ISSN: 2717-8870

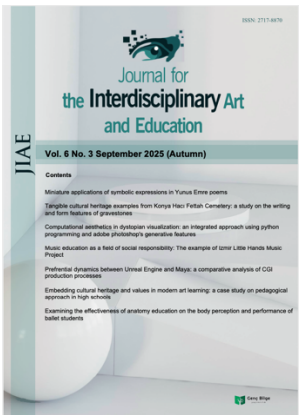
Journal for the Interdisciplinary Art and Education

JIAE

Vol. 6 No. 3 September 2025 (Autumn)

Contents

Genç Bilge yayıncılık



Journal for the Interdisciplinary Art and Education
e-ISSN: 2717-8870

Interdisciplinary
ART & EDUCATION

Vol. 6 No. 3 September 2025 (Autumn)

Indexing & Abstracting
ASOS, EBSCO Education Source, EBSCO Art Index, GoogleScholar, Index Copernicus, Türk Education Index, Current Index to Journals in Education: CIJE-WorldCat

Genç Bilge (Young Wise) Publishing
Adress: Bahçelievler District 3015 St. No:9/1, Isparta, Turkiye
Web site: http://gencbilgeyayincilik.com/ E-mail: info@gencbilgeyayincilik.com

Form the Editorial

Dear Readers, Authors, and Colleagues,

As we introduce the second issue of 2025, we are pleased to present the latest volume of the *Journal for the Interdisciplinary Art and Education (JIAE)*. Our journal continues to serve as a platform for interdisciplinary discussions on art and art education, bringing together innovative methodologies, critical reviews, and experimental approaches to understanding art's evolving role in education and society.

The **September 2025 (Autumn) issue** features a diverse selection of articles covering contemporary and interdisciplinary topics, including:

Miniature applications of symbolic expressions in Yunus Emre poems
Ersan Perçem

Tangible cultural heritage examples from Konya Hacı Fettah Cemetery: a study on the writing and form features of gravestones
Hatice Unlersen

Computational aesthetics in dystopian visualization: an integrated approach using python programming and adobe photoshop's generative features
Ozan Bebek, Kevser Kübra Kırboğa, and Mehmet Coşar

Music education as a field of social responsibility: The example of Izmir Little Hands Music Project
Gülce Yanmaz Düztaban and Levent Ergun

Prefrential dynamics between Unreal Engine and Maya: a comparative analysis of CGI production processes
Murat Firat and Mehmet Emin Kahraman

Embedding cultural heritage and values in modern art learning: a case study on pedagogical approach in high schools
Rida Safuan Selian and Samsuri Suri

Examining the effectiveness of anatomy education on the body perception and performance of ballet students
Ayşe Gül Kabakcı and Seda Ayvazoğlu

These articles contribute valuable perspectives to interdisciplinary art studies, blending theoretical insights with practical applications.

We extend an open invitation to researchers, artists, and academics to submit their work to JIAE for upcoming issues. Your contributions help advance interdisciplinary discussions in the fields of art and art education. Additionally, we are actively seeking scholars to join our *Editorial Board*, bringing their expertise to our peer-review process and strengthening the academic integrity of our journal.

We express our deepest gratitude to our authors, reviewers, and readers for their ongoing support. We hope that this issue stimulates new conversations and research directions in interdisciplinary art and education.

Warm regards
JIAE Editorial

Journal for the Interdisciplinary Art and Education, 6(3), 175-194, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd. (Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Miniature applications of symbolic expressions in Yunus Emre poems

Ersan Perçem[1]

Selçuk University Faculty of Fine Arts, Department of Traditional Turkish Arts, Main Art Branch of Illumination (Tezhip), Konya, Türkiye

Article Info

Received: 6 November 2024
Accepted: 16 June 2025
Available online: 30 Sept 2025

Keywords
Depiction
Icon
Miniature
Poetry
Symbol
Yunus Emre

Abstract

Since the dawn of humanity, human beings have resorted to various means to communicate their thoughts and express themselves. Among these means, the use of form, color, and composition in narration has played a significant role throughout history. This form of expression brings us to the concept of symbols. A symbol is an expression that transforms shapes which cannot be perceived through emotions into tangible, concrete forms. Writings, which are an integral part of daily life, are a whole of symbols. They consist of various signs and their meanings. Just as the emotions in a poem are made concrete through the use of letter and word symbols, these emotions can also be depicted in descriptions. These symbols, which explain the feelings and values of societies, also guide them. Symbolism, or the study of symbols, interprets and explains events, objects, commonly used expressions, and words, often from religious, philosophical, and aesthetic perspectives. With this viewpoint, the goal is to convey the conceptual expressions found in Yunus Emre's poetry through symbols in miniature language, while also increasing the awareness of his poetry. The subject of this work is the depiction of Yunus Emre's poems in miniature technique, using symbols to explain the semantic integrity of the poetry, which will be one of the first studies in this field. As a result of a meticulous team effort, the "Symbolic Expressions in Yunus Emre's Poems: Miniature Applications" consists of 15 original pieces. The symbolic expressions in Yunus Emre's poems are materialized and turned into works, which form the main theme of this article. Presenting these poems in miniature technique and demonstrating the applications of Yunus Emre's poetry and miniature art in different artistic disciplines can lay the foundation for transmitting these works to future generations.

