ATATÜRK ÜNİVERSİTESİ YAYINLARI
ATATURK UNIVERSITY PUBLICATIONS

Öğretmen Adaylarının Müze Kavramına İlişkin Algılarının İncelenmesi

An Investigation of Prospective Teachers' Perceptions of the Concept of a Museum

Yasemin YALÇIN [1]
Muhammed Akif KURTULUŞ [2]

[1] Alanya Alaaddin Keykubat Universitesi, Spor Bilimleri Fakültesi, Alanya, Türkiye
[2] Alanya Alaaddin Keykubat Universitesi, Eğitim Bilimleri Fakültesi, Alanya, Türkiye

[1] Alanya Alaaddin Keykubat University, Faculty of Sports Sciences, Alanya, Türkiye
[2] Alanya Alaaddin Keykubat University, Faculty of Education Sciences, Alanya, Türkiye

ÖZ

Bu araştırma, öğretmen adaylarının müzeler hakkındaki algılarını incelemektedir. Nitel bir araştırma tekniği olan vaka çalışması metodolojisi kullanılarak, öğretmen adaylarının bakış açıları incelenmiştir. Çalışmada, öğretmen adayları tarafından çizilen resim belgeleri kullanılmıştır. Doğru ve güvenilir bir analiz sağlamak için, katılımcılardan çizimlerinin arkasına, nesnelerin neyi temsil ettiğini ve onları çizme nedenlerini ayrıntılı olarak açıklayan notlar yazmaları istenmiştir. Çalışma grubu, bir devlet üniversitesinde ilköğretim ve İngilizce dil eğitimi programlarında okuyan öğrencilerden oluşmuştur. Katılımcılar, müze eğitimi dersini alacak olan 3. sınıf ilköğretim ve 4. sınıf İngilizce dil eğitimi lisans öğrencileriydi. Veriler üç uzman tarafından analiz edildi ve "yapı", "malzeme", 'eser' ve "geçmişi anlamaya katkı" gibi kodlar, kategoriler ve temalar ortaya çıktı. Çalışma, birkaç öneriyle son bulmaktadır.
Anahtar Kelimeler: Müze eğitimi, Müze algısı, Okul dışı öğrenme.

ABSTRACT

This research explores pre-service teachers' conceptions of museums. Using a case study methodology, a qualitative research technique, the perspectives of pre-service teachers were examined. The study utilized picture documents drawn by the pre-service teachers. To ensure accurate and reliable analysis, participants were asked to write explanations on the back of their drawings, detailing what the objects represented and their reasons for drawing them. The study group consisted of students in primary education and English language education programs at a public university. Participants included 3rd-year primary education and 4th-year English language education undergraduates who would take the museum education course. Data were analyzed by three experts, resulting in codes, categories, and themes such as "structure," "material," "artifact," and "contribution to understanding the past." The study concludes with several recommendations.
Keywords: Museum education, Museum perception, Out-of-school learning.

Introduction

Museums, which collect and examine cultural heritage artifacts from various societies around the world, protect these items and make them available to the public. They are fundamental institutions in a modern society. Museums gather, preserve, and research items that bear witness to human life and share this knowledge with society. They create attractive environments to promote understanding (İlhan et al., 2019, p. 34). Although we mostly think of historical and art museums when we think of museums, it is known that there are many types of museums. Science museums that allow scientific concepts to be presented interactively through exhibitions; nature museums containing natural specimens such as fossils, plants and animals; ethnographic museums where the lifestyles of different cultures are exhibited; technology museums where technological developments and inventions are exhibited; children's museums which offer interactive educational exhibits for children; maritime museums which present information on maritime history, ships and marine life; medical museums which exhibit the history of medicine, medical instruments and health-related topics; and popular culture museums which feature popular culture elements in areas such as media, music, sports and movies (Alexander et al., 2017; Ambrose & Paine, 2006; Genoways & Ireland, 2003; King & Lord, 2016). The most prominent function of museums is education, and their contribution to lifelong learning is considerable. The emotional, perceptual, and mental effects of the visuals exhibited in museums, which have a great share in establishing a connection between past and present life, are important in the transfer of cultural heritage. Undoubtedly, the most important carriers of cultural heritage are teachers. In the museum education courses taught as elective courses within the curriculum determined by the Council of Higher Education in the teacher training program of universities which cover topics such as definition and characteristics of the museum, exhibition in museums, museum education, museum types, development of Turkish museology, an overview of the history of museology in the world, museum, culture, art and civilisation relationship, museum and society, the contribution of museums to historical consciousness, protection of historical artefacts, contemporary museology in the world and in Turkey (www.yok.gov.tr). The museum education course is considered to be very important at every stage of education.

In particular, it is predicted that it will be beneficial for teachers, who are in an important position in the upbringing of future generations, to receive training on this subject before they enter the profession. There are studies that trainings related to this course positively affect the motivation and opinions of pre-service teachers towards museums (Er, 2020; Şekerci & Yılmaz, 2022). In addition, it was stated that the use of museums as an educational environment provides permanent learning, enables students to learn better, and provides information about the past (Uslu, 2021). Moreover, creating interactive learning environments within museum education courses enhances the engagement and curiosity of students, fostering deeper historical consciousness and cultural awareness.

Museums are not only applicable to history and archaeology but also to many other disciplines. Therefore, museum education should start from a young age. Helena Friman, a museum educator, states that teaching at school can become abstract, but museums, as important out-of-school learning environments, offer tangible experiences (Seidel & Hudson, 1999, p. 16). The importance of the courses that pre-service teachers take about out-of-school learning environments also emerges here. If teachers do not know museums and do not have knowledge about museum education, they will not be aware of the opportunities that museums can be a resource in teaching. On the contrary, teachers who expand the horizons of the next generation and provide cultural transfer will be the greatest chance for children. Education also has an important role in making individuals creative and productive. Museum education is very important in order to create an awareness of history, to ensure that the place of one's own culture in the universal culture is perceived correctly in all its dimensions, and to establish the awareness that artefacts can be seen many times with pleasure by children and adults (Abacı, 1996, p. 18). The International Council of Museums (ICOM) defines a museum as "a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing (ICOM, 2022).

