

Teacher Candidates' Opinions about the Use of Museums as Educational Environments in Social Studies Lessons

Salih Uslu*

Faculty of Education, Niğde Ömer Halisdemir University, Turkey

Corresponding author: Salih Uslu, E-mail: salihuslu@ohu.edu.tr

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ABSTRACT

The aim of this study is to determine the opinions of teacher candidates regarding the use of museums in social studies lessons as an educational environment. The study group of the research was determined through purposeful sampling method. The study group consists of 114 teacher candidates studying in the social sciences teaching department at the education faculty of a public university during the 2019-2020 academic year. In this case study, a personal information form and an open-ended question form developed by the researcher were used as data collection tools. The data obtained from the answers given by teacher candidates to the data collection tools were analysed by using content analysis method. When the research results were examined in general, it was seen that Social Studies Teacher Candidates mostly explained the benefits that using museums as an educational environment were “ensuring permanent learning”, “enabling students to learn better by seeing/living” and “providing information about the past”. According to another result obtained from the research, Social Studies Teacher Candidates based the problems that they might face while using museums as an educational environment on “the possibility that students may give harm to historical documents and objects”, “financial impossibilities” and “difficult to control the classroom”.

Key words: Cultural Literacy, Educational Environment, Museum Education, Social Studies

INTRODUCTION

One of the best ways to establish a dialogue between the past and today and to develop a sense of history in students is through the use of historical places. Historical places are as concrete and real as students can touch, see, inhale and hear. They are more effective in education and training than is any word. Historical places are the mirror of the past and they are among the most important tools for students to create historical awareness (Gökkaya and Yeşilbursa, 2009). When talking about historical place, the first places that come to mind are ancient cities, historical sites and historical buildings. However, museums where movable works with material and moral values are exhibited are also called as historical places. A museum should not only be limited to a structure where various works of art are exhibited. Sites where there is a historical experience or a geographical formation happened can also be considered as a museum (Öner, 2015). While historical artefacts and museums are generally perceived by the students as places where ancient works of art are exhibited and that are made up of a few stone ruins, nature trips and field studies are perceived as environments that enable one to breathe and see the natural beauties in the surrounding area. That teachers and educators do not have sufficient knowledge and experience about

the issue also has an effect on this conception (Meydan and Akkus, 2014).

Unlike national history, which tells about past and distant geographies, local history deals with the places and people we know. This closeness provides students with opportunities such as conducting individual research in local libraries, visiting settlements and museums, using the facilities of local offices, conducting studies based on individual research and observation. In short, students search for people and places real for themselves and get the chance to learn with their own experiences (Jamieson, 1971, as cited in Avcı Akçalı and Aslan, 2013). Accordingly, museums are one of the most important tools for linking local history with the curriculum. Museums are very helpful in examining and teaching the issues related to local history as they preserve works of art and memories about a local environment (MEB, 2005). Museums, historical places and buildings are indispensable resources in both history education and teaching issues as to local history. There are museums specific to a particular subject as well as national, local and general themed museums according to their subjects and interests. It has been emphasized for long that museums have educational functions and duties besides other duties such as collecting, preserving and researching historical objects (Aktekin, 2008).

Museums are institutions that reflect the human life, culture and the works they display from the past to the present and future in a scientific, technical and artistic way. These institutions can be turned into an educational institution effective on the cultural and artistic lives of communities (Çetin, 2002). Museums are institutions that collect, protect, research and display valuable objects. Museum education includes efficient use of museums as multi-faceted living spaces in basic education and lifelong education process. In Western countries, many museums organize science, culture and art courses for children and adults within schedules (Çakır İlhan and Okvuran, 2001).

The functions of museums can be listed as follows:

1- Collecting and displaying objects and materials, 2- Documenting (Determining the history, usage and content of the object), 3- Protecting objects under careful conditions, repairing and storing, 4- Facilitating the work of researchers and 5- Education (Shabbar, 2001). One of the most effective institutions that offer us real life opportunities in the education process is museums. The effective use of museums in the teaching-learning process may be one of the most influential keys in gaining meaningful learning in all subject areas (Oruç and Altın, 2008).

Museums, which collect, research, protect and display the cultural heritage of the society for the education of the public, are accepted as one of the basic institutions that should exist in a modern community. Museums have always had an educational purpose since their establishment. However, education has become one of the main functions of the museums starting from the middle of the 20th century and it has been accepted as an important task to enable people to access to the museum collections through education. Thus, a separate field called “museum education” has emerged in museology (Tezcan Akmehmet and Ödekan, 2006, p. 49). Museum education covers all the work done to provide communication between the visitor and the museum collection. Today, museum education can be defined as “the process of enabling viewers to learn from collections by providing comments, explanations and programs, or by helping visitors make judgements as to their lives through the creation of memories, emotions and thoughts,” (cited in 1999. Tezcan Akmehmet and Ödekan, 2006, p. 49).

