

EXAMINATION OF THE VIEWS OF FINE ARTS HIGH SCHOOL PAINTING DEPARTMENT STUDENTS ON THEIR SYNESTHETIC EXPERIENCES*

•Res. Asst. Ömür Göktepeliler **

•Prof. Şeniz Aksoy ***

ABSTRACT

The purpose of this study is to make sense and raise awareness of synesthetic experiences of high school art students, and to ensure that students discover and consciously use their creativity skills in artistic creation processes. The study adopts a qualitative approach and is based on the phenomenological design. The study group consists of 15 art students, aged between 15 and 18 and seven visual arts teachers. A participant identification form was given to 115 students to determine the study group. To obtain data, qualitative data collection methods including interviews, observation and document analysis were used. The data obtained in the study were analysed through content analysis. When the results of the study are evaluated, the synesthetic experiences of the students are experiences such as numbers having colors, seeing colors or shapes while listening to music, and associating words with certain tastes. However, a significant number of students were not aware that these experiences were a special case of synesthesia. Most of the participants thought that these experiences were not unique to them and that everyone perceived them similarly. This situation caused the students not to use their synesthetic experiences in their creative processes or academic lives before. Having learned about the concept of synesthesia during the research process, the students were able to better describe their experiences and expressed that they felt creative and different. The visual arts teachers stated that they had never heard of synesthesia and should have knowledge of the phenomenon.

Keywords: Synesthesia, Art education, Multisensory perception, Neuroscience, Creativity.

* This article was carried out using the data obtained from the master's thesis titled "Synesthetic Experiences Enhancing Creativity in Contemporary Art Education: A Phenomenological Study" conducted by the first author under the supervision of the second author.

** Bartın University, Faculty of Education, Department of Fine Arts Education, ogoktepeliler@bartin.edu.tr, ORCID: 0000-0002-7302-341X

*** Gazi University, Faculty of Education, Department of Fine Arts Education, seniz@gazi.edu.tr, ORCID: 0000-0001-5101-2691

GÜZEL SANATLAR LİSESİ RESİM BÖLÜMÜ ÖĞRENCİLERİNİN SİNESTEZİK DENEYİMLERİNE İLİŞKİN GÖRÜŞLERİNİN İNCELENMESİ*

•Arş. Gör. Ömür Göktepeliler**

•Prof. Şeniz Aksoy***

ÖZET

Bu çalışmada güzel sanatlar lisesi resim bölümü öğrencilerinin yaşadığı sinestezik deneyimleri anlamlandırmak, farkındalık sağlamak ve ortaya çıkararak öğrencinin sanat-sal üretim sürecindeki yaratıcılık becerilerini bilinçli bir şekilde gerçekleştirmesi hedeflenmektedir. Nitel yöntemin uygulandığı araştırma, fenomenoloji desenine dayanmaktadır. Araştırmanın çalışma grubunu 15-18 yaş grubu 15 resim öğrencisi ve yedi görsel sanatlar öğretmeni oluşturmaktadır. Çalışma grubunu belirlemek için 115 öğrenciye beş soruluk katılımcı belirleme formu verilmiştir. Verilerin elde edilmesinde görüşme, gözlem ve doküman incelemesi gibi nitel veri toplama tekniklerinden yararlanılmıştır. Araştırmada elde edilen veriler içerik analizi ile çözümlenmiştir. Araştırmanın sonuçları değerlendirildiğinde, öğrencilerin sinestezik deneyimleri sayıların renklere sahip olması, müzik dinlerken renk ya da şekil görme, kelimelerin belirli tatlarla ilişkilendirilmesi gibi deneyimlerdir. Ancak öğrencilerin önemli bir kısmı bu deneyimlerin sinesteziye ait özel bir durum olduğunun farkında değildir. Katılımcıların çoğu, bu deneyimlerin kendilerine özgü olmadığını ve herkesin benzer şekilde algıladığını düşünmüştür. Bu durum, öğrencilerin sinestezik deneyimlerini daha önce yaratıcı süreçlerinde ya da akademik yaşamlarında kullanmalarına neden olmuştur. Araştırma sürecinde sinestezi kavramını öğrenen öğrenciler, sahip oldukları deneyimleri daha iyi tanımlayabilmiş; kendilerini yaratıcı ve farklı hissettiklerini ifade etmişlerdir. Bununla birlikte, görsel sanatlar öğretmenlerinin sinesteziyi daha önce duymadıkları, sinestezi hakkında ise bilgi sahibi olunması gerektiğini ifade etmişlerdir.

Anahtar Kelimeler: Sinestezi, Sanat eğitimi, Çoklu duyuşsal algılama, Nörobilim, Yaratıcılık.

* Çağdaş Sanat Eğitiminde Yaratıcılığı Artıran Sinestezik Deneyimler: Bir Fenomenoloji Araştırması" adlı yüksek lisans tezinden elde edilen veriler kullanılarak hazırlanmıştır.