Cultural heritage is a concept that expresses the way of

life and creative power of a society and is also seen as an element of common heritage (Avcı & Memisoglu, 2016, p. 106). Cultural heritage is a wealth that reveals the common past and historical accumulation of the people in the same society and has meaning not only for the society and future generations but also for all humanity (Kuscuoglu, 2017: 58). Cultural heritage connects the past with the present, provides a foundation for the culture and world in which we live, and enriches human lives in a spiritual sense while providing a solid reference for the creation of the future (Unal, 2014, p. 11). Culture is similar to personality. Just as personality is the sum of the characteristics that distinguish an individual from others, culture is the sum of the characteristics that distinguish a society from others. In other words, every society has typical characteristics that they have accumulated and transmitted within the framework of its own life. When we look at the civilisation living in Anatolia and adopting different beliefs, it is possible to say that each civilisation has different characteristics. For this reason, Anatolia has been fed and inspired by different cultures. The course taken by prospective teachers under the title of museum education will firstly arouse their interest in the civilisations living in Anatolia and encourage them to research the history of the land they live on. The museum education course will contribute to prospective teachers in their professional development and general cultural knowledge. However, knowing their perceptions before this course will make it easier to understand the perspectives of students who may or may not have taken this course.

Investigating pre-service teachers' initial perceptions before museum education offers valuable baseline information, highlighting both misconceptions and existing knowledge structures, which can be strategically addressed in the curriculum. The various educational programs, educational enrichment services, and professional development opportunities that museums in Turkey offer to teachers and students underscore the importance of the role of museums in education. The "Museum Education Certificate Program", initiated with the cooperation protocol signed between the Ministry of National Education and the Ministry of Culture and Tourism, aims to enable teachers to use museums as an educational environment, to support classroom learning with outdoor spaces, and to increase the permanence of learning outcomes. Training was provided on topics such as cultural heritage, museum education techniques, the development of museum programs, and the

Anatolian Archaeology

use of technology in museums (Okvuran & Karadeniz, 2021). In addition, a total of 985 students were reached between 2014-2017, increasing the participants' knowledge about museums and museum education (Yetkiner et al., 2019). It is stated that modern museums need to improve their physical structures to maximize individual experience and visitor interaction while fulfilling their educational functions. The sustainability of museums is increased through visual culture practices and museum education activities (Çildir & Karadeniz, 2014). It has been revealed that museum education program in the preschool period contributes to children's awareness of history (Özyilmaz Akamca et al., 2017). It shows that the cooperation between schools and museums should be strengthened and that this cooperation improves student learning. It is recommended to strengthen the ways of communication between teachers and museum educators (Ateş & Lane, 2019).

In the literature, there are various studies (Akkurt Caglar, 2021; Erbas & Aksoy, 2020; Guzel, 2019; Karakaya & Sibel, 2021; Yanarates & Yılmaz, 2020;) aiming to determine pre-service teachers' perceptions of different courses, subjects, concepts and objects, studies on different fields related to the drawing and writing technique (Ekici et al., 2014; Kaya et al, 2021; Kızılay & Kırmızıgul, 2019; Ozaydın, 2022;) and studies on the opinions, experiences and self-efficacy of pre-service teachers about the concept of museum (Cıldır & Karadeniz, 2017; Korukcu, 2019; Sungur & Bulbul, 2019). However, no existing study has specifically utilized a combined drawing-and-writing technique to explore the emotional and cognitive dimensions of pre-service teachers' perceptions of museums, highlighting a significant methodological gap in the literature. This research aims to fill this gap by exploring pre-service teachers' perceptions of museums and their role in acquiring cultural values. Because it can be predicted that pre-service teachers can carry out educational activities in which people will actively participate with various teaching methods and techniques inspired by the concrete objects exhibited in museums, they can use them as workshops and laboratories as out-of-school learning environments, and they can provide more exciting, effective, and permanent learning by getting rid of the traditional.

Methodology

This research aims to reveal pre-service teachers' perceptions of museums through a qualitative case study

design. Case study research allows for an in-depth exploration of a bounded phenomenon within its real-life context (Creswell, 2013), making it a suitable choice for this investigation. Document analysis, one of the qualitative research techniques, was used to reveal these perceptions of pre-service teachers.

A- Research Design

Case study design, one of the qualitative research methods, was used in the study. A case study is defined as focusing on a special case, phenomenon, or fact. It seeks to understand participants' experiences and interpretations in rich detail. In this case study, drawing documents drawn by pre-service teachers were used. In order to analyse the pictures drawn by the pre-service teachers more accurately and reliably, they were asked to write an explanation on the back of the papers on which they drew. In this explanation, they wrote what the objects they drew were and why they depicted them. This approach enabled the researchers to capture both the visual and verbal expressions of participants' perceptions.

B- Sampling

The study group consists of primary education and English language education program students at a public university during the spring semester of 2021-2022. Purposive sampling was used to select 3rd-year primary education students and 4th-year English language education students enrolled in the museum education course. Information about the study group is given in Table 1.

Table 1

Study group demographic information

Department	Male (N)	Female (N)	Grade Level
Primary Education	18	30	3.
English Language Education	22	31	4.
Total	40	61	

While 47.52% of the study group consisted of classroom education students, 52.48% were English language education students. Of these students, 39.60% were male and 60.40% were female.

C- Data Collection Process

Superficial wears The research was conducted during the spring semester of 2021-2022 as part of the museum education course. Data were collected before the start of the course to avoid influencing students' perceptions and to ensure that the responses would reflect their natural and uninfluenced conceptualizations of museums. Because it was thought that the museum visits that the students would make within the scope of the course would affect their perceptions and would also be reflected in the drawings. Without explaining the content of the course to the students, they were asked to bring a paper, a pencil, and a set of crayons consisting of six colours in total the following week. The situation of examining their perceptions and the thought that all information to be given would affect this situation revealed the necessity of not sharing the information to be given beforehand. The following week, the students were asked, "What comes to your mind when you think of a museum? Can you please make a drawing?" and the research was started. The students were told that they could use pencils of any colour they wanted. They were asked to write the explanations of their drawings on the back of the papers so that the data could be analyzed accurately and reliably later. In addition to the objects they drew, they were also asked why they made such a drawing and were asked to write it on the back of the paper. Certain codes were given to the drawings of the prospective teachers. While the drawings of the students of the department of primary education were coded as "S", the drawings of the students of the department of English language education were coded as "O".

D- Data Analysis

The data collected from the students within the scope of the research were analysed by three different experts. Codes were determined from the pictures drawn by the students. Three different experts recorded the codes in different places in the Microsoft Excel program. Expert triangulation was used to enhance the credibility and trustworthiness of the findings. For the codes that could not be determined or had different codes, the experts came together and reached a common opinion. For the codes that could not be agreed upon, support was obtained from a different expert. The name of the code was decided by majority decision. In the same way, the categories corresponding to these codes and the themes related to these categories were determined. In

the study, support was received from three different experts while determining the categories and themes related to the categories. One of these experts is an academic who is working on museum education in her doctoral dissertation, one is an academic with a professor title who has studied on qualitative research, and the last expert is an academic with a doctorate in science education who has studied out-of-school learning environments. The expert opinions were analyzed separately, and the issues with "consensus" and "disagreement" for the categories created were identified, and necessary arrangements were made. Hubberman and Miles' formula [Agreement / (Agreement + Disagreement) x 100] was used to calculate the agreement of the coding researchers. The agreement of the coders was determined as 81%. Descriptive and content analysis methods were used in the study. While presenting the data, the explanations made by the students about their drawings were included.