Education with museum, which is also defined as establishing a relationship between past objects and a “learner”; aims to understand the meaning and importance of museums and to increase the quality of education (Egüz and Kesten, 2012). Education with museum serves such functions as understanding oneself and people especially in time and space, protecting cultural heritage, associating past, present and future meaningfully, understanding, protecting and keeping cultural assets and ancient artefacts alive, cultivating their own culture and different cultures with a versatile and tolerant approach, making the museum a way of life, giving the museum the quality of a living institution, and developing intercultural understanding and empathy (Yılmaz and Egüz, 2015). According to MEB, the aim of education with the museum is to reveal the relationship of education with the museum, nature and cultural assets as well as its function

and contribution to the individual in the learning process and to prove that it has many application areas that may be used efficiently for each course (MEB, 2008).

Today, museums have become the institutions that countries which care about modern education benefit most as different educational environments. Given the history of the museums, it can be seen that what lies behind them is collecting. In time, a need for certain structures arose in order for the carefully collected objects which reflect the cultural characteristics of the civilizations that have lived in different geographies and periods, which are important proofs of the lifestyle of those civilizations they belong to, and which reflect the aesthetic taste of their own periods to be protected. The educational function of the museum has ceased to be a spontaneous situation that only occurs within museum galleries. Instead, the programs prepared by the educational units within museums and the cooperation between museums and schools have added a creative value to education (Önder et al., 2009).

Compared to schools, universities and libraries, museums provide different learning opportunities for learners. An advantage of museums is that they have a wide range of visitor potential. Museums offer opportunities for identity formation. While dealing with the objects and information provided by the museum, visitors also discover themselves and the reflections of their own cultures. This process enables the learners to establish new connections, create meanings and learn (Fasting and Gold, 2008).

One of the most valuable aspects of school trips to museums is the opportunity for students to encounter alternative learning paths and actively work with real evidence. For some children, this may provide a chance to show skills and abilities that are less common in a more formal classroom setting. It can be very encouraging and stimulating to go to a new place for all children, meet new people, try new approaches in collecting information and encounter real things, and they can contextualize the knowledge they acquire at school into a perspective (Güler, 2011).

It is an important issue for the students and teachers to use the materials in the museum as a teaching tool (Çakmak and Hamarat, 2016). Many techniques that cannot be applied in the classroom are applied in museum and historical site visits. History books cannot provide the effect of seeing real objects in museums (Aktekin, 2008). Education in museums is an activity that motivates individuals to learn through meaningful experiences that combine their thoughts and feelings through objects and collections, and is a stimulating and exciting way for them to connect with original objects. (Çalışkan and Çerkez, 2012). Museums can also be used in teaching social studies courses, mainly of citizenship, history and geography, especially in the study and teaching of local history (Çalışkan and Çerkez, 2012).

One of the most important things that can be done in order to prevent Social Studies lesson from being a memorizing lesson is to use various methods and techniques in the teaching process by associating the subjects with life. Like laboratory work on any subject, museums and historical sites are also places to provide information and experiences

that the student cannot gather elsewhere in terms of teaching concepts and events in social studies teaching (Meydan and Akkus, 2014). Museums also make a great contribution to individuals in acquiring cultural literacy skills. Köksal (2010) defines cultural literacy as the ability to understand and appreciate the similarities and differences in the values, traditions and beliefs of one's own culture and other cultures. Study trips were attached importance in 2005 Social Studies program as well. It is stated in the program that teachers should pay attention to study trips and that these trips, or excursions, may be directed towards the markets, public offices, factories, exhibitions, archaeological excavations, workshops, museums and historical sites (historical buildings, museum-cities, battlefields) in the education and training of the course (MEB, 2005). The main problems that can be frequently encountered in museum education, in which different methods and techniques can be used, propose the use of virtual museums for the agenda, which are more accessible in the literature. Undoubtedly, the greatest value that virtual museums can add to the teaching process will be the solution it offers to the problems arising from the fact that the museum to visit is not located in the region where the students live or that the necessary conditions or opportunities for the museum visit cannot be provided. In social studies teaching, which is appropriate to the constructivist approach, virtual museums can also be utilized in achieving the main goals of understanding the information and improving students' thinking skills rather than transferring or memorizing information about historical periods and events (Çalışkan et al., 2016). In line with this information, this study aims to examine the opinions of teacher candidates who will use museums as an educational environment in social studies lessons and to answer the following questions according to the opinions of teacher candidates:

- 1- How is the relationship between museums and social studies?
- 2- What are the benefits that museums offer to teachers in teaching social studies?
- 3- What are the effects of using museums in social studies teaching on students?
- 4- What is the role of museums in transferring the values that exist in the social studies curriculum? With which values is it more closely related?
- 5- What can be done to enable more effective use of museums in social studies education?