** Bartın Üniversitesi, Eğitim Fakültesi, Güzel Sanatlar Eğitimi Bölümü, Resim-İş Eğitimi Anabilim Dalı, ogoktepeliler@bartin.edu.tr, ORCID: 0000-0002-7302-341X

*** Gazi Üniversitesi, Eğitim Fakültesi, Güzel Sanatlar Eğitimi Bölümü, Resim-İş Eğitimi Anabilim Dalı, seniz@gazi.edu.tr, ORCID: 0000-0001-5101-2691

INTRODUCTION

Synesthesia is an involuntary experience, in which stimulation of one sensory modality elicits additional atypical sensory experiences in the same or another modality. In one of the most common forms, the visualization of numbers or letters (graphemes) occasions a certain color perception (Cytowic & Eagleman, 2009; Baron-Cohen et al., 1996). Synesthesia is a biological phenomenon encountered in one out of every 23 people in the population. Contrary to some criticisms considering synesthesia as a disease, it is not a disorder or a condition that requires treatment. In addition, it has been discovered in studies that synesthesia can be genetic in families (Baron-Cohen et al., 1996; Ward & Simner, 2005; Cytowic & Eagleman, 2009). Nonetheless, many artists create their artistic works inspired by their own synesthetic experiences (Ward, 2009). More than eighty types of synesthesia have been identified in experimental studies (Day, 2016). Some of these are grapheme-color synesthesia, colored time units synesthesia, auditory-visual synesthesia, ordinal-linguistic personification, taste-shape synesthesia, mirror touch synesthesia, and spatial-sequence synesthesia (Fig. 1).

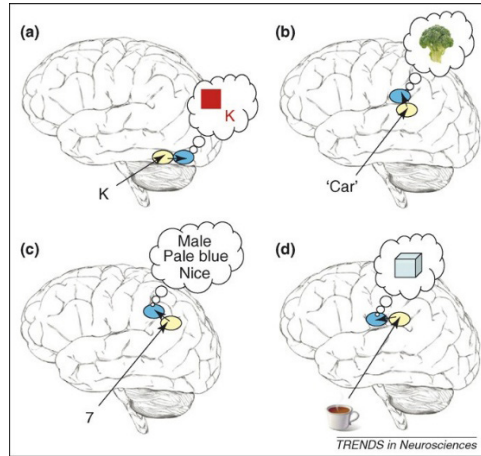


Figure 1. Examples of types of synesthesia. Some common types of synesthesia are represented here. All contain an abnormal cross-activation from an inducer (yellow) to a concurrent area (blue). The locations of these areas for grapheme-color synesthesia (a) were identified using fMRI. The others illustrate the locations of areas that might be reasonably involved in lexical-gustatory (b), ordinal linguistic personification (c), and taste-shape (d) synesthesia (Bargary & Mitchell, 2008).

2. SYNESTHESIA-ART RELATIONSHIP

Regardless of its origin, the phenomenon of synesthesia has extraordinary connections with the field of art. An artist with synesthesia not only views the world from a different perspective but also see their artworks in ways that other people cannot see. In addition to the complex structural integrity it creates, synesthesia also has a certain emotional load that enhances the aesthetic response between the artwork and the audience. In this way, synesthesia contributes to the existence of artistic image as a representation of art (Kuby, 2013; Dmytrenko, 2017). The findings and the claims of the researchers in relevant studies indicate the existence of synesthesia in all disciplines of art (Yunosova et al., 2020).

In the context of the type of auditory-visual synesthesia, in light of the theories developed by Kandinsky, the symphonic atmosphere and composition created by his paintings can also be listened to as a musical piece. Kandinsky (1982) stated, “The violins, the deep tones of the basses, and especially the wind instruments at that time embodied for me all the power of that pre-nocturnal hour. I saw all my colors in my mind; they stood before my eyes. Wild, almost crazy lines were sketched in front of me.” Moreover, “The Exploding Plastic Inevitable”, which was organized by Andy Warhol in 1966 and 1967 and contributed to the multisensory experience, can be considered as one of the first nightclub performances today (Dekker, 2003). The British artist David Hockney is also cited among artists with auditory-visual synesthesia (Clyne, 2019).

Synesthesia and the term musical painting in the literature of the art field within it show that the two fields influence each other in an interdisciplinary way and are intertwined. Representatives of modern and contemporary artists in the history of art see music as a model for innovative painting. In particular, Mikalojus Ciurlionis names his artistic productions with titles such as “Sonata of the Stars” and “Sonata of the Sun”. In this respect, auditory-visual synaesthetic artists such as Ciurlionis integrate the colors transferred on the surface in harmony with the rhythm and harmony of music. In this way, in addition to the harmony of colors with each other, they also turn into colorful music as well as being color in their own essence (Yunosova et al., 2020).

However, Burrows (2012) states that the futurist art movement tried to explore the multisensory elements of perception with different approaches and that synesthetic effects can be clearly seen in their works. As an example, the famous futurist artists Umberto Boccioni, Giacomo Balla, Luigi Russolo, Gino Severini and Carlo Carrà's 1913 work “La Pittura dei Suoni, Rumori, Odori” on synesthetic correspondence in futurist painting can be shown. The work contains clues about synesthesia with the combination of different senses, sounds and odors.