Results

The data collected from pre-service teachers were subjected to content and descriptive analyses. In this study, four main themes were identified in pre-service teachers' perceptions towards museums. These themes were named as "in terms of structure", "in terms of material", "in terms of objects," and "in terms of its contribution to understanding the past" as a result of expert opinions. Under the first three themes, there are categories determined for each theme. In the last theme, codes and frequencies are given directly. The codes, categories, and theme structures resulting from the content analysis are presented in Table 2-5.

Table 2

Codes, categories, and themes formed for museum perceptions-1.

In terms of Structure			
Main Structure		Part of the Building	
Code	Frequency	Code	Frequency
Louvre Museum	4	Columns	12
Temple, Cathedral	3	Structure of the Museum	10
Amphitheatre	2	Mosaic Building	6
Castle	2	Museum Interior	2
Gobeklitepe	2	Stones	2
War of Independence Museum	2	Museum Card	2
Side Temple of Apollo	2		
Anıtkabir	2		
Pyramids	2		
King's Cemetery	1		
Hagia Sophia	1		
Ataturk House	1		
Basilica Cistern	1		
British Museum	1		
Van Gogh Museum	1		
Auschwitz-Birkenau Museum	1		
National City Museum	1		
Clock Tower	1		
Aquarium	1		
Shipyard	1		

In the content analysis of pre-service teachers' perceptions of museums, the theme of "in terms of structure" was formed. Regarding this theme, "main structure" and "part of the structure" categories were determined. While the main structure category consists of 18 codes and 30 frequencies, the part of the structure category consists of six codes and 34 frequencies. The highest frequency for the main structure category was the code "Louvre Museum", while the highest frequency for the part of the structure category was the code "columns". Some student drawings for the main structure category are given in Figure 1.

Figure 1

Main structure category student drawings.
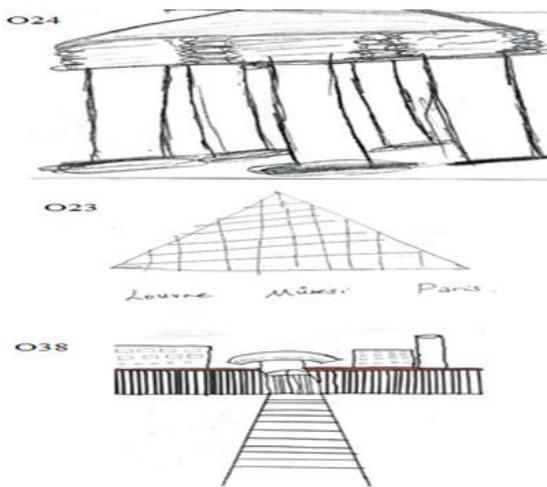
O23 painted the Louvre Museum while expressing his perception of museums with the excitement s/he felt from the idea of seeing thousands of works of art. O38, on the other hand, thought that museums reflect not only cultural heritage but also the mistakes and sufferings in human history and drew the "Auschwitz-Birkenau Museum".

Student O24, who drew a temple, explained the reason for this drawing as follows: "*I see the temples themselves as a living museum. Even if there is nothing inside, they are structures that harbour experiences.*"

Student drawings for the category of a part of the building are given in Figure 2.

Figure 2

Part of a building category student drawings
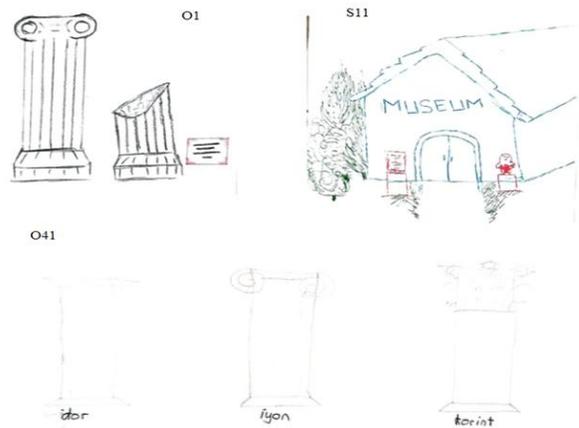
The student coded S11 revealed the drawing in his perception of the museum by drawing the museum itself. In his statement about this: "*My drawing is the entrance part of a museum building because when I think of a museum, I think of the relic artefacts exhibited in the building of a museum.*" Students coded O1 and O41 depicted the columns. Regarding this situation, O41 stated: "*When I think of a museum, I think of ancient column layouts because it reminds me of the entrance part of some museums and these layouts are exhibited in some museums.*".

The codes and categories formed under the theme of "in terms of material" after the drawings made by the pre-service teachers are given in Table 3.

Table 3

*Codes, categories, and themes formed for museum perceptions-2*

In terms of Material		
Category	Code	Frequency
Everyday Items	Pots and Pans	9
	Pottery	6
	Pitcher	3
	Footwear	2
	Clock	1
	Hourglass	1
	Carpet-Rug	1
Military-Warfare Equipment	Knife-Sword-Axe	10
	Weapons	7
	Shield-Helmet	5
	Equipment-Uniform	3
	Bow and arrow	1
	Ball Trolley	1
Artistic Objects	Vase	9
	Musical Instrument	4
Cultural-Religious Items	Cemetery	5
	Cross Symbol	4
	Local Clothes	3
	Clothing	3
	Old Goods	1
Items that are Means of Payment	Ancient Coins	8
Ornaments	Jewellery	6
Valuables Items		8

In the content analysis of pre-service teachers' perceptions of museums, the theme of "in terms of material" was formed. Regarding this theme, the categories of "everyday items", "military-war tools", "artistic objects", "cultural-religious items", "items that are means of payment", "ornaments," and "valuable items" were determined. In total, there are seven categories and 22 codes. It was determined that the codes with the highest frequencies were pots and pans, knife-sword-axe, vase, cemetery, ancient coins, and valuables.

Some of the student drawings for the category of everyday items are shown in Figure 3.