METHOD

Research Design

This research was designed as a case study, which is a qualitative research design, in order to determine the opinions of pre-service teachers about the use of museums in social studies lessons as an educational environment. Case study, which is one of the qualitative research designs, is used to describe, explain and evaluate different social facts. Case studies are actually a way of looking at what is happening in the environment, collecting and analyzing the data systematically and revealing the results (Aytaçlı, 2012).

Target Population and Sampling

The study group was determined through the convenience sampling method, which is a purposeful sampling method in qualitative research. Purposeful sampling enables one to collect in-depth and rich data about the situation or situations to be examined (Yıldırım and Şimşek, 2013). In the convenience sampling method, the researcher chooses a situation that is close and easy to access (Yıldırım and Şimşek, 2013). Accordingly, the study group of the research consists of 114 teacher candidates studying in the department of social sciences teaching at the faculty of education at a public university. The study group is comprised of 49 female and 65 male teacher candidates. The data was collected and the study was conducted in the 2019-2020 academic year.

Data Collection

A personal information form and an open-ended question form created by the researcher were used as data collection tools. The personal information form asks for information about the genders and grade levels of the participants. It also questions whether the participants have received museum education and whether they feel competent on museum education. The open-ended question form enables the researcher to deal with the phenomenon that he wants to examine with a flexible and open-ended approach (Yıldırım and Şimşek, 2013). Three field experts and one language expert were asked for their opinions on the suitability of open-ended questions. The open-ended questionnaire is composed of the following questions:

The participants were asked to write their answers in detail. It was clearly emphasized that the data obtained from their answers would be kept confidential and that whatever they wrote would not be graded. It was stated that the only aim of the research was to determine their opinions and therefore they were asked to be sincere in their writings. Data collection took 20-25 minutes in each class. Expert review, purposeful sampling, detailed description and confirmability strategies were used during the application process of the open-ended questionnaire in order to increase the validity and reliability of the qualitative data (Lincoln and Guba, 1985; Daymon and Holloway, 2011) and the data was quoted without adding any comments to the data (LeCompte and Goetz, 1982). The data collected in the study were analyzed through content analysis, which is one of the qualitative data analysis methods.

Data Analysis

The data, which were analyzed through content analysis method, were presented with the frequency technique used for the quantification of qualitative data and percentage distributions of the data were given in tables. Also, direct quotations from the views of the participants were made for a more meaningful interpretation of the figures. The teacher candidates who participated in the study were referred to as P1, P2, P3, etc. It was carried out using the content analysis approach. In the content analysis, which is expressed as a

whole of some methodological tools and techniques applied to a wide variety of discourses (Bilgin, 2006), the main purpose is to reach the concepts and relationships that can explain the collected data (Yıldırım and Şimşek, 2013).

The reliability coefficient of the 5 questions that constitute the qualitative part of the study was calculated according to the formula put forward by Miles and Huberman (1994). Accordingly, the reliability coefficient was determined as .93, .88, .85, .83 and .84 for the questions from 1 to 5 respectively. The average reliability coefficient between the encoders of the five questions was calculated as .86 Miles and Huberman (1994) state that reliability among the evaluators is achieved on condition that the result approaches or exceeds 80%, whereas Yıldırım and Şimşek (2013) accept that a rate over 70% is enough to indicate that the data reaches the desired reliability percentage. According to these criteria, it can be stated that the measuring instrument are reliable.

FINDINGS

The findings obtained from the interviews conducted with the social studies teacher candidates are presented in this section of the study.

When the answers given to the question “Have you received a museum education?” are analyzed (see Table 1), it can be seen that the answer ‘No’ has the highest rate. The answers of the participants indicate that the majority of the social studies teacher candidates (85.09%) in the study group have never received museum education.

The participants are also asked the question “Have you ever been to a museum?” and their answers to this question show that majority of them have ranked ‘Yes’ (see Table 2). When the answers given to this question are analyzed, it is seen that 84.21% of the participants have been to a museum before.

When the participants’ answers to the question whether they have ever visited a virtual museum before are examined, it is seen that the answer with the highest rate is “No” (see Table 3). The figures taken from the answers given to the relevant question show that more than half (57.02%) of the social studies teacher candidates who have participated in the study have never visited a virtual museum.

