VIRTUAL MUSEUM EXPERIENCES OF PRE-SERVICE SOCIAL STUDIES TEACHERS IN THE PROCESS OF FORMING AESTHETIC VALUES: PERA MUSEUM EXAMPLE

Research article

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Abstract

This study aims to determine the perceptions of pre-service social studies teachers about aesthetic values after visiting a virtual museum. The research was planned according to phenomenology, one of the qualitative research designs. The data of the research was collected through interviews. The descriptive analysis technique was used to analyze the data obtained from the research. According to the results of the research, regarding Pera virtual museum experience, the pre-service teachers pointed their opinions as *its usability in the lessons, the feeling as if they were there*. The elements that attracted their attention during virtual museum visit, mostly *the artwork named "The Tortoise Trainer", explanations and videos next to the paintings*. The pre-service teachers stated their aesthetic values gained through the virtual museum visit as mostly *beauty*, and then *harmony, balance, delicacy, elegance, mystery, perfection, seriousness, majesty, aesthetics, perception of change and continuity, observation, respect, sensitivity, understanding, protecting and sustaining cultural values, pleasure, happiness*. They expressed the effects of virtual museum visits on aesthetic values as mostly *gaining a more positive attitude towards aesthetic values,* followed by *raising awareness, artworks should be evaluated from an aesthetic point of view, seeing the artworks in the museum from a multi-faceted perspective.*

Keywords: Pre-service social studies teachers, virtual museum, aesthetic value

1. Introduction

An individual, who is a social being, must have certain qualities in order to be well-equipped, useful for the society, and developed in many ways. Individuals must have some basic elements in order for these qualities to occur. Values is one of these elements. They keep societies alive and unite individuals. The order of preference of these values differ for each society and individual. According to Halstead (2006), values are the elements that guide the behavior of the individual. According to Aspin (2007), values are also a part of human's relationship with society. According to Zecha (2007), it is the individual who associates values with objects. Values are dependent on the wishes of individuals.

Values have been classified in various ways in the literature. The first of these classifications was made by Spranger (1928), and values were divided into scientific, economic, aesthetic, social, political and religious categories (cited in Akbaş, 2004, p. 55). Among these values, aesthetic values are important for the multi-faceted development of the individual. These values have a significant impact on the individual's perspective on life. According to Tunalı (2012), the aesthetic concept means perceiving with the senses. According to Yaşar (2009), aesthetics is to like and to take pleasure from something that we find beautiful. According to Anufrieva et al. (2015), aesthetics is the creation of beauty as a special synthesis of the individual and society. The inner world of the person is enriched with aesthetics.

Values education is a lifelong process starting from the birth of the individual. Schools play an important role in this process. Values education is given in the content of many of the courses in schools. Among these courses, the course of social studies delivers values education through its content. In the process of acquiring values, the social studies course, which plays an important role due to its content, and the social studies teachers, who are at the center of this process, should have many values. Because it is important for effective teaching that the qualifications that teachers should present to individuals are primarily found in themselves. In the field of values education, it is necessary for the individual to have those values first in order to help other individuals gain those values effectively. Teacher education processes are very important in the process of teachers having certain qualifications and competence. In this process, the perspective and perceptions of pre-service teachers on values are very important, especially of those in the field of social studies. One of the values that a pre-service social studies teacher should have is aesthetic values. Because social studies is an interdisciplinary field due its content. As it is an interdisciplinary field, it is important for individuals to acquire art and aesthetic values and reflect them in their life, like many other disciplines. Harmony and aesthetics occupy an important place in the social life of an individual who acquires aesthetic values, and these values contribute positively to the life of the individual. Many different methods can be used in the process of pre-service social studies teachers to acquire aesthetic values. Virtual museums can play an important role in this process, especially considering today's conditions. Museums are places where aesthetics is concentrated. Therefore, museums can present an important experience for pre-service social studies teachers in the process of acquiring aesthetic values. Virtual museum experiences are important for pre-service social studies teachers in the process of acquiring aesthetic values, since virtual museums are tools that can be used more frequently in educational environments compared to museums. Therefore, such activities of pre-service teachers are important. According to Schweibenz (2019), the emergence of virtual museums as a concept predates the emergence of the internet. Virtual museums were first implemented with multimedia applications on CD-ROMs and stand-alone computers.