Figure 3

Everyday items category student drawings.
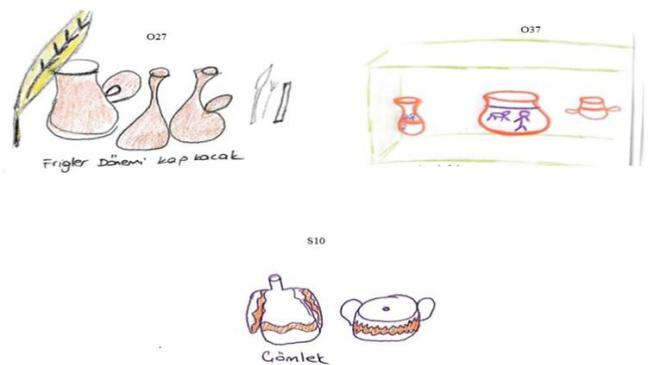
The student coded O27 expressed the explanation of the pots and pans picture he drew as follows: "*The reason why I depict the Hittite and Phrygian pots is that these civilisations ruled in the geography where I lived for a period of time. The Seljuks made Konya the capital and at that time they built mosques, different buildings and kumbets in the Central Anatolia Region and enabled the development of this region.*" S10 stated that the common things that people use in all museums are objects such as pottery, and that is why he made this drawing. O37 also wrote that the pots with engravings on them were from richer ages, so he wanted to depict this. Some of the student drawings for the military-warfare tools category are shown in Figure 4.

Figure 4

Student drawings in the military-warfare instruments category
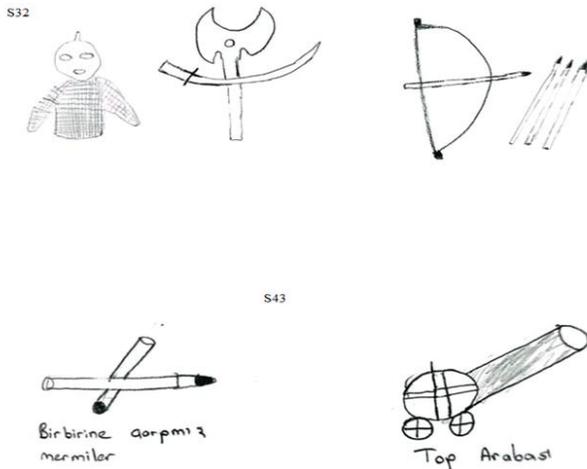
S32 included many military-war instruments in his drawing. In his explanation for this, he said, "*When I think of museums, I think of wars. The wars fought before and the tools used in these wars have always attracted my attention.*" S43, on the other hand, stated that he was inspired by the Çanakkale War and that he included these drawings to show how difficult this war was. Some of the student drawings for the category of artistic objects are shown in Figure 5.

Figure 5

Student drawings in the artistic objects category
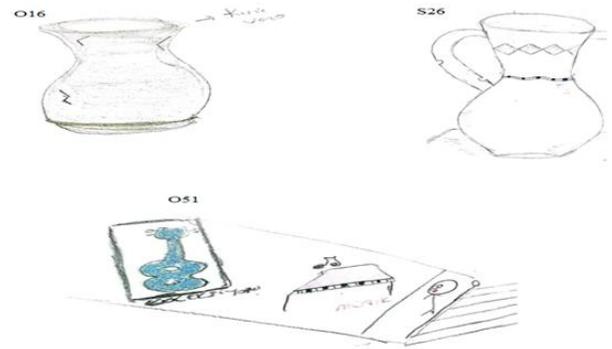
O16 stated the following about the vase drawing: "*Museums are like small houses where we can analyse our past. They protect and analyse art and vital remains from the beginning of history to the present day. I painted this for this purpose.*" While S26 stated that he immediately thought of a vase when he thought of a museum and therefore drew this drawing, O51 explained that he drew this drawing because museums represent fields such as art, music, and literature.

Some of the student drawings for the category of cultural-religious items are shown in Figure 6.

Figure 6

Student drawings in the category of cultural-religious objects
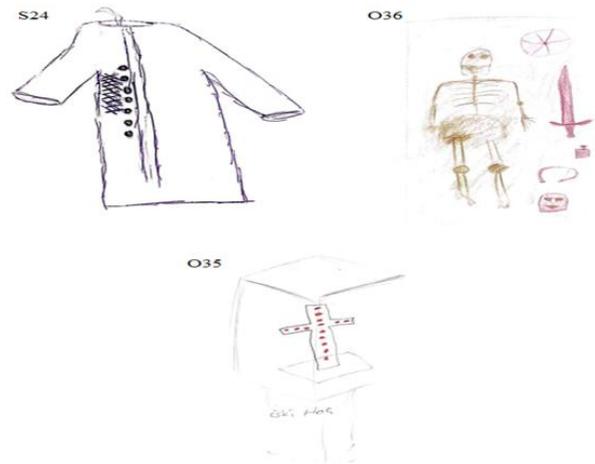
S24 stated that she associated museums with the local clothes she had seen in the museums she had visited before, and that she drew this. O36 stated that he wanted to draw the King's Tomb, which he had seen in his previous museum experiences, and that this was the first thing that came to his mind when he thought of museums. O35 explained that most museums have the symbol of the cross and that he drew this symbol. Some

of the student drawings for the category of items that are means of payment are given in Figure 7.
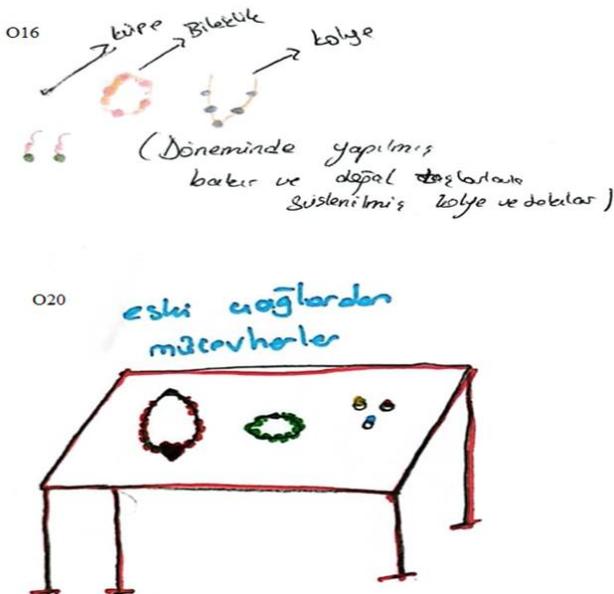
Figure 7