When the social studies teacher candidates were asked about the possible contributions of the use of museums as an educational environment, “Providing permanent learning” and “Providing students to learn better by seeing/experiencing” were seen to have the highest rate (see Table 4). The answers of some teacher candidates who associate the contribution of using museums as an educational environment with providing permanent learning are as follows:

Since museums are venues with historical, cultural and geographical works, they can be effective on benefiting from education. They make the works of art catchier by making it possible to see those works in the real environment (P4). Students embody abstract concepts and make them easier to learn. They can both see and touch. The use of the senses improves. These make learning permanent (P11). Students can have permanent knowledge about artistic works by visiting

the museum live, not by reading from the internet on the books (P52). Visiting museums especially for social studies course will be visually effective for students. Abstract issues can be embodied. Moreover, the topics discussed can be quickly forgotten. However, they will be more permanent if supported with visual materials, (P80). It ensures that what is covered in the course is permanent. It makes the students more active. And students don’t forget easily. Visual information remains in memory (P93)

The answers of some pre-service teachers who associate the contribution of using museums as an educational environment with the fact that students learn better by seeing / experiencing are as follows: Museums are beneficial for visual learning. Instead of verbal expression, enabling students to experience the atmosphere by witnessing and touching personally in the museum will make learning more effective and permanent(P72). Museums can be used in the educational environment since visual elements are more memorable. Student learns by touching, doing and experiencing. Its effectiveness is higher (P76). It provides learning in a real environment. The individual performs learning by doing and experiencing (P113). Students visually simplify the learning process. They learn the past by experiencing better (P 48). It allows us to see historical sites and historical artefacts dating back to ancient times within their own environments. To learn the works we see through books or on the internet by touching and feeling them in reality (P69).

When the answers given to the question “What are the problems that may be encountered in using the museums as a teaching and learning environment?” are examined (see Table 5), it is seen that the answers with the highest rate are “That students can damage historical documents and objects”, “Financial impossibilities” and “Difficulty in class control”. Simply a summary of responses to open-ended items of some

Table 1. Descriptive data on the question ‘Have you received museum education?’

Museum Education	<i>f</i>	%
Yes	17	14.91
No	97	85.09
Total	114	100

Table 2. Descriptive data on the question ‘Have you ever been to a museum?’

Have you ever been to a museum?	<i>f</i>	%
Yes	96	84.21
No	18	15.79
Total	114	100

Table 3. Descriptive data on the question ‘Have you ever visited a virtual museum?’

Have you ever visited a virtual museum?	<i>f</i>	%
Yes	49	42.98
No	65	57.02
Total	114	100

pre-service teachers who associate the problems that may be encountered in the use of museums as an educational and training environment, with the possibility that students may damage historical documents and objects are as follows:

Historical artefacts can be damaged (P50). Classes with large populations are difficult to control in the museum environment. Students can damage historical documents and objects (P1). The items in the museum can be damaged or used unconsciously (P18). Artefacts and sources in the museum may be damaged because of the students' unconscious movement. The teacher may lose group control (P85). Historical artefacts in museums can be worn out (P19).

The answers of some pre-service teachers who associate the problems that may be encountered in the use of museums as an educational and training environment with financial impossibilities are as follows: Most museums are fee-paying (not free). However, students do not want to pay for it (P34). Costs may be high and opportunities may be limited (P102). There may be financial problems (P8). Transportation

shortage and cost (P22). Museums have a lasting effect. But there may be transportation problems as well as cost issues. In other words, the possibilities of using museums are limited (P72).

The answers of some pre-service teachers who associate the problems that may be encountered in the use of museums as an educational and training environment with the difficulty of classroom control are as follows: *Difficulties in organizing students and recitation may be experienced during visits with crowded classrooms (P84). Visit with an overcrowded class may be problematic. Especially if the class consists of small groups, there will be many discourses such as stop, don't do, don't touch, etc. It will be difficult to check whether the class is complete or not (P108). If the number of students is high, there may be indiscipline (P109). Transportation can be difficult if the museum is far away. It may be difficult to keep the whole class under control (P15). Getting permission is a problem. As students go to the museum in a body, it is difficult to keep them together (P99).*

Table 4. Descriptive data on the question 'What can be the contribution of using museums as an educational environment?'

Explanations	f	Explanations	f
Enables permanent learning	42	Gains awareness of historical artifacts	2
Enables students to learn better by seeing / living	34	Creates effective learning in out-of-class learning	2
Gives information about the past	17	Activates the student to the lesson	2
It saves the lesson from being boring	9	Creates solidarity and love	1
Helps gain lesson gains	7	Objects in museums have an important place in history teaching	1
The past is better learned	6	I do not know, because I did not receive museum education	1
Soft information is embodied	5	Brings objective comment to the student	1
Gives detailed information about the works and structures in the museum	3	Improves the quality of education	1
Be aware of national cultural elements	3	It makes better use of time	1
Students make chronological inferences	3	Improves students' knowledge	1
Improves creative thinking	2		

Table 5. Descriptive data on the question "What are the problems that may be encountered in using museums as an educational environment?"