To cite this article

Perçem, E. (2025). Miniature applications of symbolic expressions in Yunus Emre poems. *Journal for the Interdisciplinary Art and Education, 6*(3), 175-194. DOI: https://doi.org/10.5281/zenodo.16948017

Introduction

Today, the reinterpretation of traditional arts through contemporary interpretations plays a significant role in transmitting cultural heritage to younger generations. Miniature art, in particular, is increasingly finding a place in interdisciplinary studies, combining its symbolic narrative power with literary texts. In recent years, the relationships established between visual arts and literature have opened up new interpretations in artistic production. In this context, the visualization of poems through symbols both deepens the understanding of poetry and contributes to the innovative presentation of traditional arts. The reinterpretation of cultural values through artistic forms is attracting increasing interest both in academia and art education. Presenting the works of esteemed poets like Yunus Emre through visual narratives is a significant reflection of this interest. UNESCO's declaration of 2021 as the "Year of Yunus Emre and the Turkish Language" has rekindled academic and artistic interest in Yunus Emre's poetic legacy. This development encourages efforts to integrate traditional arts with literary heritage.

[1] Lecturer, Selçuk University Faculty of Fine Arts, Department of Traditional Turkish Arts, Main Art Branch of Illumination (Tezhip), Konya, Türkiye. E-mail: percemi@selcuk.edu.tr and ersanpercem@gmail.com ORCID: 0000-0002-4861-6600

Miniature (Depiction) and Symbol (Emblem–Icon)

Turkish miniature art possesses a richly illustrative, descriptive, and symbolic content. In this context, symbolic expressions form the core values of the miniature. Looking at the history of symbols, we can observe that Turks attributed symbolic meanings to everything (figures 1-2)[2]; entities in the world of existence, human-made objects, abstract forms, and mythical beings constitute the icons used in miniature art. These figures form mental images as soon as the words are uttered.

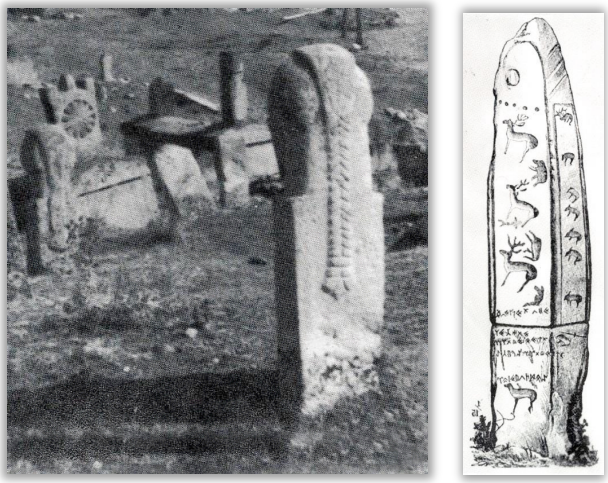


Figure 1-2. Tombstone Symbols among Turks

The word *miniature* was referred to as **"nakış"** (ornamentation) during the Ottoman period and widely replaced the word for painting with the term **"tasvir"** (depiction). The word originates from the Latin *miniare* (meaning "to paint in red"), passed into Italian as *miniatura*, then into French, and eventually into Turkish. Miniatures are explanatory illustrations created in handwritten books to make the text more comprehensible.

The art of depiction developed into a unique branch of art in contrast to Western painting and was widely practiced in manuscripts. While in the West, manuscript illustration has its roots in antiquity, in the East, it dates back to the pre-Islamic period, namely to the Uyghurs, and found application throughout the medieval period.

In the Islamic world, the art of depiction developed alongside calligraphy and, from the 13th to the 19th centuries, became the dominant form of illustration across many fields-from medicine to city miniatures[3]. Miniatured manuscripts, created to illustrate handwritten works related to science, history, and literatüre and many of which are now regarded as valuable historical documents-enable us to trace the customs and traditions, clothing, and cultural practices of their time[4]. It has also continued to function as a supplementary element for various scientific disciplines. The popularity of Turkish painting art within Ottoman art stems from its close integration with daily life[5].