Student drawings in the category of items as means of payment

In his explanation of his drawing, S10 said, "*I visit the museums of every city I visit. What I saw common in almost all of them was especially coins.*" The students coded O6 and S14 expressed the same thoughts and stated that the objects they saw most frequently in museums were ancient coins, and for this reason, they directly came to mind when they thought of museums. Some of the student drawings for the ornaments category are shown in Figure 8.
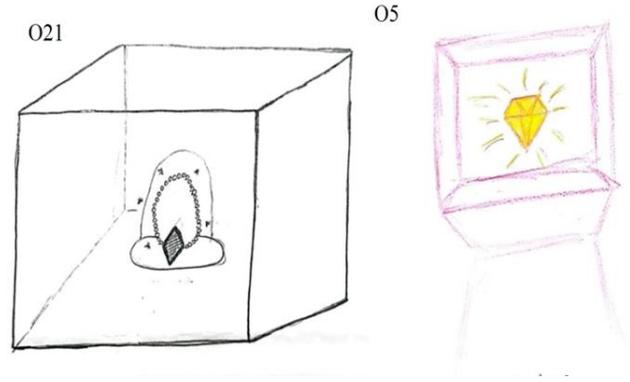
Figure 8

Student drawings in the category of ornaments

Students coded O16 and O20 associated museums with ornaments and added explanations to their drawings. Some of the student drawings for the valuables category are shown in Figure 9.

Figure 9

Student drawings in the valuables category

O21 made the following explanation about the picture he drew: "I tried to draw a very valuable and flashy necklace because I have always wondered and found it interesting the accessories that people wore and wore in ancient times. This comes to my mind when I think of museums." O5 stated that museums are places where especially valuable items attract attention and are exhibited.

The codes and categories formed under the theme of "in terms of artefacts" after the drawings made by the prospective teachers are given in Table 4.

Table 4

*Codes, categories, and themes formed for museum perceptions-3*

In terms of the Object		
Category	Code	Frequency
Written Object	Inscriptions	7
	Books	3
Visual Object	Table	21
	Bust	12
	Sculpture	11
	Portrait	4
	Medusa	3
	Statue of David	2
	Mona Lisa	2
	Girl with Pearl Earrings	1
Living Remains	Live Bones	6
	Mummy	4
	Skeleton	3
	Bone	3
	Dinosaur	3
	Skull	2
	Fossil	2
	Animal Hide	1
	Tooth Parts	1

In the content analysis of pre-service teachers' museum perceptions, the theme of "in terms of the object" was formed. The categories of "written object", "visual object," and "living remains" were determined for this theme. The theme in terms of artefacts consists of three different categories and 19 codes. It was determined that the codes of inscriptions, tables, and bones of living things were the highest frequency codes of the categories. Some student drawings for the written artefact category are given in Figure 10.

O7 stated that museums are the environments that carry the pieces of history to the present day, so the best example that reflects this situation is books such as encyclopedias, and explained that he made his drawing. S27 stated that inscriptions, which are rare in the world, are exhibited in museums, so this drawing came to his mind. Finally, O12 made the following statement: "*I drew a book to explain that written artefacts are also exhibited in museums, because there are written artefacts as well as visual artefacts in museums.*"
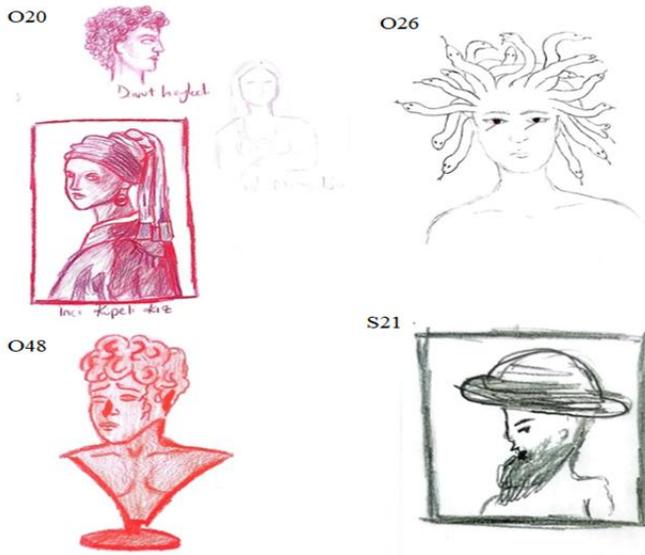
Figure 10

*Student drawings in the written object category*
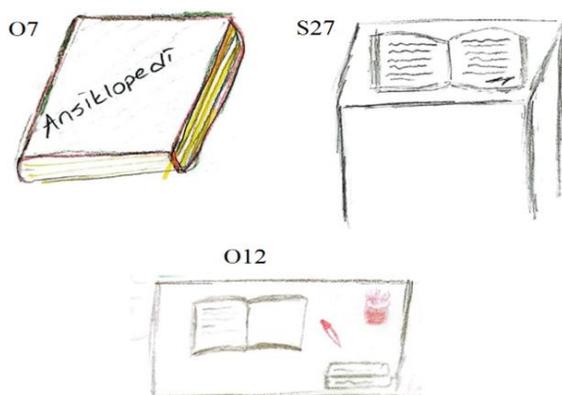
Some student drawings for the visual object category are given in Figure 11.

Figure 11

Visual object category student drawings

The student coded O20 made the following statement about the drawings: "*The first thing that came to my mind when I thought of the museum was the Statue of David. Because it is one of the most well-known artefacts in the museum. It is also one of my favourite pieces. Because I see that marble is given life. Mona Lisa is also one of the objects that I come across very often and come to mind. As for the Girl with a Pearl Earring, I drew it every time because I admire its innocence.*" Students coded O48 and S21 stated that the drawings they drew were the things they encountered most frequently, and for this reason, they made drawings that came to mind when they thought of the museum. O26 also stated that she drew the portrait of Medusa because of her interest in myths. He also mentioned that there are many works of mythological figures and events in museums. Some student drawings for the category of living remains are given in Figure 12.