The studies on aesthetic values in the relevant literature are not very diverse, e.g., aesthetic quality, experience and aesthetic values (Goldman, 1990; Stecker, 2006; Porter, 2012), determining the relationship between aesthetic value and cognitive values (Aumann, 2014), the contribution of art education to gain aesthetic values (Mahgoub & Aldbesi, 2016). There are very few studies on the teaching of aesthetic values in the relevant literature and they are generally associated with art education. The literature includes various studies on virtual museums such as an overview of origins of virtual museum (Schweibenz, 2019), exploring the relationship between presence and enjoyment in a virtual museum (Sylaiou, et al. 2010), collective storytelling and social creativity in the virtual museum (Giaccardi, 2006), designing a virtual museum within a museum (Charitos et al. 2001), virtual museum learning (Prosser & Eddisford, 2004), virtual museum space for the student research practice (Tserklevych et al., 2021). Studies on the use of virtual museums as an educational environment have started to become widespread in recent years. Although virtual museums offer an important educational environment, no studies have been found on their functions to gain aesthetic values. In addition, studies examining the perceptions of pre-service social studies teachers about aesthetic values after virtual museum visits could not be found in the literature. We expect to fill an important gap in related fields with this research. In this context, the question of this study is "What are pre-service social studies teachers' perceptions of aesthetic values after their virtual museum visit experiences?".

The aim of the study is to determine the perceptions of pre-service social studies teachers about aesthetic values after visiting the virtual museum. For this purpose, answers to the following questions were sought. According to pre-service social studies teachers;

- What is aesthetic value?
- What are their Pera virtual museum experiences?
- What are the elements that attract their attention during virtual museum visits?
- What are the aesthetic values they gained through virtual museum visits?
- How did virtual museum visits affect their perspectives on aesthetic values?

2. Method

2.1. Design:

The research was planned according to phenomenology, one of the qualitative research designs. The reason why the phenomenology was preferred is to investigate the pre-service social studies teachers' experiences of virtual museums and their perceptions of aesthetic values in detail.

Ethics committee approval was obtained for the research from Erciyes University with the decision numbered 217 from 27.04.2021.

2.2. Study Group:

The study group of the research was determined according to criterion sampling, one of the purposeful sampling methods. The participants were pre-service teachers who received media literacy education in the 4th grade of the social studies teaching undergraduate program. This grade is preferred as the study group of the research because they receive media literacy education at this grade. Another purpose of media literacy education is to create awareness and competence in pre-service teachers about the beneficial use of media in the education system. 32 female and 19 male pre-service teachers took part in the study group.

2.3. Data Collection and Analysis

The data of the research was collected through interviews. While collecting the data, an open-ended interview form was used. Firstly, the participants were informed and the Osman Hamdi Bey Exhibition of the Pera Virtual Museum was visited. Afterwards, the participants were asked to answer the interview questions about the visit. Research data were collected from the participants on a voluntary basis via Google Form.

The data obtained from the research were analyzed with the descriptive analysis technique. While performing the analysis, firstly the codes within the research questions were extracted and then they were brought together under common categories. The codes collected under the categories were tabulated according to their frequency intensities. Samples were selected from the views of the teacher candidates regarding each table, and the tables were supported with direct quotations.

2.4. Validity and Reliability

In order to ensure the content validity of the research, the relevant literature was examined in detail and research questions were formed. We ran the research questions to the experts to

check if they are suitable for the scope of the research. The research questions were finalized in line with the opinions of the experts. Miles & Huberman (1994) calculation was used to calculate the reliability of the research questions and a ratio of $(5 : (5 + 6)) = 0.83$ was obtained. This figure proves that the reliability of the research questions is high. In the analysis process, the researcher analyzed some of the data, then the same part was analyzed by an independent researcher and the difference was examined. A great similarity was detected in both analyzes and it was determined that the reliability of the analyzes was high.

3. Findings

Table 1 shows the views of pre-service social studies teachers on the concept of aesthetic value.