Explanations	f	Explanations	f
That students can damage historical documents and objects	28	The problems arising from the environment and space	3
Financial impossibilities	26	Unsuitable environment for studying	2
Difficulty in class control	26	The possibility of discussion / confusion among students	2
Difficulty in getting a formal / parent permission	19	Problems when planning a museum visit program	2
Difficulty in transportation	18	Infrastructure problems	1
High classroom size	17	No explanatory labels on images	1
That students can be distracted quickly/easily	9	Old Turkish writings that are not descriptive	1
That it creates a waste of time	9	No equal opportunity in education	1
Insufficient equipment in museums	8	Traffic accidents	1
Insufficient guidance service in museums	7	Whether or not there is a museum in the region	1
High museum entrance fee	7	Difficulty in taking student responsibility	1
That teacher must have sufficient knowledge	4	That some students can get better education	1

When the answers of the participants to the question “Do you think that the education you received in the use of museums as an education-training environment is sufficient?” are examined (see Table 6), it is seen that “No” has the higher rate. Considering this answer, it is understood that the majority of the social studies teacher candidates (85.96%) in the study group think that the education they have received in the use of museums as an educational environment is not sufficient.

The social studies teacher candidates are asked whether they think the education they have received on the use of museums as an educational environment is sufficient and why. It is seen that the answers that are mostly uttered by the participants are (see Table 7) “I have not received museum education” and “Education given on museum education is insufficient”. The reasons that some teacher candidates have given for their levels of adequacy in using museums as educational environments are as follows: I have never received any museum education (P1). I think that I have not received any training on this issue and that I have no idea (P30). I do not think. Because I haven’t received museum education. Therefore, I do not know whether it is sufficient or not (P79). I do not think I have not received museum education throughout my education life. I don’t know if it is sufficient (P81). I haven’t received any training on the use of museums (P98).

As for the reasons for their levels of adequacy in using museums as educational environments, some teacher

candidates have uttered the following statements: No, I think the education I received is not enough. Because museum education cannot be received only by reading. Rather, it is necessary to go and see the museums alive (P52). The education I have received is insufficient. I have gained some information within the scope of an elective course, but it is not enough. It should be given within the scope of a compulsory course (P58). I don’t think it’s enough. I received this education in high school. There were all kinds of possibilities in the museum we visited (P61). No, I don’t think it’s enough. Because we did not get sufficient applied museum education (P74). I only received education for one semester in my entire education life. Of course, it is not enough, because museums offer enable people to see the items exhibited in the museum personally and make them feel as they were living in that period, leading to a better learning (P111).

As can be seen in Table 8, “Patriotism” and “Sensitivity to cultural elements / heritage” are the most frequently uttered answers given to the question “Which values in the social studies curriculum can the use of museums as an educational environment contribute so that those values can be structured by the students?”. As for the answers of some teacher candidates who state that the contribution of using museums as an educational environment to the structuring of the values in the social studies curriculum can be associated with patriotism are as follows: Patriotism: For example, I had this feeling when I visited the Atatürk Museum in Yalova. The museum adds this value to the revival of the weapons and struggle used in our recent history (P70). Patriotism, respect for heritage; images about Çanakkale improve the respect for antiquities, historical heritage and patriotism (P49). Patriotism, historical awareness, learning about one’s own history (P 13). Patriotism, love, respect, tolerance and solidarity can be gained as the artefacts necessary for gaining these values exist in museums (P4). Patriotism, Solidarity, Empathy (P67).

Table 6. Descriptive data on the question ‘Do you think that the education you have received in the use of museums as an educational environment is sufficient?’

Do you think that the education you have received in the use of museums as an educational environment is sufficient?	f	%
Yes	16	14.04
No	98	85.96
Total	114	100

Table 7. Reasons for whether or not the education received is sufficient in the use of museums as an educational environment

Explanations	f	Explanations	f
I have not received museum education.	47	Since there is no equal opportunity in education.	1
Training on museum education is insufficient.	25	School lessons should be made sufficient first.	1
It enables students to learn visually.	5	Because I have enough information about museum education.	1
There is no visit to museums.	4	No training is required to go to the museum	1
I do not have enough information about museum education.	3	It does not offer knowledge of all lessons.	1
Instructors do not lead students to museums.	2	Museum education should be given starting from primary school.	1
It contributes to learning the subjects in lessons.	2	I want to get better education on museum education.	1
Museums do not offer sufficient information.	1	It will be difficult to make the whole group focus on the subject at the same time.	1
Information in museums is not up to date.	1	Museum education lesson should be given to prospective teachers.	1
Education at academic level is a must.	1		

*f: Frequency

As for the replies of some teacher candidates who think that the contribution of using museums as an educational environment to the structuring of the values in the social studies curriculum can be associated with sensitivity to cultural elements / heritage are as follows: Consciousness of conservation of historical and cultural heritage can be improved. Majority of our people have not even entered the museum's door since this sensitivity has not developed in our society. In addition, we are not sensitive enough to know and preserve historical artefacts (P 27). It provides people with aesthetic value. It raises individuals who are sensitive to cultural heritage (P58). Sensitivity to historical heritage (P98). History of museums is important for teaching values of cultural places. It can be useful for teaching history, homeland and other cultural connections to students. Students learn to protect the world cultural heritage (P106). Responsibility; students know their past and have an idea about their responsibilities for the future. Respect for cultural heritage;

Table 8. Descriptive data on the question 'Which values in the social studies curriculum can the use of museums as an educational environment contribute so that those values can be structured by the students?'