Figure 12

Visual object category student drawings
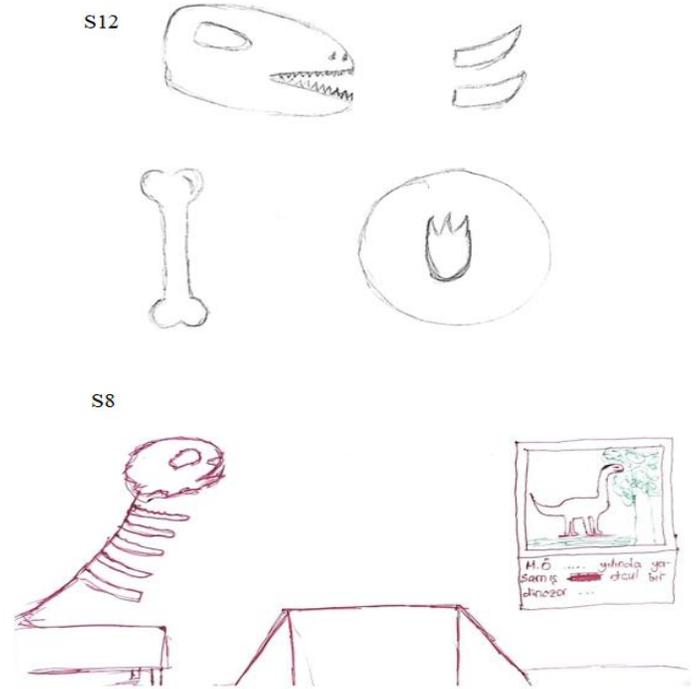
In her drawing, S8 stated that he thought of a museum where the remains of living creatures living in BC were exhibited. S12, on the other hand, said, "*When we say museum, fossils come to my mind first. Because it is possible to access a lot of information about previous lives in museums. We can obtain the information we want to learn about the creatures whose lives we cannot witness from museums.*"

The codes and categories formed under the theme "in terms of its contribution to understanding the past" after the drawings made by the prospective teachers are given in Table 5.

Table 5

Codes, categories, and themes formed for museum perceptions-4

In terms of Contribution to Understanding the Past	
Code	Frequency
Stolen, Exploited Objects	3
Culture Icon	3
Date Indicator	3
Time Line	2

In the content analysis of pre-service teachers' perceptions of museums, the theme "in terms of its contribution to understanding the past" was formed. Four different codes related to this theme emerged. Stolen-exploited artefacts, cultural symbols, and history indicator codes were found to be the codes with the highest frequency. Some student drawings for the theme in terms of their contribution to understanding the past are given in Figure 13.

Figure 13

Student drawings in terms of their contribution to understanding the past
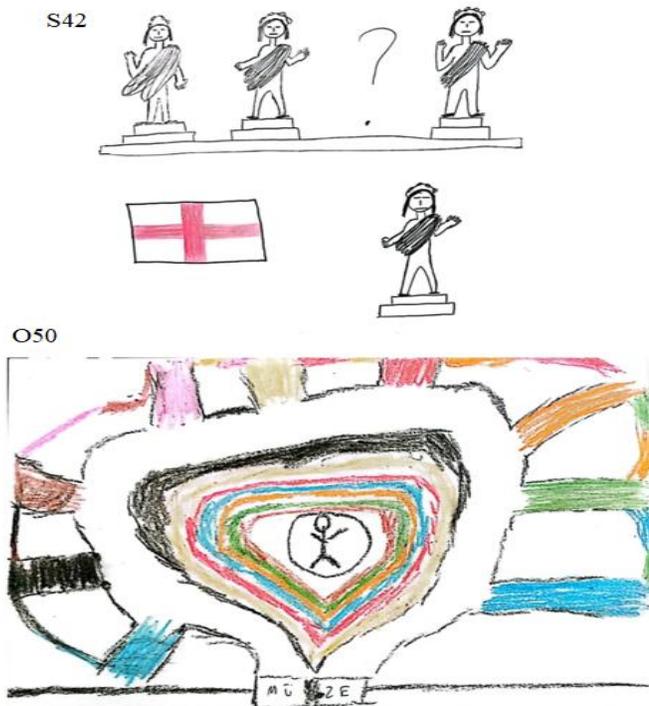
The student coded S42 made the following explanation about his drawing: "*I depicted the colonial countries confiscating the cultural heritage elements in other lands and taking them to their own countries even though they did not deserve it. For example, the transportation of one of the Greek sculptures to England*." Another student coded O50, said, "The museum symbolizes a door for me. It is a door to our past, a door to different cultures, different races, new different paths. The museum is a museum in itself for me. In this painting, I tried to depict the museum with colours and lines. The open door leads us to different paths, different paths contain different doors. These doors are culture for me. Different colours in the painting sometimes interact within themselves and continue on the same path in the same colour. The black doors represent cultures that have disappeared in history or have not survived to the present day. The circle in the middle is the past, that is, history. In the centre of this is the Earth and human beings."

Discussion and Conclusion, Recommendations

This study aims to reveal the perceptions of pre-service teachers towards the concept of museum. Museums are generally seen as places that allow the protection and exhibition of cultural heritage, such as historical sites and works of art. Historical sites are also places that can be used as museums and generally refer to historically, archaeologically, or architecturally important structures. Historical sites reflect the historical and cultural heritage of a country or a region and offer visitors the opportunity to learn about past lifestyles, traditions, and culture (Çakır İlhan, 2021). When the findings of the study are examined, it is seen that pre-service teachers mostly include data such as historical situations and objects in their perceptions of museums.

When analyzing the students' drawings in relation to museum types, it became evident that the majority of representations were associated with historical and art museums, while science museums, natural history museums, and technology museums were notably underrepresented. This categorization reveals that pre-service teachers' conceptualization of museums is predominantly limited to traditional museum types, particularly those focusing on historical artifacts and artistic works. For instance, drawings depicting the Louvre Museum, sculptures, and paintings clearly relate to art museums, while representations of war materials, ancient coins, and archaeological artifacts correspond to history museums. The absence of drawings representing science centers, technology museums, or children's museums in our data suggests a significant gap in pre-service teachers' awareness of diverse museum types.

Several factors may explain this limited perception. The emphasis on history and art in school curricula, with insufficient attention given to nature, science, and technology education, likely influences these perceptions. Additionally, the prominence of history and art in Turkish culture increases people's interest in these fields. Finally, pre-service teachers' limited exposure to diverse museum types may restrict their conceptualization to traditional historical venues. In the study conducted by Aydoğan (2020), it was stated that the place of culture in life is very important,

and this affects individuals. Finally, the fact that pre-service teachers have insufficient knowledge about museums may be one of the reasons for this perception. Since they do not discover artefacts and subjects other than history exhibited in museums, they may only know about historical places. For these reasons, pre-service teachers' perception of museums may be mostly limited to historical subjects.

