she learned in science lesson by living and learning in the natural history museum", while the "Practical learning" metaphor is defined as "It provides the learning of a knowledge in practice which was received in the classroom". Based on these explanations, it is seen that the main agreement among the participants is on learning by doing and living.

The second most popular category with the rate of 22% is the "Tools-Materials and Items" category. When the metaphors in this category are analyzed, it is seen that the students formed the metaphors of "Hard disk, Television, Telephone, Book, Computer, Cycling, Traveling in the car, Car, Time machine, Iron, Encyclopedia".

When the analogies and explanations offered by participants to these metaphors is examined, it can be seen that for the concept "hard disc", they explained that "it contains a lot of information" while for the concept "television", they mentioned that "we learn by both listening and seeing. As we learn from the TV..." Again, for the concept "book" in the same category, they said that "a child who reads something he/she learns in a story which gives him/her pleasure benefits from reinforcement". For the concept "computer", they stated that "information learned in the classroom are applied and learned on the computer as if they are alive". An interesting description in this category is "time machine". The explanation provided for this analogy is as follows: "The student who enters the archeology and history museum makes a journey in history."

The third category, "Abstract Concepts" (16%), includes such notions as "unique wealth, Entertainment, Dream, Social memory, Imagination, Culturing, Observing, Finding life". As can be seen, in the concepts here, the participants focused on different ideas rather than a common idea. For example; while drawing attention to the cultural heritage in the metaphor of "unique wealth" (Explanation: It shows us the information left in the depths of history.), in the "entertainment" metaphor, the enjoyable aspect of museum education is noted: "Education in such environments also prevents children from getting bored." In the "cultivation" metaphor, it is stated that "museum education can be used to instill culture into the new generation". For "Dream", which is one of the other metaphors, it was explained that "in our country, it can only be considered as a dream. There are other problems that need to be resolved within our education system until we reach that stage." Thus, it was emphasized that the inclusion of museum education in the education system is almost inaccessible as a model. Another participant who shared the same opinion stated that museum education is very limited in the country and is not used effectively and explained the metaphor "dream" as "in our country this type of education is rather limited. According to the materials I read, it is very popular in Europe and is used quite effectively." In other words, the education system in the metaphor of dreams and imagination has been critically evaluated.

The “Places” category is in fourth rank with a rate of 10%. The metaphors presented here are “Theater, Palace, Botanical garden, Workshop, Traveling to different places”. Here, quite different places are given as example. One of them is “Botanical garden”. In the statement given about this, it is explained that “The child gets the chance to see the things he/she learned about nature and plants in the museum. This is also the case in the botanical garden.” Another metaphor is “Theater”. The participant explained the theater metaphor as follows: “While teaching, it also entertains and provides an activity based on movement”. Other metaphors are “Palace” (There is a wealth of information and diversity like the richness of the palace in these places.), “School” (The child is educated in the museum similar to the case in school.) and “Traveling to Different Places” (We get the chance of learning new things in our journeys and seeing what we do not know. Similarly, we learn new things at a museum and reinforce our previous knowledge.) metaphors.

“Food and Nutrients” category represents an 8% share. “Bread and water, food, nutrients, medicine and vitamins” are metaphors created by the participants in this category. The general metaphors given in this category emphasize the necessity of museum education, just like food and nutrients are necessary for life. For example; this is clearly seen in the explanation given in the metaphor of “bread and water”. (In my opinion, practical education such as museum education should be improved for the future of our country, as bread and water are necessary for life.) In the “Food” (Just as people need food, museum education is also needed in our country. We should make education as practical as possible.) and “Medicine and Vitamin” metaphors (Museum education is essential for a good education, just as medicine and vitamins are necessary for health.) emphasis is placed on the necessity of museum education. Only in the “nutrient” metaphor, it is mentioned that museum education feeds the mind just as nutrients feed the body: “It satisfies our mind with visual richness while it gives pleasure with interesting information”.

“Illuminating objects” and “means of transportation” categories received 6% rates each in the table. In the “illuminating objects” category, the metaphors “guiding light, star and sun” are presented. The main focus of the metaphors created here is that museum education enlightens students. For example, in the metaphor “The guiding light”, the participant said, “From the early ages, it raises and enlightens us about the cultural values we have.” In the “Star” metaphor, it is claimed that “Children are illuminated thanks to museum education as the stars illuminate the world”, and the lightening role of the museums is emphasized in the “Sun” metaphor: “Thanks to such trainings, children are enlightened as the sun illuminates the world.”