Explanations	f	Explanations	f
Patriotism	32	Knowing about own's history	2
Sensitivity to cultural heritage/elements	24	I don't know	2
Respect	16	Giving importance to the unity of family	1
Historical awareness	16	Sedulity	1
Cooperation	15	Visual skills	1
Tolerance	12	Citizenship consciousness	1
National consciousness	10	Scientificness	1
Aesthetics	10	Critical thinking	1
Historical empathy	9	Chronological development	1
Love	7	Ability to evaluate history	1
Benevolence	7	Ability to read sources	1
Gaining responsibility	7	Knowing about own's history	2
Sensitivity	4	I don't know	2
Knowledge about geography	4		

Table 9. Descriptive data on the question 'Do you think of using museums as an educational environment when you are appointed as a teacher?'

Explanations	f	%
Yes	99	86.84
I don't think so	15	13.16
Total	114	100

students who know their cultural heritage become eager to protect it (P112).

When the answers given to the question "Do you think of using museums as an educational environment when you are appointed as a teacher?", it is seen that 86.84% of the participants replied "Yes" (see Table 9). Considering this result, it can be clearly understood that the majority of the social studies teacher candidates in the study group think of using museums as an educational environment after being appointed.

When the participants were asked what types of museum there were, it is seen that most frequently mentioned types of museums were "Historical Museum" and "Virtual Museum" (see Table 10). The answers of the teacher candidates are as follows: Historical museum (P 58). Historical, cultural, art, nature museums (P78). Historical museum, cultural museum, art museum, anthropology museum, nature museums (P81). Cultural museum, art museum, historical museum (P55). Ethnography museum, open air museum, art museums, historical museums, virtual museums (P71). Virtual museums, open-air museums (P32). Virtual museums, open-air museums and art museums (P82). Virtual museums, open-air museums, ethnographic museums, art museum, archaeological museum (P85). Virtual museums, open air museums (P32). Virtual museums, natural museums, ethnographic museums (P 60).

When the teacher candidates in the study group were asked what type of museums could be used in the educational process of social studies (see Table 11), most telling types of museums uttered by the participants were "Historical Museum", "Archaeology Museum" and "Virtual Museum". The answers of some of the participants are as follows: Historical

Table 10. Descriptive data on the question 'What are the types of museum?'

Explanations	f	Explanations	f
Historical Museum	69	Technology Museum	5
Virtual Museum	55	Sports Museum	4
Art Museum	38	Museum of Painting	4
Archaeological Museum	38	Private Museums	3
Open-Air Museum	37	Museum of Fine Arts	3
Ethnography Museum	37	Museum of Collections	2
Nature-History Museums	12	Botanical Museum	1
Museum of Culture	10	Underwater Museum	1
Science and Industry Museum	9	Museum of Islamic Sciences	1
Museum of Mosaic	6	Astronomy Museum	1
Military Museum	6	Museum of Toys	1
I Don't Know	6	Wax Museum	1
Museum of Monuments	5	Atatürk Museum	1
Underground City Museum	5	Museum of Old Material Exhibitions	1

Table 11. Descriptive data on the question ‘What type of museums can be used in the educational process in social studies?’

Explanations	f	Explanations	f
Historical Museum	73	All Museums	4
Archaeology Museum	35	Museum of Monuments	2
Virtual Museum	34	Museum of Fine-Arts	2
Ethnography Museum	22	3-Dimensional Museums	1
Art Museum	13	Underwater Museums	1
Open-air Museum	10	Underground City Museums	1
Anthropology Museum	7	Military Museum	1
Science and Industry Museum	6	I don't know	1
Nature-History Museum	6	Technology Museum	1
Museums of Culture	5		

museums, open-air museums, archaeological sites (P23). They are historical museums (P7). Historical museum, ethnographic museums (P38). Historical museums, art museums, virtual museums (P48). Historical museums can generally be used (P56). Archaeology museums can be used especially. Archaeological finds of the period to be taught may be more effective (P18). Archaeology museums can be used. It can be used especially in history education (P27). Archaeology museum is used. Because it is very useful when teaching about ancient civilizations in the 6th grade. Students see the works and ruins of that civilization, construct them in their minds and do not forget (P70). Archaeological museums can be used for making students realize the historical artefacts and learn about people's life styles in the past (P30). I can also instill this in children for reasons such as the fact that the information in my mind about the first settlements in Çatalhöyük is forgotten, but the first place where our teacher took us in Konya for better understanding is still in my mind. I can take students to archaeology museums where the first excavations were carried out (P86). Virtual museums should be used. This type is very suitable since museums and financial possibilities are limited in various parts of our country (P2). Virtual museums can be used effectively as they are both safe and cost-effective (P60). Virtual classrooms can be easily used in social studies classes with computer. In classes where there is no computer, real museum visits can be made (P82). The subject ‘We are learning about the historical artefacts in our region and country’ of the unit ‘Step by step Turkey’ can be taught more effectively through virtual museums. (P85). Using virtual museums may be more effective in social studies (P1).