The diverse educational and social roles of museums extend far beyond these traditional categories. Studies in the field of biodiversity science have shown that museums provide students with important research skills through activities such as handling, collection care, and research, and that museums also provide critical support in collection management (Hiller et al., 2017). In addition, it is emphasized that museums contribute to society by assuming their social and educational roles and providing public education programs along with the functions of preserving cultural heritage (Hein, 2005). Activities and strategies that increase children's interactive learning experiences in museums support the understanding and learning of scientific concepts, thus demonstrating that museum visits make significant contributions to children's education (Andre et al., 2016). Inclusivity in museum education has been examined in different categories, such as learning, community engagement, internship/education, and health/therapy, examining the ways in which museums include various groups of visitors (Springinzeisz, 2022). The use of museums for marine education is considered an effective way to raise students' awareness about biodiversity (Omura, 2019). However, it is noteworthy that none of the pre-service teachers in our study included representations of maritime museums, aquariums, or marine life in their drawings, despite one student mentioning an aquarium. This absence further reinforces our finding that pre-service teachers' museum conceptualizations are limited primarily to traditional history and art museums. Efforts to increase diversity at the Art Gallery of Ontario in Toronto illustrate how museums have developed innovative programs to engage with different ethnic and social groups (McIntyre & Ware, 2009). In line with these findings, this study offers a comprehensive perspective on museum education by detailing the educational and social roles of museums, as well as the various opportunities and methods offered by different types of museums.

Museums have an important role in preserving,

documenting, and exhibiting cultural heritage and are considered cultural landmarks. Museums help societies recognize and understand their historical and cultural heritage. For this reason, museums have an important role not only with the artifacts they exhibit, but also in protecting the cultural heritage of societies and transferring it to future generations (Özkoç & Duman, 2008). As a matter of fact, within the scope of the research, some of the pre-service teachers emphasized the importance of the museum-culture connection by making drawings about the cultural impact of museums. In this context, as Egüz and Kesten (2012) stated, parallel results were obtained that museums serve the purpose of both protecting and developing our cultural heritage. Museums are the center of attention for local and international tourists, and many are an important component of the tourism industry in the country. Museums serve as symbols of a society's identity and cultural richness. Historical and archaeological museums, in particular, play a crucial role in protecting and promoting national cultural heritage. Beyond preservation, museums function as vital educational and research institutions, making them integral to cultural development and knowledge dissemination. Organized in museums exhibitions, training programs, and seminars, the participation of students and researchers helps them learn about historical, artistic, and cultural issues (Mazlum, 2022; Üztemur et al., 2018). Therefore, recognizing and protecting museums as cultural symbols contributes to the preservation and transfer of societies' historical and cultural heritage to future generations. When the contribution of the study to understanding the past is examined, it is seen that pre-service teachers' perceptions of colonialism, especially in historical artifacts and museology, are included. The smuggling of historical artifacts of colonial countries is a problem that continues from the colonial period to the present day. These artifacts were looted or illegally purchased by the colonizers. This is a result of economic, political, and cultural exploitation and oppression during the colonial period (Atılgan, 2019; Gün, 2022). As a result of colonialism, these artifacts are not only the cultural heritage of colonial countries, but also part of the history of colonial countries. Therefore, the smuggling of these artifacts leads to the destruction of the cultures and histories of colonial countries.

Some suggestions were made in the context of the results of the research:

- It was observed that pre-service teachers' perceptions of museums were mainly oriented towards history and art disciplines. For this reason, it is thought that it would be important to provide information about museums for science disciplines or to organize field trips.

- Pre-service teachers' lack of knowledge about different types of museums may be due to their location or transportation difficulties. In such cases, virtual museum trips can be organized for pre-service teachers.

- Similar to this study, prospective teachers' perceptions of museums, especially in science fields, can also be examined.

When the drawings and explanations of some pre-service teachers were examined, it was determined that there were inaccuracies in their general and pedagogical knowledge about museums. In this context, "Museum Education" and "Out-of-School Learning Environments" courses, which are among the Teaching Professional Knowledge (TPC) courses in the new teaching programs, should be included in earlier periods. It is recommended that courses with this content be given to prospective teachers in different semesters, without being limited to a single semester.

References

Abacı, O. (1996). *Museum education* [Unpublished art proficiency thesis, Marmara University].

Akamca, G., Yildirim, R., & Ellez, A. (2017). An alternative educational method in early childhood: Museum education. *Educational Research Review*, *12*, 688-694. https://doi.org/10.5897/ERR2017.3145

Akkurt Çağlar, A. (2021). Teacher Candidates' Level of Understanding and Misconceptions of Geographic Concepts Used in Song Lyrics. *Journal of Graduate School of Social Sciences, 25*(4). https://doi.org/10.53487/ataunisosbil.1013861

Alexander, E. P., Alexander, M., & Decker, J. (Eds.). (2017). *Museums in motion: An introduction to the history and functions of museums* (3rd ed.). Lanham, MD: Rowman & Littlefeld.

Ambrose, T. & Paine, C. (2006). *Museum Basics*. London: Routledge.

Andre, L., Durksen, T., & Volman, M. (2016). Museums as avenues of learning for children: a decade of research. *Learning Environments Research*, 20, 47-76. https://doi.org/10.1007/s10984-016-9222-9.

Ateş, A., & Lane, J. F. (2020). Analysing School-Museum Relations to Improve Partnerships for Learning: A Case Study. *Education & Science/Egitim ve Bilim*, *45*(201), 231-246.

Avcı, M., & Memişoğlu, H. (2020). Kültürel miras eğitimine ilişkin sosyal bilgiler öğretmenlerinin görüşleri. *Elementary Education Online, 15*(1), 104-124. https://doi.org/10.17051/io.2016.16818

Aydoğan, Y. (2020). *A case study on the museum education course related to the acquisition of cultural heritage awareness* [Unpublished doctoral thesis, Anadolu University].

Clark, M., Ensminger, D., Incandela, C., & Moisan, H. (2016). Reflections on Museums as Effective Field Sites for Teacher Candidates. *Journal of Museum Education*, 41,

329 - 340. https://doi.org/10.1080/10598650.2016.1219127.

Çakır İlhan, A., Artar, M., Bıkmaz, F., Okvuran, A., Tezcan Akahmet, K., Doğan, D., Karadeniz, C., Çiğdem, H., & Kut, S. (2019). *Müze eğitimi*. Milli Eğitim Bakanlığı Yayınları.

Çakır İlhan, A. (2021). Müzeler. A. İ. Şen (Eds.) içinde, *Okul Dışı Öğrenme Ortamları* (s. 22-43). Pegem Akademi.

Çıldır, Z., & Karadeniz, C. (2014). Museum, education and visual culture practices: Museums in Turkey. *American Journal of Educational Research*, *2*(7), 543-551.

Çıldır, Z., & Karadeniz, C. (2017). Okulöncesi öğretmen adaylarının görüşleri bağlamında müze ve müzede eğitim. *Milli Eğitim Dergisi, 46*(214), 359-383.