Table 1. Aesthetic value according to pre-service social studies teachers

Aesthetic value	f
Pleasure	20
Beauty	19
Feelings evoked by an artwork	17
Appreciation	12
Artwork	9
Feelings evoked by an object	7
Everything that is striking	2
The way of thinking to evaluate art and works of art	2
The trace that the work of art leaves on people	2
The bond between the work of art and the viewer	2
Abstract perception	2
Reinterpreting the artwork	1

According to Table 1, pre-service social studies teachers associated aesthetic value mostly with pleasure (f20), followed by beauty (f19), feelings evoked by an artwork (f17), appreciation (f12), artwork (f9), feelings evoked by an object (f7) , everything that is striking (f2), the way of thinking to evaluate art and works of art (f2), the trace that the work of art leaves on people (f2), the bond between the work of art and the viewer (f2), abstract perception (f2), reinterpreting the artwork (f1). Examples of direct quotations selected from the views of pre-service social studies teachers are given below:

> **4-M-18:** "*Aesthetic value is actually the pleasure that any object evokes in the person. Let's think about an artwork. The point of view of a normal person on that work will be very different from the perspective of a famous painter. A painting in the exhibition may not mean anything to you at first glance. But it was very valuable for the art community at that time. When people look at a work of art, we can say that they think it is aesthetically valuable if it is really pleasing to the eye. In short, aesthetic value is people's perspective on works of art and the way they interpretate them.*"

> **4-F-8:** *"It is the bond between the object and the viewer. It is the feeling that the object evokes in the person when the person encounters the object. It is a set of aesthetic features that are imposed on the person. It is the feeling of appreciation and pleasure that the work of art evokes on people. Visuality is important, it should attract people's attention and arouse curiosity. The aesthetic values of people are unique, these values vary from person to person. Because each person understands and interprets the perception in art differently, evaluates it from different perspectives, handles it from different aspects, so aesthetic value is subjective. Aesthetic value is a phenomenon that exists in everyone, but it is a phenomenon that needs to be developed. The more you develop, the more the depth in the work of art is perceived. It allows them to see their different sides."*

> **4-F-12: "***For me, aesthetic value is the feelings that an artist's product, a work of art, evokes on the*

viewer. It's the pleasure they get. It is the feeling of liking or disliking. I think the viewer can achieve this with any object, not just a work of art. The important thing is emotional reaction it evokes in people with its appearance. It is the emotions that the product or a work of art arouse on the viewer."

Table 2 shows the findings regarding the experiences of pre-service social studies teachers visiting Pera virtual museum.

Table 2. Pera virtual museum experiences of pre-service social studies teachers

Pera virtual museum experiences	*f*
Its usability in lessons	11
Feeling as if they were there	10
Discovering the positive contributions of technology to art and museum visits	6
Contribution to improve general knowledge	5
Helping to access reliable information	4
Creating a good awareness	4
Seeing Osman Hamdi Bey's works closely	3
Become more aware of the aesthetic value	2
To have an idea about the understanding of art of the period	2
Getting to know Osman Hamdi Bey better	2
Seeing the artworks in the virtual environment without going to the museum	2
Interest and curiosity towards virtual museums	1
Experience of the difference between looking and seeing	1
Gaining different perspectives	1
Information about the visuals of the main areas of Istanbul	1
Contribution to the ability to interpret	1
Gaining aesthetic value	1
Information about Ottoman architecture in the period of Osman Bey	1
Evaluating the aesthetic elements of the past and comparing them with the present	1
A pleasurable aesthetic experience	1
An exciting experience	1
Obtaining concrete information in the field of museums	1
3D museum tour experience	1
Helping to change aesthetic judgment	1
Gaining a more sensitive perspective on the works	1
Information about how foreign ambassadors were received in the Ottoman Empire	1
Sensitivity to cultural heritage	1

According to Table 2, pre-service social studies teachers associated their Pera virtual museum experience mostly with *its usability in lessons (f11),* followed by *feeling as if they were there (f10), discovering the positive contributions of technology to art and museum visits f(6), contribution to improve general knowledge (f5), helping to access reliable information (f4), creating a good awareness (f4), seeing Osman Hamdi Bey's artworks closely (f3), become more aware of the aesthetic value (f2), to have an idea about the understanding of art of the period (f2), getting to know Osman Hamdi Bey better (f2), seeing the artworks in the virtual environment without going to the museum (f2), interest and curiosity towards virtual museums (f1), experience of the difference between looking and seeing (f1), gaining different perspectives (f1), information about the visuals of the main areas of Istanbul (f1), contribution to the ability to interpret (f1), gaining aesthetic value (f1), information about ottoman architecture in the period of Osman Bey (f1), evaluating the aesthetic elements of the past and comparing them with the present (f1), a pleasurable aesthetic experience (f1), an exciting experience (f1), obtaining concrete information in the field of museums (f1), 3d museum tour*

experience (f1), helping to change aesthetic judgment (f1), gaining a more sensitive perspective on the works (f1), information about how foreign ambassadors were received in the Ottoman Empire (f1), and sensitivity to cultural heritage (f1). Examples of direct quotations selected from the pre-service social studies teachers' views on their virtual museum experiences are given below:

4-F-9: *"As a social studies teacher candidate, I can benefit from virtual museum visits to set an example for students in line with cultural achievements. In this way, students may get more drawn to the lessons and learning is more permanent."*

4-M-19: *"I only knew Osman Hamdi Bey's work called Turtle Trainer. I was not aware that there was a museum named after Osman Hamdi Bey. In this sense, this virtual museum visit created a good awareness for me."*

4-F-2: *"Virtual museum visit firstly shows us the benefits of technology. Even from where we live, we can visit an exhibition in another city, which is a very good and beneficial development. If we talk about Osman Hamdi Bey's Journey to the World exhibition that we visited virtually, I think that there is no one who does not know the work of Osman Hamdi Bey and the Tortoise Trainer today. It is really a great privilege to be able to examine this work in all its details thanks to the virtual museum. Moreover, I did not know that Osman Hamdi Bey had so many works. Thanks to this visit, I had the chance to examine and observe many of his works. I found this virtual museum visit very useful. I think other museums should be visited virtually."*

Table 3 shows the findings about the factors that attract the attention of pre-service social studies teachers during their virtual museum visits.

Table 3. Elements that attract the attention of pre-service social studies teachers during their virtual museum visits

The highlights of the virtual museum visit	f
"The Tortoise Trainer" (Turkish: Kaplumbağa Terbiyecisi) painting	14
Explanations and videos next to the artworks	11
Osman Hamdi Bey's biography	4
Artworks that very well reflect the period in which they were created	4
The ambiance of the museum	3
Realism of artworks and sculptures	3
Colors used	3
"Sultan Ahmet III Receiving a European Ambassador" painting by Jean-Baptiste Vanmour	2
Perfect fit	2
Flawless beauty	2
Real museum tour feeling	2
Portraits of people of different status and age	2
Being able to examine the artworks more easily by zooming	1
"Two Musician Girls" (Turkish: İki Müzisyen Kız) painting	1
"Mustafa Pasha Kulliye in Gebze" (Turkish: Gebze'de Çoban Mustafa Paşa Külliyesi) painting	1
The fact that the exhibition was made with care for all works of art	1
The fact that the artist cared about everything around him and valued art	1
The fact that most works of art are oil paintings on canvas	1
Painting any event that took place in the palace	1
Having paintings about music and entertainment	1
The depiction of unique and beautiful landscapes of Istanbul	1
Paintings of architectural monuments of France	1
Paintings like they were shot with a camera	1
Painting of the apostles	1
Perfection of brush strokes	1
Image quality of digital versions of artworks	1
Perfect design	1
Impressiveness	1

According to Table 3, the findings regarding the elements that attract the attention of pre-service social studies teachers during their virtual museum visit are as follows: mostly *"The Tortoise Trainer" painting (f14),* followed by *explanations and videos next to the artworks (f11), Osman Hamdi Bey's biography (f4), artworks that very well reflect the period in which they were created (f4), the ambiance of the museum (f3), realism of artworks and sculptures (f3), colors used (f3), "Sultan Ahmet III Receiving a European Ambassador" painting By Jean-Baptiste Vanmour (f2), perfect fit (f2), flawless beauty (f2), real museum tour feeling (f2), portraits of people of different status and age (f2), being able to examine the artworks more easily by zooming (f1), "Two Musician Girls" painting (f1), "Mustafa Pasha Kulliye in Gebze" painting (f1), the fact that the exhibition was made with care for all works of art (f1), the fact that the artist cared about everything around him and valued art (f1), the fact that most works of art are oil paintings on canvas (f1), painting any event that took place in the palace (f1), having paintings about music and entertainment (f1), the depiction of unique and beautiful landscapes of Istanbul (f1), paintings of architectural monuments of France (f1), paintings like they were shot with a camera (f1), painting of the apostles (f1), perfection of brush strokes (f1), image quality of digital versions of artworks (f1), perfect design (f1), and impressiveness (f1).*

The examples selected from the interviews regarding the factors that attract the attention of pre-service social studies teachers in their virtual museum visit are given below.