Contemporary photographer Marcia Smilack is also among the synesthetic artists. In Smilack's artistic works surrounded by aesthetic concerns, there is a conscious synesthetic orientation. The works of Smilack, who directs her synesthetic abilities to use her creative skills, are instructive in this respect. Utilizing auditory-visual synesthesia, the artist's works give the viewer the feeling of vibration of sound waves (Clyne, 2019).

Another artist, Joan Mitchell, is an American abstract expressionist painter with a high emotional intensity. The transfer of graphemes, phonemes, words, musical sounds, emotions and personalities into visual (color) form implies a synesthetic approach in her artistic practice (Albers, 2011). However, there are synesthetic artists not only in painting but also in other disciplines of art. Orhan Pamuk, who has the grapheme-color synesthesia type (Day, 2016) and Paul McCartney, who has colored time units synesthesia (McCartney, 2022).

Modern multimedia and computer graphics provide a multisensory experience by combining all elements in a single image (Mankovskaya, 2019; O'Neill, 2019; Rolling & Teel, 2022). However, virtual reality systems shape both mental and physical experiences by using VR hardware and artificial stimuli to enable users to interact with the virtual environment. These systems create a realistic perception through artificial stimuli for various senses such as sight, hearing, touch, smell and taste (Güner, 2024). Chen (2021) states that new interactive media art is advanced synesthesia. According to Anadol (2020), a media artist and director who creates artworks using mechanical intelligence and digital technologies, architecture also makes close contact with media arts due to technological advancements.

3. SYNESTHESIA AND ART EDUCATION

Gudova et al. (2016) emphasize the need for students and artists who have the ability to create synesthetic art, or who can be integrated into the contemporary art world that provides an environment where they can express their experiences. They argue that this is only possible with a new model of artistic vision in the art education system. People with synesthesia are mostly engaged in activities and professions that typically prioritizes creativity, such as artists, sculptors, musicians, composers, writers, etc. (Rich et al., 2005; Van Campen, 2008; Ward et al., 2008; Rothen & Meier, 2010). By combining different stuff, synesthesia promotes an interdisciplinary and intersubjective approach in artworks based on students' creative skills. Findings obtained from scientific research indicate that synesthesia may be more common in art students and that students with synesthesia can be considered more creative (Domino, 1989; Mulvenna et al., 2004; Ward

et al., 2008). Consequently, the assumptions made are based on scientific evidence.

Xian and You (2019) note that synesthesia can improve students' artistic thinking, skills and abilities independently. Synesthesia also effectively enhances students' cognitive skills throughout their development. However, the role of the art educator is important. At this point, not only art educators but also parents should visit art exhibitions and museums with their children and participate in activities related to different fields of art in order to get to know their children and their experiences. In addition, Rakhmanova (2017) states that understanding the basic conceptual foundations of art education and the psychological characteristics of art students with unique sensory modalities enables the development of synesthesia as a method. (Cunliffe, 1994; Melini, 2021) proposes that the synesthetic approach can be an alternative in the thinking phase of the design process in art education.

In the literature review, there are important studies in the international literature on the relationship between synesthesia and art education (Gudova et al., 2016; Clyne, 2019; Xian & You, 2019; Sola Chagas Lima, 2020). These studies draw attention to the artistic relationship of synaesthesia and its impact in educational settings. At the national level, there are a limited number of studies on the subject (Yağmur, 2018; Şimşek et al., 2022; Yorulmaz, 2025). However, these studies generally deal with synesthesia in the dimension of individual experience, and examples of educational applications are quite limited. In this context, this study, which examines synesthesia experiences in the field of art education in Türkiye, is important both in terms of filling the gap in the literature and offering new perspectives on art education.

4. RESEARCH QUESTIONS

This study addresses the following research questions:

1. How do students who are likely to be synesthetes make sense of their synesthetic experiences?
2. How do visual arts teachers make sense of the phenomenon of synesthesia?
3. How do students who are likely to be synesthetes make sense of their creativity skills in artistic creation processes?
4. What do students who are likely to be synesthetes think about their awareness of synesthetic experiences?

5. METHOD

5.1. Research Design

This study was conducted through qualitative research methods, and phenomenology was used as the research design. Phenomenology underlines that individuals' consciousness and experiences that they cannot make sense of have an important role (Moustakas, 1994; Creswell, 2009; Creswell, 2013; Patton, 2014). According to Sola Chagas Lima (2020), the inclusion of phenomenology in most contemporary disciplines today, such as art education, offers the opportunity to explore the phenomenon of synesthesia in education more closely as a perceptual form. Moreover, evaluating a phenomenon based on individual differences such as synaesthesia from the perspective of the participants is only possible with a qualitative design focusing on their experiences. In this context, thanks to the phenomenological approach, both the levels of awareness of synesthesia and the impact of these experiences on artistic creativity could be analyzed.

5.2. Study Group

The study group consisted of 15 art students aged between 15-18 and seven visual arts teachers from a fine arts high school. The students included 12 females and three males, one of whom was a special student. There were three students from 12th grade, eight from 11th grade, two from tenth grade, and two from ninth grade. Three students had grapheme-color synesthesia, three had colored time units synesthesia, two had auditory-visual synesthesia, and ten students had ordinal-linguistic personification synesthesia. Besides, two students were likely to have shape-color synesthesia, and four students had multiple synesthesia.