Egüz, Ş. & Kesten, A. (2012). Sosyal Bilgiler Dersinde Müze ile Eğitimin Öğretmen ve Öğrenci Görüşlerine Göre Değerlendirilmesi: Samsun İli Örneği. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 13*(1), 81-103.

Ekici, G., Gökmen, A., & Hakan, K. (2014). Öğretmen adaylarının "bilgisayar" kavramı konusundaki bilişsel yapılarının belirlenmesi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 34*(3), 357-401.

Erbaş, S., & Aksoy, B. (2020). Sosyal bilgiler öğretmen adaylarının millî kimlik algılarının incelenmesi. *Journal of History Culture and Art Research, 9*(4), 415-428.

Genoways, H., & Ireland, L. 2003. *Museum Administration: an Introduction*. Walnut Creek: AltaMira Press.

Güzel, A. (2019). Eğitim Fakültesi Tarih eğitimi öğretmen adaylarının Tarih kavramıyla ilgili algıları: metaforik bir araştırma. *OPUS International Journal of Society Researches, 11*(18), 2108-2139.

https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Beden_Egitimi_ve_Spor_Ogretmenligi_Lisans_Programi.pdf

Hein, G. (2005). The Role of Museums in Society: Education And Social Action. *Curator: The Museum Journal*, 48, 357-363. https://doi.org/10.1111/J.2151-6952.2005.TB00180.X.

Hiller, A., Cicero, C., Albe, M., Barclay, T., Spencer, C., Koo, M., Bowie, R., & Lacey, E. (2017). Mutualism in museums: A model for engaging undergraduates in biodiversity science. *PLoS Biology*, 15. https://doi.org/10.1371/journal.pbio.2003318.

ICOM (2022). Museum Definition. Approved in Prague, Czech Republic, during the Extraordinary General Assembly on 24 August 2022. International Council of Museums. https://icom.museum/en/resources/standards-guidelines/museum-definition/

Karakaya, G., & Sibel, Ö. (2021). Türkçe ve Sosyal Bilgiler öğretmen adaylarının Türk Dünyası algılarının incelenmesi. *MANAS Sosyal Araştırmalar Dergisi, 10*(Özel Sayı), 53-70.

Kaya, B., Aladağ, C., & Akkuş, A. (2021). Coğrafya öğretmen adaylarının karst topografyası ile ilgili görüşlerinin kelime ilişkilendirme testi ve çizme-yazma tekniği ile belirlenmesi. *International journal of geography and geography education (Online), 26*, 55-74.

King, B., & Lord, B. (Eds.). (2016). *The manual of museum learning* (2nd ed.). Rowman & Littlefield.

Kızılay, E., & Kırmızıgül, A. S. (2019). Disiplinler arasındaki ilişkiye dair fen bilgisi öğretmen adaylarının görüşleri. *Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi, 10*(1), 1-9.

Körükcü, M. (2019). Değişen müze eğitimi algısı çerçevesinde sosyal bilgiler ve tarih öğretmen adaylarının müze eğitimine yönelik öz-yeterlik inançları. *Trakya Üniversitesi Sosyal Bilimler Dergisi, 21*(2), 759-771.

Kuşçuoğlu, G. Ö., & Murat, T. (2017). Sürdürülebilir kültürel miras yönetimi. *Yalvaç Akademi Dergisi, 2*(1), 58-67.

Mazlum, Ö. (2022). Müze iletişimi ve müze web siteleri üzerine bir inceleme. *Sinop Üniversitesi Sosyal Bilimler Dergisi, 6*(1), 100-136.

McIntyre, G., & Ware, S. (2009). Building Diversity in Museums. *Journal of Museum Education*, 34, 197 - 201. https://doi.org/10.1080/10598650.2009.11510636.

Okvuran, A., & Karadeniz, C. (2021). Teacher's impact on museum education and design of new-generation school and museum collaboration in Turkey. *Museum Management and Curatorship*, 37, 17-43. https://doi.org/10.1080/09647775.2021.1914138.

Omura, A. (2019). The Use of Museum Specimens for Marine Education. *Pedagogical Research*. https://doi.org/10.29333/PR/5836.

Özaydın, N. (2022). Müzik öğretmen adaylarının 'koro'kavramına yönelik bilişsel yapıları. *Milli Eğitim Dergisi, 51*(235), 2197-2224.

Özkoç, A.G. & Duman, T. (2008). Müzelerde Sergilenen Eserlerin Elde Edilmesi ve Korunmasına Yönelik Müze Yöneticilerinin Görüşleri. *Anatolia: Turizm Araştırmaları Dergisi, 19*(2), 157-168.

Seidel, S., & Hudson, K. (1999). *Müze Eğitimi ve Kültürel Kimlik Uluslararası İki Çalışma Raporu*, Bahri Ata (Çev.), Ankara Üniversitesi Basımevi, Ankara.

Sungur, T., & Bülbül, H. (2019). Sınıf öğretmeni adaylarının sanal müze uygulamalarına yönelik görüşleri. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 19*(2), 652-666.

Springinzeisz, K. (2022). Social inclusion in museum education: a literature review. *Museologica Brunensia*. https://doi.org/10.5817/mub2022-2-1.

Şekerci, H., & Yılmaz, F. (2022). How do prospective elementary school teachers evaluate practices in the elective museum education course? A case study. *Istraživanja u pedagogiji Research in Pedagogy, 12*(1), 163-185. https://doi.org/10.5937/IstrPed2201163S

Uslu, S. (2021). Teacher Candidates' Opinions about the Use of Museums as Educational Environments in Social Studies Lessons. *International Journal of Education and Literacy Studies*, 9, 33-43. https://doi.org/10.7575/AIAC.IJELS.V.9N.1P.33

Ünal, Z. G. (2014). *Kültürel mirasın korunması*. İstanbul Valiliği, İstanbul Proje Koordinasyon Birimi (İPKB). İSMEP Rehber Kitaplar.

Üztemur, S., Dinç, E., & Acun, İ. (2018). Müzeler ve tarihi mekânlarda uygulanan etkinlikler aracılığıyla öğrencilerin sosyal bilgilere özgü becerilerin geliştirilmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, (46)*, 294-324.

Yanarateş, E., & Yılmaz, A. (2020). Öğretmen adaylarının "çevre duyarlılığı" kavramına yönelik metaforik algıları. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 40*(3), 1019-1050.

Yetkiner, A., Karadeniz, C., & Gökaslan, Z. (2019). ''No Student Not Met Museum Education'' A Practice of Volunteer Education Program in the Museum. *Journal of Education and Future*, *16*, *79-91*. https://doi.org/10.30786/JEF.468074.