> **4-F-19:** *"The first thing that caught my attention during the visit to the Pera Museum Osman Hamdi Bey virtual museum was the addition of explanations next to each painting and the biography of Osman Hamdi Bey."*

> **4-M-15:** *"Osman Hamdi Bey's paintings "Two Musician Girls" and "Mustafa Pasha Kulliye in Gebze" caught my attention during the virtual museum visit. I liked these works very much, they attracted me in a way that I couldn't understand."*

> **4-M-9:** *"One of the points that caught my attention the most was the realism of the works and sculptures in the museum. The paintings are so realistic that when I look at them, I seem to have gone back to the period when the painting was made. The informing labels next to the paintings allow people to learn about the work. We can listen to the audio narration about the work thanks to the QR codes, they provide great convenience for visitors."*

Table 4 shows the opinions of the pre-service social studies teachers regarding the aesthetic values they gained through virtual museum visit.

Table 4. Aesthetic values gained through virtual museum visit according to pre-service social studies teachers

Aesthetic values gained through virtual museum visit	f
Beauty	23
Harmony	17
Balance	15
Delicacy	14
Elegance	13
Mystery	11
Excellence	10
Seriousness	6
Majesty	6
Aesthetic	4
Perceiving change and continuity	4
Observation	3
Respect	3
Sensitivity	3
Understanding, preserving and sustaining cultural values	3
Pleasure	3
Happiness	3
Tragedy	2
Enjoyment	1
Appreciation	1
Detail	1
Perception of space	1
Detecting time and chronology	1
Realism	1
Positivity	1

According to Table 4, opinions of pre-service social studies teachers about the aesthetic values they gained through the virtual museum visit are as follows: mostly *beauty (f23),* followed by *harmony (f17), balance (f15), delicacy (f14), elegance (f13), mystery(f11), excellence (f10), seriousness (f6), majesty (f6), aesthetic (f4), perceiving change and continuity (f4), observation (f3), respect (f3), sensitivity (f3), understanding, preserving and sustaining cultural values (f3),*

pleasure (f3), happiness (f3), tragedy (f2), enjoyment (f1), appreciation (f1), detail (f1), perception of space (f1), detecting time and chronology (f1), realism (f1), and *positivity (f1).* Examples of direct quotations obtained from the interviews with pre-service teachers are given below:

> **4-F-5:** *"It has helped to gain aesthetic values such as aesthetics, observation, respect and sensitivity to art, perceiving change and continuity, understanding, protecting and sustaining cultural values."*
>
> **4-M-6:** *"I think I gained the value of perfection thanks to the artworks (The Tortoise Trainer) that were excellent in the virtual museum. Again, based on the works in the virtual museum visit, I think I gained the values of delicacy, beauty, balance, elegance, majesty and mystery."*
>
> **4-F-21:** *"When I visit the virtual museum named Journey to Osman Hamdi Bey's World, the aesthetic values that arouse in me may be beauty or pleasure. Because I liked his works very much, so I felt great pleasure while visiting the museum. In addition, the artworks and the museum environment, informatic labels and colors were very compatible with each other. That's why I think it evoked in me the aesthetic values of beauty, pleasure and harmony."*

Table 5 shows the findings regarding the effects of pre-service social studies teachers' virtual museum visit on their perspectives on aesthetic values.