5.3. Data Collection and Data Collection Tools

Qualitative data are obtained by receiving opinions of participants, observing their behaviors and performing document analysis (Merriam & Tisdell, 2015). Accordingly, the data collection techniques including semi-structured interview (SI), observation (O) and document analysis (DA) were used in the study. One semi-structured interview was held with each student and teacher. First, a participant selection form (PSF), which was developed purposively with the help of three different experts and consisted of five open-ended questions, was administered to 115 students to determine the study group. The students had no knowledge of synesthesia when they were delivered the form. Therefore, the concept of synesthesia was introduced to the students and teachers with a presentation (Fig. 2). Upon collection of the forms, the answers were evaluated and interpreted and 15 students who had relevant experiences were identified.

The data collection process took place during the fall semester of 2021-2022. Interviews were conducted individually and each interview lasted approximately 15 minutes.

Observations were made during the students' drawing lesson activities and reflected on the observation forms by the researcher. Participants were given code names in accordance with ethical principles. In this context, the participants were named as S1, S2, S3, ... S10. These codes were associated with direct quotations in the findings section.



Figure 2. Photos from the presentation and observation (Photographed by the author / From the author's personal archive).

5.4. Data Analysis

In the analysis of the qualitative data obtained within the scope of the study, the content analysis approach was used as it was considered compatible with the phenomenological design. The data analysis included the semi-structured interviews (SI) recorded with a voice recorder, document analysis (DA) (diaries, artworks, and documents to be requested) and the observation (O) notes taken in the workshop environment. After being transcribed, the dataset was analyzed by the researcher. In order to ensure reliability, a field expert reanalyzed the dataset while creating the codes and themes. Peer evaluation was also performed. In the second stage, codes were created by grouping similar statements together, and then these codes were grouped under themes. In coding, attention was paid to both direct quotations and repetitive statements. In the coding process, open coding method was adopted and the codes obtained were transformed into themes with an inductive approach. For consistency between the codes, Miles and Huberman's (1994) formula $[(\text{Reliability} = \text{agreement} / (\text{agreement} + \text{disagreement}) \times 100)]$ was used. It is suggested that the result for reliability should be at least 80 percent (Miles & Huberman 1994), and the reliability coefficient was estimated as 83 percent for the present study.

6. FINDINGS

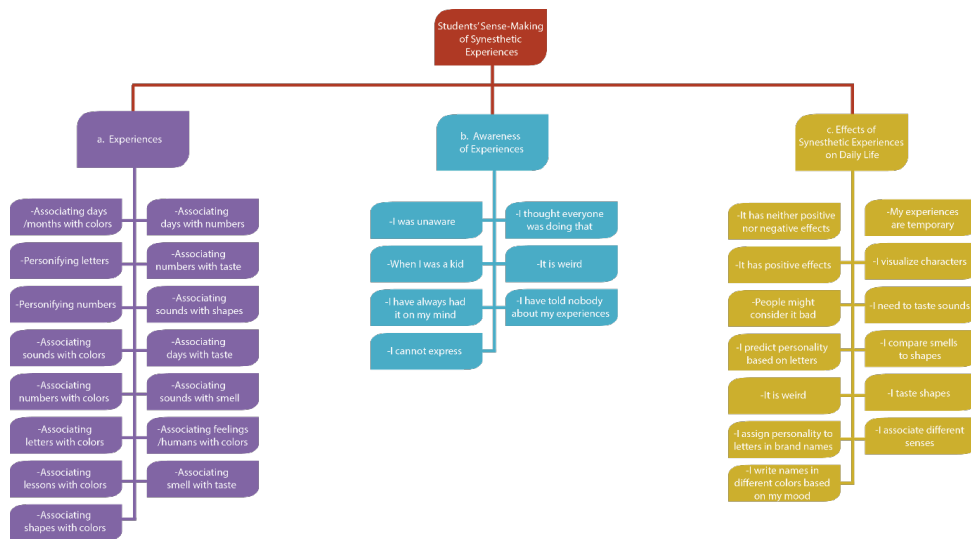
The findings of the study were interpreted by combining semi-structured interview (SI),

observation (O) and document analysis (DA) data. The findings were presented under themes and each theme was supported by direct quotations from the relevant data sources. Participants were coded as S1, S2, S3 ...

This section presents the data obtained in the study, and the findings and interpretations regarding the four subproblems.

Findings Regarding How Students Likely to Be Synesthetes Make Sense of Synesthetic Experiences

Table1. Themes-Categories-Codes for Students' Sense-Making of Synesthetic Experiences



It is observed in Table 1 that the students' answers were examined under three categories as "experiences, awareness of experiences, and effects of synesthetic experiences on daily life". The questions addressed included "You have learned that your experiences are related to synesthesia. In this context, what kind of synesthetic experiences do you have (seeing colored letters, smelling music, etc.)?", "When was the first time you noticed experiencing numbers, letters and words with colors, sounds, smells or tastes? Can you elaborate?" and "On a daily basis, how do you think your synesthetic experiences affect your life (negatively and positively)?".