In the category “means of transportation” (6%), “airplane, car and high-speed train” metaphors were formed. Here, an increase and progression in the “Airplane” and “Car” metaphors are mentioned, while the implementation is mentioned in “High Speed Train”. For example, in the “Airplane” metaphor, it is stated that “Mankind ascends just like an airplane thanks to such trainings”, while in the “Car” metaphor, it is explained that “We go from one point to another point with such useful trainings.” In the “high-speed train” metaphor, attention was drawn to the implementation aspect of museum education: “We learn quickly by finding the opportunity to implement the historical and cultural information we see theoretically at school.”

The last two categories in the table are “nature and natural events” and “family members” categories, each of which received 4% rate. As regards the “Rainbow” metaphor in the “nature and natural events” category, it is said that “We can get very useful and colorful information in many different areas. We have knowledge not only on history-culture but also

on technology and art". On the other hand, it is asserted that "It offers us various opportunities with its immense wealth" regarding the concept of "Ocean".

In the "Family Members" (4%) category, attention was drawn to the educational aspect of parents. While it is said that "Mother educates and provides learning by living like a museum" for "Mother", it is said for "Father" that "The child gets the chance to practice several elements he learned at school thanks to his father. For example, he/she goes on hiking in the nature, goes fishing, plants trees, repairs things etc.". The pedagogical aspect here is practical learning and learning by living as in museum education and is a valid reference to museum education.

Based on the metaphors given in all categories, it can be said that the metaphors created and the explanations made for them are generally positive. Only in the "Imagination" and "Dream" metaphors, it was commented that the implementation of museum education in the country is unlikely and unrealistic and it is mentioned that the education system is very difficult to adapt for now.

Conclusion, discussion and recommendations

Important inferences have been made in this study. A total of 50 metaphors created by prospective teachers are classified in 9 categories, namely "Education-Teaching" (24%), "Tools-Materials and Items" (22%), "Abstract Concepts" (16%), "Places" (10%), "Foods and Nutrients" (8%), "Illuminating Objects" (6%), "Means of Transportation" (6%), "Nature and Natural Events" (4%) and "Family Members" (4%). The category where pre-service teachers produce the most popular metaphors for museum education is the "Education-Training" category with a rate of 24%. This result shows that museum education should be included in the future education and training curricula. In their paper titled 'On the Necessity of Museum Education Lessons in Education Faculties'.¹² Şar and Sağkol demonstrated the opinion that it is very important and necessary to include museum education in the curricula of primary and secondary education institutions and Education Faculties in terms of targeted educational results. In addition, one of the basic principles that pre-service teachers emphasize while producing metaphors in this category is that learning by doing and living is extremely important for educational activities. In parallel, Şar and Sağkol¹³ stated in their paper that museum education allowed for learning by doing and living. In the study, the "Tools and Equipment" category appeared as the second category with a rate of 22%. The metaphors given in this section refer to the function of the instruments and tools on the one hand, and to learning by doing on the other. This situation shows the importance that pre-service teachers attach to applied education and suggests that future education programs should be prepared accordingly. In the "Hard disk", "Television" and "Time machine" metaphors, the museum is associated with the functions of the tools and equipment, while the "Book and Computer" metaphors draw attention to the application. Yılmaz and Şeker¹⁴ draw attention to the importance of practice in museum education and indicate that attention should be paid to practice. Karadeniz and Okvuran¹⁵ also stated that museums should be used in terms of applications in art education.

¹² E. Şar y T. Sağkol, "On the necessity of museum education lesson... 86.

¹³ E. Şar y T. Sağkol, "On the necessity of museum education lesson... 85.

¹⁴ K. Yılmaz y M. Şeker, "Examination of primary school students' views on museum trips and the use of museums in social studies teaching", İstanbul: Aydın Üniversitesi Dergisi num 3 Vol: 9 (2011): 25-36.

¹⁵ C. Karadeniz y A. Okvuran, "One night at the museum: Museum education with the students of Ankara University at Çorum Archeology Museum", İlköğretim Online Vol: 13 num 3 (2014): 870.

In the “Abstract Concepts” category (16%) which occupies the third rank in the study, there is a significant difference that is distinguished from metaphors in other categories. The difference here can be regarded as a criticism of the Turkish education system. In the “Imagination” and “Dream” metaphors in this group, it is emphasized that the active implementation of museum education in the country is like a dream and difficult. This reveals the negative perceptions of pre-service teachers as regards traditional and existing education systems. The idea of the difficulty of active implementation of museum education, is currently a realistic determination exposing the current situation in Turkey. Adıgüzel and Öztürk¹⁶ state that museum education should be used effectively in the Turkish education system. Şahan¹⁷ argues that it is necessary to pave the way to benefit from museums for educational programs and activities.