Table 5. The effects of virtual museum visit on aesthetic values according to pre-service social studies teachers

The effects of virtual museum visits on perspectives on aesthetic values	*f*
Gaining a more positive attitude towards aesthetic values	9
Raising awareness	4
Artworks should be evaluated from an aesthetic point of view	3
Seeing the artworks in the museum from a multi-faceted perspective	3
Understanding that artworks in museums are the world's heritage	2
Gaining interest in painting	2
Gaining awareness about understanding, protecting and owning artistic, historical and cultural values	2
Changing the perspective towards art thanks to the artworks in the museum	1
Spending more time on artworks in museums	1
Positive effect on gaining many aesthetic values	1
Better understanding of the importance of museums	1
Realizing that every teacher candidate must have aesthetic values	1
Recognizing works of art in the living environment	1
Understanding the necessity to push the limits of the imagination	1
Understanding the necessity of providing children with the opportunity to learn by creating and experiencing aesthetic values	1
Realizing its usability in educational processes	1
Understanding the importance of color selection in paintings	1
Gaining a diversified understanding of aesthetic values	1
Recognizing deficiencies on the topic of aesthetic values	1
Maturing the perspective on aesthetic values	1
Gaining an ability to perceive artworks with a critical eye	1
Understanding that art is a structure open to interaction	1
Understanding that aesthetics is a highly subjective field of study	1
Discovering the dedication in art	1

The findings regarding the effects of pre-service social studies teachers' virtual museum visit on their perspectives on aesthetic values are as follows: mostly *gaining a more positive attitude*

towards aesthetic values (f9), followed by *raising awareness (f4), artworks should be evaluated from an aesthetic point of view (f3), seeing the artworks in the museum from a multi-faceted perspective (f3), understanding that artworks in museums are the world's heritage (f2), gaining interest in painting (f2), gaining awareness about understanding, protecting and owning artistic, historical and cultural values (f2), changing the perspective towards art thanks to the artworks in the museum (f1), spending more time on artworks in museums (f1), positive effect on gaining many aesthetic values (f1), better understanding of the importance of museums (f1), realizing that every teacher candidate must have aesthetic values (f1), recognizing works of art in the living environment (f1), understanding the necessity to push the limits of the imagination (f1), understanding the necessity of providing children with the opportunity to learn by creating and experiencing aesthetic values (f1), realizing its usability in educational processes (f1), understanding the importance of color selection in paintings (f1), gaining a diversified understanding of aesthetic values (f1), recognizing deficiencies on the topic of aesthetic values (f1), maturing the perspective on aesthetic values (f1), gaining an ability to perceive artworks with a critical eye (f1), understanding that art is a structure open to interaction (f1), understanding that aesthetics is a highly subjective field of study (f1),* and *discovering the dedication in art (f1).* Examples of direct quotations selected from the interviews with pre-service social studies teachers are given below:

> **4-M-12:** *"The visit to the virtual museum had an impact on me aesthetically. I had no particular interest in painting. With this virtual museum visit, I became interested in the art of painting. At the same time, I realized that every teacher candidate must have aesthetic values and that they must be passed on to future generations."*

> **4-F-31:** *"I can say that the visit to the virtual museum has positively affected my perspective on aesthetic values. In fact, Osman Hamdi Bey was a painter with whom I had more or less ideas, and I liked the Tortoise Trainer very much. I think it is a very artistic and original work. This is Osman Hamdi Bey's most famous painting. However, when I examine his other works from a detailed perspective in the exhibition, he reflected the period he lived in in his works. The colors he used were a bit cold and mostly his portrait paintings caught my attention. But if I evaluate it in general, I liked his artworks very much."*

> **4-M-4:** *"The virtual museum visit had a positive effect on my aesthetic value. My awareness of aesthetic value has increased while looking at the artworks in the museum from different perspectives. While visiting the museum, I examined the works in terms of aesthetics, and in this case, I had the opportunity to get to know the field of art closely. Our understanding of aesthetic value gained diversity and meaning after the virtual museum visit, although our understanding of aesthetic value was flat before visiting the museum."*

4. Conclusion, Discussion and Recommendations

The results of the research conducted to determine the perceptions of pre-service social studies teachers about aesthetic values after their virtual museum visit are as follows: The research shows that pre-service social studies teachers associated aesthetic value mostly with pleasure, beauty, followed by feelings evoked by an artwork, appreciation, artwork, feelings evoked by an object , everything that is striking, the way of thinking to evaluate art and works of art, the trace that the work of art leaves on people, the bond between the work of art and the viewer, abstract perception, and lastly reinterpreting the artwork. According to Menninghaus et al. (2019), aesthetics is a subjective judgment process. In this process, the individual makes a subjective evaluation of the objects emotionally and cognitively. According to Brielmann & Dayan (2021), pleasure derived from an affective experience creates aesthetic values. In the research, a reflection of the museum was gathered through the expressions of pre-service social studies teachers regarding aesthetic values as a result of their virtual museum visit.