The majority of the participants described their experiences as "associating days/months with colors". For example, to the question of "You have learned that your experiences are related to synesthesia. In this context, what kind of synesthetic experiences do you have (seeing colored letters, smelling music, etc.)?", S4 answered as follows: "It is mostly

related to sound and personification. Considering sounds, very precise colors appeared directly in my mind. For instance, if I were talking about eight as a person, I would say he is dominant or well-built. For example, Persembe (Thursday) is absolutely green. Maybe it is because of the letter P, or I think the letter S then R might also be green. And as I wrote in the paper, the triangle is certainly red” (SI).

When the artworks of S4 are examined, an intense psychological depression and anxiety experiences are observed together with synesthesia (Fig. 3).



Figure 3. An artworks by S4 (Photographed by the author / From the author's personal archive).

Stating, “At the time I created this artwork, I hated painting. In the tenth grade, I began to lose enthusiasm for all my interests. One day when I was feeling very bad, I remembered having a blank canvas, sat down on a whim, and did this without even mixing the paints.”, S4 explained depicting their concerns unconsciously in the artwork (SI, DA).

The observation data for S4 were also important to understand the depression that they experienced. “Since S4 does not want their real name to be used, they have a nickname at school. The impression is that they always work alone in the workshop. S4 seems introverted and shy, yet when you start talking to them, you realize that it is not like that. They believe that their friends do not understand them” (O).

Similarly, S11 responded, “Thursday reminds me a lot of 7x7. 7x7 being 49 is pretty much the same as Thursday. For example, I also think that numbers have colors, and so do courses. I think, except for four and six, no number is female. All the others look like males to me. For example, 15 is a hunk, and seven is a nerd with glasses. For me, songs have smells,

and when I visualize that song and when someone sings it, I associate it with smells. How I feel about people also has a color, for example, my friends have certain colors” (SI).

S5 *“I associate days of the week or numbers and letters with colors. For example, Thursday is brown, Tuesday is yellow, Monday is more like cyan blue” (SI).*

S10 *“I heard the piano coming from upstairs at the right time. I listened for a while and then I thought that it was green.” (SI).*

S15 *“I see Wednesday in yellow. Saturday and Sunday are more like numbers between ten and 20, not colors. And Thursday looks like seven” (SI).*

S7 *“For me, letters or numbers, all have a personality and an attitude. For example, I think that A would go behind back, but B seems like a merry character” (SI).*

S1 *“For example, the letter B is a bit softer and a little fat, and I see it as a man. Ü is feminine, ü and u are like sisters, and sister ü is a bit tougher and sister u is a bit kinder in personality. Friday is sweet and soft, and when I see Friday, I always think of yellow for some reason. Thursday seems pink, when I see Thursday, it reminds me of the color pink. Wednesdays are emerald green, yes between turquoise and green” (SI).*

Most of the participants specified that “they were unaware” when they were asked about their experiences. For example, to the question of “When was the first time you noticed experiencing numbers, letters and words with colors, sounds, smells or tastes? Can you elaborate?”, S1 answered, *“In kindergarten and primary school, the teachers were writing on the board. When they wrote on the board, I always assigned them personality” (SI).*

S6 *“First of all, I have been very interested in music since I was a kid, and I cannot say I noticed, yet I listened to something, and it was not a circle, transparent shapes were appearing in my mind. I put these into my paintings when I was little. While listening to a song, I tried to depict what it made me feel, but it never occurred to me that it could be something unusual. I thought that everyone had it or I somehow made it up in my mind” (SI).*

Considering the effects of synesthetic experiences on daily life, most of the participants stated that their experiences “had neither positive nor negative effects” on their life. For example, while answering the question of “On a daily basis, how do you think your synesthetic experiences affect your life (negatively and positively)?”, S3 referred to how society considered synesthesia, and its positive relationship with creativity and stated, *“I think it has positive effects because it makes you creative. But because of people who lack understanding, it can directly be considered as something bad” (SI).*

S1 explained how they made use of their experiences in their artworks stating, *“For*

example, if I wish, I can create characters from letters or numbers, like a cartoon character. I can add the personalities I assign to the letters to my characters” (S1).

The data obtained by observing S1 in the process were also important. “S1 is a special student and is usually quiet. Despite having a group of friends, S1 spends time alone at their own desk, and rarely participate in conversations. Towards teachers, they have a shy but sincere attitude” (O).

S6 *“I mean, as I said, it has positive effects because I think it can really make a person progress in art, that is you can also reflect yourself in the painting, and you can also use it in music, you know, while memorizing notes and so on” (S1).*

S12 *“So, as I said, the negative aspect is that when I smell something, it turns into a taste and the taste stays in my mouth, for example, there is something that I have been doing since I was a kid. I hate the smell of wet wipes because it becomes a taste for me, and I have never been able to touch the wet wipes since my childhood. When you smell, it tastes so disgusting that I hate it” (S1).*

When the artworks of S12 are examined, it can be observed that the linear effects in the drawings vary based on their emotional state (Fig. 4).



Figure 4. An artwork by S12 (Photographed by the author / From the author's personal archive).