When the participants were asked which teaching methods, techniques and strategies could be used during the use of museums as an educational environment in social studies, (see Table 12), it was seen that the most telling answers uttered by them were “Trip-Observation”, “Brain Storming” and “Talk Circle”. The answers of some participants are as

Table 12. Descriptive data on the question ‘Which teaching methods, techniques and strategies can be used in the use of museums as an educational environment in social studies?’

Explanations	f	Explanations	f
Trip-Observation	28	Trial and Error	2
Brainstorming	26	Circle	2
Talk circle	25	Enumerated Exchange of Ideas	2
Station	21	Educational Games	1
Drama	21	Micro-instruction	1
Question and Answer	16	Forum	1
Roleplay	15	Team-Game-Tournament	1
Direct Instruction	10	Seminar	1
Expository Teaching	9	Collegium	1
I-spy Technique	8	Panel	1
Opposite panel	5	Jigsaw 1-2	1
I don't know	5	Poster/Slogan/Newspaper	1
Discovery Learning Technique	4	Exhibition	1
Producing an Idea	4	Research	1
Think-Pair-Share	4	Ask together, learn together	1
Six-hat	3	Presentation	1
Discussion	3	Simulation	1
Snowball Technique	3	Historical empathy	1
Educating through Demonstration	2	Mind map	1
Open Session/Panel	2	Aquarium	1
Symposium	2	Demonstration technique	1

follows: Trip is used. Because a technical trip is required if there is not a museum in the school (P34). Trip-Observation technique can be used (P29). We can use the trip-observation technique. We can at least make the students gain feelings and thoughts from that period by traveling and seeing (P93). We can use the brainstorming technique (P102). Brainstorming (P111). Students can interpret feelings and thoughts through assessment and opinion development with the help of talk circle and brainstorming (P24). Talk circle, question and answer, station. After the visit to the museum, a talk circle is formed and students express their opinions (P11). The talk circle. After the museum is visited, a talk circle is formed. The students express their opinions. Station. Students form stops. Everyone tells another what they have learned and knowledge is created. Question and answer method. Students are lined up. Everyone asks a question and the station receives permission and answers (P76).

When the answers to the question “Can virtual museums be used in social studies teaching process?” are examined, it is seen that 88.60% of the participants replied ‘Yes’ (see Table 13). In this sense, it is understood that majority

Table 13. Descriptive data on the question 'Can virtual museums be used in social studies teaching process?'

Explanations	<i>f</i>	%
Yes	101	88.60
No	4	3.51
I don't know	9	7.89
Total	114	100

of the social studies teacher candidates in the study group think that virtual museums can be used in the social studies teaching process.

DISCUSSION AND CONCLUSIONS

According to the results of the study regarding the benefits of using museums as educational environments, social studies teacher candidates have stated that using museums as educational environments provides permanent learning, and enables students to learn better by seeing / living and gain knowledge about the past. In their study that investigated the prospective teachers' opinions about the use of museums as educational environments in social studies lesson, Selanik Ay and Kurtdele Fidan (2014) found similar results and stated that museums contribute to permanent learning and the concretion of some concepts. Solmaz (2015) also revealed that social studies teachers mentioned enabling permanent learning, providing visual and concrete learning, supporting social learning and opening doors for students to do research as the advantages of using museums as educational environments. Similarly, social studies teacher candidates asserted in the research carried out by Kamçı (2015) that conducting teaching activities in museums would contribute to permanent learning and the concretion of abstract knowledge. The opinions of prospective social studies and history teachers about the importance of the museum in history teaching were investigated in the research conducted by Yılmaz and Egüz (2015). According to the findings of the research, teacher candidates stated that using museums as educational environments increased students' curiosity, reinforced learning and enabled permanent learning. In this sense, research findings coincide with aforementioned research findings.