According to Goldman (2006), the value of artworks lies in experiencing them. This experience varies from person to person. Therefore, it is necessary to experience works of art. The research shows that pre-service social studies teachers associated their Pera virtual museum experience mostly with *its usability in lessons,* and *feeling as if they were there,* followed by *discovering the positive contributions of technology to art and museum visits, contribution to improve general knowledge, helping to access reliable information, creating a good awareness, seeing Osman Hamdi Bey's artworks closely, become more aware of the aesthetic value, to have an idea about the understanding of art of the period, getting to know Osman Hamdi Bey better, seeing the artworks in the virtual environment without going to the museum.* They associated their Pera virtual museum experience least with *interest and curiosity towards virtual museums, experience of the difference between looking and seeing, gaining different perspectives, information about the visuals of the main areas of Istanbul, contribution to the ability to interpret, gaining aesthetic value, information about ottoman architecture in the period of Osman Bey, evaluating the aesthetic elements of the past and comparing them with the present, a pleasurable aesthetic experience, an exciting experience, obtaining concrete information in the field of museums, 3d museum tour experience, helping to change aesthetic judgment, gaining a more sensitive perspective on the works, information about how foreign ambassadors were received in the Ottoman Empire, and sensitivity to cultural heritage.* According to Skamantzari & Georgopoulos (2016), virtual museums contribute positively to the enrichment of visitors' aesthetic sensibilities. When the views of pre-service teachers regarding their experience of Pera virtual museum visit are examined, we see that statements are generally about gaining aesthetic values. In this context, virtual museums can be used in the process of gaining an understanding of aesthetic values in general. Individuals gains certain qualities in the process of acquiring aesthetic values. This process can also be called aesthetic education in the education process. According to Denaç (2014), the individual gains qualifications in terms of understanding of beauty, developing a sense of proportion, creating and evaluating, developing positive relationships with nature and other people, with the help of aesthetic education.

The findings regarding the elements that attract the most attention of pre-service social studies teachers during their virtual museum visit are as follows: *"The Tortoise Trainer" painting, explanations and videos next to the artworks,* followed by *Osman Hamdi Bey's biography, artworks that very well reflect the period in which they were created, the ambiance of the museum, realism of artworks and sculptures, colors used, "Sultan Ahmet III Receiving a European Ambassador" painting By Jean-Baptiste Vanmour, perfect fit, flawless beauty, real museum tour feeling, portraits of people of different status and age, and colors used.* According to Skamantzari & Georgopoulos (2016), museums or virtual museums give specific messages to visitors. Therefore, the design and content of the museum is very important. In the research, the ambiance of the museum, the colors used, harmony, perfection, and beauty are among the factors that attract the attention of pre-service social studies teachers during their virtual museum visit, which may be in order to convey certain messages to the visitors of the virtual museum. The core of the messages to be conveyed aims to develop an aesthetic understanding in individuals.

The findings regarding the elements that attract the least attention during the virtual museum visit are as follows: being able to examine the artworks more easily by zooming , "Two Musician Girls" painting, "Mustafa Pasha Kulliye in Gebze" painting, the fact that the exhibition was made with care for all works of art, the fact that the artist cared about everything around him and valued art, the fact that most works of art are oil paintings on canvas, painting any event that took place in the palace, having paintings about music and entertainment, the

depiction of unique and beautiful landscapes of Istanbul, paintings of architectural monuments of France, paintings like they were shot with a camera, painting of the apostles, perfection of brush strokes, image quality of digital versions of artworks, perfect design, and impressiveness. Virtual museums present many advantages. One of the most important advantages of them is that they give visitors the chance to see sensitive, fragile and valuable artworks. Thanks to the advanced technology in virtual museums, visitors have the chance to see and interact with artworks (Charitos et al. 2001; Skamantzari & Georgopoulos, 2016). An example of the advantages of virtual museums is that the participants in the research had the chance to see and examine the artworks of Osman Hamdi Bey, an important artist, in the Pera museum. Despite the advantages of virtual museums, Schweibenz (2019) states that there are some discussions about virtual museums in the literature. One of them is the question of whether people will go to museums or not after the spread of virtual museums. Of course, criticism of new practices is inevitable. However, the fact that virtual museums have many advantages compared to museums is a sign that they should be used widely.