S12 expressed that they reflected their own physical and emotional experiences in their drawings stating, *“Now, in this first drawing, I had something like a panic attack and in my daily life, I was having a heartache all the time, my heart was skipping beats, I was getting short of breath. Then, when the pandemic started, I was extremely overwhelmed, and my*

heart ached all the time. For example, when I drew this, my heart was skipping a beat and I was short of breath, I could not breathe, so I scribbled like this” (S1, DA).

S13 “The negative aspects are, specifically as I said, how can a person get hungry when they see the letter S? How can they get hungry upon seeing a color? I see it and suddenly something happens in my stomach. Smell, especially smell is something very interesting. I can both materialize and taste it. Strangely, I know the taste of this chair” (S1, DA).

It is observed in the artworks and diaries that S13 made use of their own thoughts and experiences (Fig. 5).



Figure 5. A page from the diary of S13 (Photographed by the author / From the author's personal archive).

Findings Regarding How Visual Arts Teachers Make Sense of Synesthesia

Table2. Themes-Categories-Codes Regarding Teachers' Sense-Making of Synesthesia



It is observed in Table 2 that the visual arts teachers' answers were examined under three subthemes as “level of knowledge, opinions and relationship of synesthesia with art”. The questions addressed included “What comes to your mind when the subject is

synesthesia? What does this concept mean to you? Have you ever heard of it?”, “Do you think a visual arts teacher should know about the phenomenon of synesthesia? Why?”, and “How do you consider the relationship between synesthesia and artistic creativity?”.

The majority of the participants expressed their level of knowledge regarding synesthesia stating, “I have never heard of it”. For example, T5 stated, “*Yes, I have never heard of synesthesia, but I have read and heard about this kind of artists with very special approaches in some exhibitions*” (SI). Most of the participants indicated their opinions on synesthesia stating, “it needs to be known”. For example, to the question of “Do you think a visual arts teacher should know about the phenomenon of synesthesia? Why?”, T7 answered, “*They should. I think these kids are really creative individuals. Everyone providing art education should know about this in order to make these students more valuable and to help them make their way*” (SI).

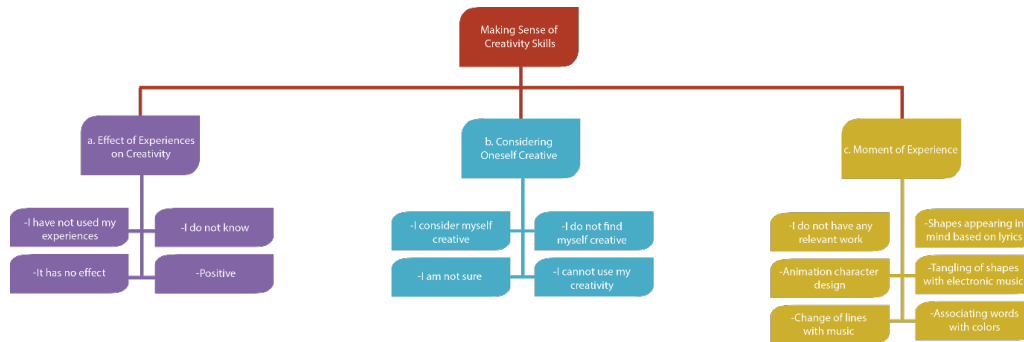
T2 noted that they would adopt different approaches towards students during their art education after becoming aware of synesthesia, stating, “*They should because I have learned the concept of synesthesia, and now I will see the student from a different perspective. This awareness, I have never thought about synesthesia like this before*” (SI).

T6 proposed different suggestions to identify students likely to be synesthetes, stating, “*Absolutely. In fact, it should be much earlier, I mean, its effect on the child, its reflection on their lessons, on their characteristics, personality, all is a whole. I think these students should be identified and reported to us in workshop classes*” (SI).

Considering how synesthesia was related to art, most of the participants expressed their opinions with the statements, “in terms of senses” and “it is directly related to art”. For example, as an answer to the question of “*How do you consider the relationship between synesthesia and artistic creativity?*”, T6 addressed the relationship of synesthesia with art in the context of creativity and authenticity, and stated, “*Actually, it is directly related, not only with art, I mean, if this kid has this quality, they can be good in many fields. They may be good in any field where they will use this, but it is especially effective in art. If one has such a quality, they will double their creativity. They will create different works. They will be authentic. I am sure that many artists have this*” (SI).

Findings Regarding How Students Likely to Be Synesthetes Make Sense of Their Creativity Skills in Artistic Creation Processes

Table3. Themes-Categories-Codes Regarding Students' Sense-Making of Creativity Skills



It is observed in Table 3 that the students' answers were examined under three subthemes as "effect of experiences on creativity, considering oneself creative, and moment of experience". The question addressed was "How do your experiences affect your creativity skills in the artistic creation process? Do you consider yourself more creative? In addition, if you have any artworks that you have created at the moment of synesthetic experience, can you give an example?"