It is concluded that social science teacher candidates have associated the problems that may be encountered while using museums as an educational environment with the possibility of students to harm the historical documents and objects, financial difficulties and difficulty in classroom control. In the study carried out by Solmaz (2015), it was revealed that the teachers of social studies did not use the museums as an educational environment due to such problems as the time and financial constraints, intensity in procedures and curriculum, students' negative attitudes and family rationale. Kısa (2012) stated in the study which investigated the opinions of teachers and students regarding the use of museums in social studies education that teachers experienced problems such as overcrowded classes, teachers' avoidance of taking student responsibility, socio-economic difficulties and negative parental attitudes. Çengelci (2013) examined

the social studies teacher candidates' opinions on the use of non-class environments for educational purposes including museums. The findings of the research showed the problems that social studies teacher candidates experienced while using museums as educational environments were shortage, economic problems, student behaviours and bureaucratic obstacles. In the research by Arı (2010), social studies prospective teachers' opinions on the activities of museum awareness learning area were investigated and it was found that the problems encountered in utilizing the museums as an educational environment were overcrowded classes, transportation difficulties and lack of suitable areas for activities in museums. Demir (2015) stated that the problems faced by social studies teachers in using museums as an educational environment included especially economic insufficiency and long official procedures. Çalışkan et al. (2016) also found that the most important problem that social science teacher candidates encountered in museum education was the control of crowded classes. Considering the findings of the researches mentioned above, it can be stated that the findings of the current research coincide with several research finding in literature.

It was determined that the majority of the social studies teacher candidates were not satisfied with the education they received in the use of museums as an educational environment and that this dissatisfaction resulted from the facts that they did not receive any museum education or they found the museum education they had received insufficient. Similarly, in the study by Gürbüz (2017) which examined the opinions of the classroom teachers about museum education, it was also revealed that teachers did not receive any museum education and even those who had received such an education thought that the education was insufficient. However, the findings of the study conducted by Tural and Kala (2018) showed that the variable of whether or not social studies teacher candidates received museum education did not have a significant effect on their self-efficacy beliefs towards museum education. In the study by Arı (2010) which investigated the opinions of the classroom teachers regarding the realizability of the museum awareness learning area activities, it was concluded that the classroom teachers were not sufficient in raising museum awareness and using museums as educational environments and that they needed museum education. In the research carried out by Kamçı (2015), social studies teacher candidates stated that they considered themselves sufficient in planning museum visits while their knowledge was insufficient in the application phase.

The result of the study revealed that using museums as educational environments could help students acquire patriotism and sensitivity to cultural elements/heritage most. Majority of social studies prospective teaches stated that they intended to use museums as an educational environment when they were appointed as teachers. It is understood that social studies teacher candidates do not have sufficient information about museum types as they mentioned 'Historical Museums' and 'Virtual Museums' most when they were asked about the types of museums.

Considering that the social studies teacher candidates who participated in the study have answered the question "Which types of museums can be used in the education process?" as "Historical Museum", "Archaeology Museum" and "Virtual Museum" in order of frequency, it can be concluded that they do not have sufficient information about the types of museums, which is thought to be resulted from the lack of museum education. In a study with a similar result, Demir (2015) found that "Archaeology Museums" and "Ethnography Museums" are among the most preferred museum types by social studies teacher candidates to be used as educational environments in social studies course.

When the answers of the participants about which teaching methods, techniques and strategies can be used during the use of museums as an educational environment in the social studies course are examined, it is seen that the most frequently mentioned techniques were "Trip-Observation", "Brainstorming" and "Talk Circle" respectively. Taking this result into consideration, it can be claimed that teacher candidates prefer widely-known and simple techniques while they avoid more sophisticated and time consuming techniques. According to the findings of a research with similar results conducted, Solmaz (2015) concluded that social studies teachers did not use any teaching techniques during the visits to the museum apart from direct instruction technique accompanied by a guide. In the research carried out by Çalışkan et al. (2016), social science teacher candidates stated that they intended to benefit especially from trip-observation and drama methods during museum education.

When the answers to the question "Can virtual museums be used in social studies teaching process?" are examined, it is seen that 88.60% of the participants replied 'Yes'. In addition, considering that the second most frequently stated answer to the question about museum types is Virtual Museum, it can be asserted that teacher candidates have a general level of knowledge about virtual museums and their ease of use. In the research carried out by Peker (2014), the attitudes of social science teacher candidates towards the use of virtual museums were investigated. According to the findings, social studies teacher candidates find the use of virtual museums useful. In this sense, the findings in the research coincide with other research findings.

According to the results obtained from the research, social studies teacher candidates consider themselves insufficient about museum education. In this sense, it can be recommended that practical training and seminars about museum education through museum guides should be organized for social studies prospective teachers.

The fact that museums are used only for exhibition purposes in our country and the visits to the museums are made just for such purposes restricts the educational functions of museums. Therefore, it is recommended that additional building areas and services be increased so that activities related to social studies course can be arranged in museums.

Teachers who have problems in organizing visits to museums prefer virtual museums in the classroom. However,

technical deficiencies in the use of virtual museums or teachers' shortcomings in practice lead to inadequate use of virtual museums. Hence, virtual museum classes should be created in schools and these classes should be used by teachers who are trained on virtual museums.

Students who have limited or no experience in museum visits may give damages to the objects in museums. Students may be recommended to prepare checklists before and after the visits so that they can be provided with the necessary information to avoid such a risk.

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