Young age groups need to receive a balanced and planned aesthetic education while entering the world of adulthood. Developing the ability of children and young people to enjoy art and to act according to the sense of proportion, beauty and harmony in their inner and outer lives is among the most important tasks of education systems (Denaç, 2014). Of course, teachers play an important role in the process of teaching aesthetics and values. Therefore, the perception and competence of pre-service teachers are important regarding aesthetic values in teacher education processes. The research shows that opinions of pre-service social studies teachers about the aesthetic values they gained through the virtual museum visit are as follows: mostly *beauty,* followed by *harmony, balance, delicacy, elegance, mystery, excellence, seriousness, majesty, aesthetic, perceiving change and continuity, observation, respect, sensitivity, understanding, preserving and sustaining cultural values, pleasure, happiness, tragedy,* the least *lugubre, enjoyment, appreciation, detail, perception of space, detecting time and chronology, realism,* and *positivity.* According to Porter (2012), aesthetics consists of elements such as sensitivity and pleasure. According to Mahgoub & Aldbesi (2016), art contributes to individuals in terms of order, integrity, curiosity, flexibility, justice, reality, thinking skills, dignity, benefit, cooperation and creativity. The research shows that these concepts show parallelism with the aesthetic concepts that pre-service teachers think they have acquired through virtual museum visits. In this context, elements such as pleasure, beauty, creativity, harmony, balance, elegance and perfection can be counted as aesthetic values.

The research shows that findings regarding the effects of pre-service social studies teachers' virtual museum visit on their perspectives on aesthetic values are as follows: They mostly stated *gaining a more positive attitude towards aesthetic values,* followed by *raising awareness, artworks should be evaluated from an aesthetic point of view, seeing the artworks in the museum from a multi-faceted perspective, understanding that artworks in museums are the world's heritage, gaining interest in painting, gaining awareness about understanding, protecting and owning artistic, historical and cultural values.* The least stated ones are as follows: *changing the perspective towards art thanks to the artworks in the museum, spending more time on artworks in museums, positive effect on gaining many aesthetic values, better understanding of the importance of museums, realizing that every teacher candidate must have aesthetic values, recognizing works of art in the living environment, understanding the necessity to push the limits of the imagination, understanding the necessity of providing children with the opportunity to learn by creating and experiencing aesthetic values, realizing its usability in educational processes, understanding the importance of color selection in paintings, gaining a diversified understanding of aesthetic values, recognizing deficiencies on*

the topic of aesthetic values, maturing the perspective on aesthetic values, gaining an ability to perceive artworks with a critical eye, understanding that art is a structure open to interaction, understanding that aesthetics is a highly subjective field of study, and *discovering the dedication in art.* When the views of the participants were evaluated in general, we see they stated that virtual museum visits had a positive effect on their perspectives on aesthetic values. It is no doubt that the pre-service teachers' providing their students with similar virtual museum experiences during their teaching processes will contribute positively to the students' understanding of aesthetic value. Acer & Ömeroğlu (2008) also made some suggestions for the development of children's aesthetic understanding. These suggestions include visiting art galleries and museums. In this direction, museums and virtual museums play an important role in the process of acquiring aesthetic values. It is important for teachers to use museums and virtual museums in the education process.

Some suggestions developed in line with the research results are as follows: Virtual museums contributing to the development of aesthetic values can be used more widely and diversified more. Thus, a positive contribution can be made to the development of individuals' understanding of aesthetic value. The study examines the perceptions of pre-service social studies teachers on aesthetic value. In future studies, the aesthetic value perceptions of social studies teachers and other branch teachers can be examined. Thus, if an inadequacy gets identified in the aesthetic value perceptions of teachers and pre-service teachers, more practice-oriented trainings for art and museum education can be introduced in the teacher education processes. The research investigates the use of virtual museums to develop aesthetic values in individuals. Future studies can investigate the usability of alternative methods and techniques for the development of aesthetic values.

4.1 Ethical Text

"In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The responsibility belongs to Tuğba Kafadar for any violations that may arise regarding the article. " Ethics committee approval within the scope of the research Erciyes University It has been taken from the ethıcs commıttee with the decision numbered 217 on 27.04.2021. There is no conflict of interest.

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