The majority of the participants expressed the effect of their experiences on creativity stating, "I have not used my experiences". For example, as an answer to the question of "How do your experiences affect your creativity skills in the artistic creation process? Do you consider yourself more creative? In addition, if you have any artworks that you have created at the moment of synesthetic experience, can you give an example?", S4 indicated that they had not noticed the experiences before and thus not tried using them, stating, "I have never tried doing something about it, for example, I can actually characterize some things more easily when it comes to animation" (S1).

Regarding the participants' opinions on being creative, the majority stated, "I consider myself creative". For example, to the question of "How do your experiences affect your creativity skills in the artistic creation process? Do you consider yourself more creative? In addition, if you have any artworks that you have created at the moment of synesthetic experience, can you give an example?", S8 replied, "Now I am an art student. In this respect, I think it is very good because, you know, you do not see many things in the literal sense, if it is a pen, you do not see it as a pen. I definitely consider myself creative" (S1).

Considering the moment of experience, most of the participants stated, "I do not have any relevant work". For example, as a reply to the question of "How do your experiences affect your creativity skills in the artistic creation process? Do you consider yourself more creative? In addition, if you have any artworks that you have created at the moment of synesthetic experience, can you give an example?", S12 noted that they had no relevant

work, but if any, it was created unintentionally, stating, “I do not know. I have created no artwork in this respect, yet if I had, it would have been unintentional. In my family environment, yes, I am typically known as crazy because I think I am not like them. Most people do not understand” (S1).

S5 “I mean, I can say that in the imaginary drawing class, for example, when they assign a topic, there may be colors that I associate with the words and things they say” (S1).S5’s concerns about using the colors they experienced in their digital paintings can be observed in their artworks (Fig. 6).

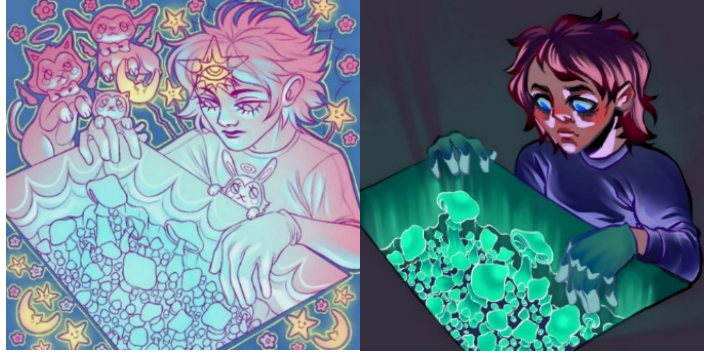


Figure 6. Artworks by S5 (Photographed by the author / From the author’s personal archive).

S6 specified that they depicted the experiences they had while listening to music, stating, “While listening to electronic music, it is so complex, it goes off and then down, I mean, the shapes there were very entangled, I painted them together with the colors” (S1, DA).When the artworks of S6 are examined, their synesthetic experiences while listening to electronic music can be observed (Fig. 7).

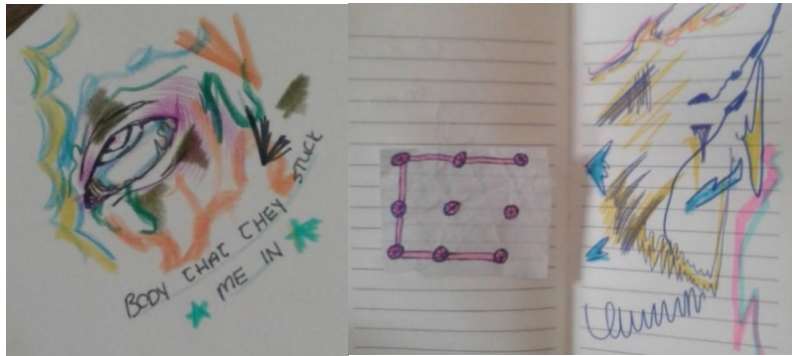


Figure 7. An artworks from the diary of S6 (Photographed by the author / From the author’s personal archive).

S6 expressed their synesthetic experiences stating, “This is a painting I made when I was a

kid. In fact, it is not much of a painting, I mean, they can be considered as the reflections of my synesthesia triggers in my diary. I do not remember exactly what music I was listening to here, but it must have been electronic and pretty complex. Also here, subtle sounds or distinctive sounds, for example, are evident in the background. For example, I expressed that scratchy sound in the background with curved lines. More dominant sounds are yellow and in contrast colors. I mean, I tried to depict electronic music and those complex sounds a bit more clearly. I tried to highlight each sound with my lines. That is, I tried to draw the shape of each sound. Here I wanted to reflect the shapes of the sounds in general.”

S6 explained the effect of their synesthetic experiences on the colors used in another work, stating, “I realized that the shapes I saw here due to synesthesia were very vague in the song, and I find uncertain shapes very irritating, I like it when they seem obvious. I depicted this vagueness indistinctly like this and used an eye to show that it irritated me. The intermittent sounds here are mostly light yellow or orange like this, green and blue are usually among these colors, but I wanted to reflect that they irritated me because they were so subtle and vague.”