One of the most striking points in the category of “Places” (10%) is that the pre-service teachers have associated museum education with theater. While the participant explained this metaphor, he/she underlined the entertaining feature of museum education and stated that he/she likens museum education to theater. Rukiye Dilli, in her article entitled “The Opinions of Teachers on the Use of Museums as a Learning Environment”, stated that museums make learning more fun citing Mercin and Alakuş.¹⁸ Another metaphor that attracts attention in the category of places is the “Palace”. While the pre-service teachers explained the metaphor in question, they emphasized that thanks to the museum education, students would acquire rich knowledge like the richness of the palace. Cihan Orhan Gökmen's citation from Adıgüzel and Tokgöz in his non-thesis master's study titled “The Place of Museums as a Teaching Environment in Primary Education I Level” confirms this view. Gökmen stated that, according to Adıgüzel and Tokgöz, education and teaching activities conducted in museums enrich teaching at school.¹⁹

In the “Food and Nutrients” (8%) category, while pre-service teachers explained the metaphors they derived, they emphasized the necessity of museum education in general. It was underlined that, just like the body needs nutrients, the education system in Turkey needs museum education and similar practical education systems. In the study titled “Transformations in Museum Education: Training of Trainers in Kocaeli Museum” by Ceren Karadeniz, Ayşe Okvuran, Müge Artar and Ayşe Çakır İlhan, it is stated that museum education is at least as important as basic lessons such as Turkish, Social Studies and Mathematics, and that it should be a compulsory education for children. In the same paper, the researchers expressed their opinion that the Ministry of National Education should include museum education in primary and secondary school curricula and that the Ministry's education programs should be prepared in accordance with museum education.²⁰

In the category of “Illuminating Objects” (6%), the emphasis that museum education is very useful and that individuals who receive this education is enlightened has been put forward using various comparisons. In the “Means of Transportation” category (6%) where

¹⁶ H. Ö. Adıgüzel y F. Öztürk, “Change in Turkish educational philosophy from school museum to museum pedagogy”, *Eğitim ve Bilim*, num 24 Vol: 114 (1999): 80.

¹⁷ M. Şahan, “Museum and Education”, *Türk Eğitim Bilimleri Dergisi*, num 3 Vol: 4 (2005): 496 – 497.

¹⁸ R. Dilli, “Teachers' views on the use of museums as learning environments”, *Milli Eğitim Dergisi* num 46 Vol: 214 (2017): 305.

¹⁹ C. O. Gökmen, “The place of museums in the first stage of primary education as teaching environment”, Unpublished Master's Thesis (Ankara: Ankara University, Institute of Social Sciences, 2004), 27.

²⁰ C. Karadeniz, A. Okvuran, M. Artar, A.Ç. İlhan, “Transformations in museum education: Training of trainers in Kocaeli Museum”, *Milli Eğitim Dergisi* 46: 214 (2016): 55.

metaphors such as airplane, car and high-speed train are produced, it is emphasized that individuals show a much faster development thanks to museum education in general.

Producing the "Rainbow" and "Ocean" metaphors in the category of "Nature and Natural Events" (4%), pre-service teachers stated that museum education is a rich source of information, and at the same time, it brings very different and interesting pieces of information to the person.

In the "Family Members" (4%) category, mother and father metaphors were produced by pre-service teachers. It was stated that museum education provides the individual with a learning opportunity which is comparable to the chances provided by the parents to their children through learning by living.

Based on the data obtained in this study which display the perception and viewpoints of pre-service teachers as regards museum education deserving more attention while preparing education curricula in the future, it can be said that pre-service teachers are knowledgeable about museum education in general. However, despite the fact that pre-service teachers are knowledgeable about the topic, it is not easy to claim that museum education is used satisfactorily in education curricula in Turkey.

It becomes evident that museums, with their wide and critical opportunities in terms of education and teaching, have to be more active in education activities in Turkey and the world and, especially beginning in elementary education, curricula should be changed and arranged accordingly. In Turkey, which is a country that is rich in museums in terms of number, a partnership should be established between museums and schools and the cooperation between the two types of institutions should be improved. In addition, museum education, which has reached an important point day by day, has made museum education necessary by specializing in this field. Therefore, expert museum educators should also be trained in order to continue museum education in a healthier way.

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