Findings Regarding the Awareness of Synesthetic Experiences of Students Likely to Be Synesthetes

Table4. Themes-Categories-Codes Regarding Students' Awareness of Synesthetic Experiences



It is observed in Table 4 that the students' answers were examined under four categories including "feelings at the time of finding out, had it been known before, effect of awareness on life, and considering oneself creative after acquiring awareness". The questions addressed were "How did you feel when you found out about the possibility of being a synesthete?", "Would you have had a different life if you had previously known about being a synesthete? (For example, what could have been different?)", "What effect did this awareness have on your life?", "Do you consider yourself more creative in artistic creation process after learning that you are likely to be a synesthete?"

The participants expressed their feelings when they learned about synesthesia, stating, "*I felt I was different*" (S1, DA). For example, to the question of "How did you feel when you found out about the possibility of being a synesthete?", S2 replied, "*When I learned that I might be a synesthete, I did not feel different. I had such experiences before, you know, yet I could not relate them to anything. I thought that was the explanation*" (S1).

S7 also indicated feeling different and learning that synesthesia was not an illness, stating, "*I felt different, you know, and when I learned that synesthesia is not a disease but a superhuman thing, of course, it strokes your ego*" (S1).

S6 "*Actually, I always had the shapes of these sounds in my head, but I could not make sense of them. You know, I thought that everyone experienced it, or it was something quite normal, for example, it seemed to me like subconscious, I mean, an extra from childhood because I had it when I was a kid, I just acquired awareness that such a thing existed*" (S1).

Considering the subtheme of "had it been known before", most of the participants stated, "it would not have affected my life". For example, to the question of "Would you have had a different life if you had previously known about being a synesthete? (For example, what could have been different?)", S10 thought that they would have had a different life and replied, "*I would definitely have*" (S1). They also stated that if the possibility of synesthesia had been discovered before, it might have affected family guidance and school selection.

The participants stated that acquiring awareness of synesthesia "had no effect on their lives". For example, as an answer to the question of "What effect did this awareness have on your life?", S2 indicated that their experiences had a reason and that they would be aware of the reason now, stating, "*When I have this kind of experiences, at least I will know the reason*" (S1).

Regarding whether the participants considered themselves creative in artistic creation after acquiring awareness, the majority replied, "Yes, I consider myself creative". For example, to the question of "Do you consider yourself more creative in artistic creation process after learning that you are likely to be a synesthete?", S10 replied, "*Yes because I*

learned to identify colors according to my emotions” (SI).

S6 expressed that they were creative and that their experiences were less likely to resemble anything, stating, *“Yes because, after all, the shape of a sound I hear, it is something that only I have, it is something that appears in my mind, it is very unlikely to resemble something” (SI).*

CONCLUSION

In this study, the students mentioned the synesthetic experiences that they could not make sense of, whereas the visual arts teachers cited how they interpreted the phenomenon of synesthesia. Based on the students’ statements regarding their general experiences, it was revealed in the research process that their experiences varied, they usually associated days/months with colors, they were not aware of their experiences before, their experiences did not have any positive or negative effects on their daily lives, they did not make use of their experiences before since they were unaware of them, they did not have any artworks that they created at the moment of experience, they felt different after learning about synesthesia, awareness of synesthesia had no effect on their lives and neither would it have in the future, and they considered themselves creative after becoming aware of their experiences. In particular, some students discovered that their experiences, which they had previously characterized as “strange”, were actually a source that nourished their creative potential, which positively affected their self-confidence and their relationship with art.

It was also identified that there was confusion about the students’ recognition of their experiences. One of the reasons for students’ answers might be lacking awareness of synesthesia and of the advantages that synesthesia had for the individual. The basis of this confusion lies in the fact that the concept of synaesthesia has not been sufficiently introduced to students in both scientific and artistic contexts. Therefore, students’ ability to recognize, make sense of and integrate their experiences into their artistic processes can be further enhanced by systematically incorporating such sensory awareness into educational environments. The role of arts education is once again important here. An enhanced art education environment is necessary for a positive development. Workshops and classroom environments should be organized for students who are likely to be synesthetes to make sense of their experiences, and art activities should be planned and conducted by art teachers so that students can make use of their experiences. Programs can be organized to inform parent-teacher associations and school counsellors. The Counselling and Research Center (RAM) can inform art teachers about students who

are likely to be synesthetes, and art teachers can design lesson plans for these students.

On the other hand, the fact that most of the teachers have never heard of synesthesia before might appear as an inadequacy regarding the senses in art education. As a result, it is observed that visual arts teachers had an insufficient level of knowledge regarding synesthesia. When they learned about the phenomenon, they pointed out that it was necessary to have knowledge of synesthesia. Teachers also considered synesthesia as directly related to art and stated that a visual arts teacher should definitely know about the concept. The fact that they associated synesthesia with education and creativity indicates an increase in their awareness of the subject, which illustrates that teachers became aware of the importance of synesthesia in art education. It is also observed that the teachers acquired a positive perspective towards synesthesia and supported the subject. This situation enabled the teacher to take on the role of a guide trying to understand the inner world of the student, rather than just a transmitter of information, and paved the way for individualized and student-centered teaching approaches. Moreover, it was found that teachers who observed the relationship between synesthetic experiences and artistic potential became more open to recognizing such sensory awareness in the future.

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