Miniature art presents forms drawn from nature and stylized into motifs, symbols, or ornaments as a composition to the viewer. It is possible to observe all the details required by the themes found in the texts of manuscripts within miniatures. However, these forms are abstracted from their real appearances and positions, and rendered with a simplified expression this has become a defining characteristic of Turkish miniature art. Just like in other branches of Islamic art, this feature has been preserved and maintained in the art of depiction to this day.

One of the most important features of miniature art is the depiction of the emphasized figure, object, or item in large scale and placed at the center. Instead of being arranged according to linear perspective and their perceived distance from the viewer, elements are positioned based on their importance within the depiction. The effort to portray many events within a limited space stems from this preference. In these illustrations, significant figures are depicted as large and vividly colored, while less important ones are drawn smaller and with minimal coloring in the background. For this

[2] Beyhan Karamağralı, Ahlat Tombstones, (Ankara: Turkish Historical Society Press, 1992).
[3] Banu Mahir, Ottoman Miniature Art (Istanbul: Kabalcı Publishing, 2012), 15.
[4] Cahide Keskiner, Drawing and Painting Techniques of Nature in Miniature Art (Ankara: Ministry of Culture and Tourism Publications, 2004), 11.
[5] B. İnel, A Perspective on Ottoman Miniature Art and the Pioneers of Painting Art (Art in Turkey, 1999), 40-41.

reason, miniature art is also referred to as "importance perspective[6]. In Figure 3, the depiction of Sultan Mehmed III from the album paintings of the artist Nakşi has been rendered in a notably large scale[7]. The soldiers emerging from the Castle of Eğri are depicted much smaller and without color. Similarly, in Figure 4, from the manuscript *Şemâilnâme-i Ali Osman*, Nakkaş Osman's depiction of Sultan Suleiman the Magnificent is rendered larger, while the prince and the gardeners are illustrated significantly smaller[8]. Another feature of this miniature is the depiction of both interior and exterior spaces from the same perspective.

Figure 3. Large-size drawing of Sultan Mehmet III

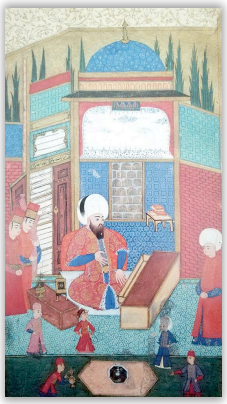


Figure 4. Large-size drawings of Suleiman the Magnificent and His Prince

Since the beginning of humanity, people have used various ways to convey their thoughts and emotions to others. Among these ways, expression through form, color, and composition has held a significant place[9]. This form of expression appears as a symbol (emblem-sign). The concept of a symbol refers to concrete representations that make things not perceived through emotions more comprehensible. Alternatively, symbolism is the attempt to express intangible abstract concepts and spiritual phenomena through visually appealing symbols. The word "symbol", which entered Turkish from the Latin word *symbolum*, corresponds to the Turkish words *timsal* or *remz*[10]

Figure 5. The symbol of Hz. Mevlana spreading what he received from God to the People, (Illustration: Yasin Urhan Archive, 2015)

[6] Aslıhan Tonguc, Renewal of Tradition: Analysis of "Fatih Portraits" in the Context of Miniature, Gaze, and Different Modes of Seeing. (Journal of Social and Cultural Studies, Vol. 5, No. 9, 2019), 193-216.
[7] Editor: Serpil Bağcı, Ottoman Painting Art, (Istanbul: Mas Printing, 2006), 184.
[8] Bağcı, Ottoman Painting Art, 147.
[9] Selçuk Kürşad Koca, The Language of Symbols in Turkish Cultural History, Doctoral Dissertation (Sakarya: Sakarya University Institute of Social Sciences, 2012), 8.
[10] Ferit Devellioğlu, Ottoman Turkish - Turkish Encyclopedic Dictionary, (Ankara: Aydın Publications, 2013).

The writings found in manuscripts are a collection of symbols. They consist of refined signs and their meanings. These meanings are expressions that explain and evoke emotions and values. In miniature art, symbolism-the science of symbols-has transformed into an art form that interprets and explains events, objects, traditional expressions, and words, often from religious, philosophical, and aesthetic perspectives.

In relation to this topic, in Figure 5, a miniature depicts Mevlâna receiving the commands of God with his right hand and conveying them to the people with his left. The symbol here is the double-headed eagle, which represents the Seljuk Empire.

Figure 6. Silence, the Servant Contemplating Allah, (Illustration: Hilal Arpacıoğlu Archive, 2008)

Figure 7. Symbolization of prayer movements with tulip flower, Reyhâni Calligraphy: Hüseyin Kutlu

In Figure 6, in the artwork titled *Sukut* (Silence), a tulip representing a person reciting the word of God is depicted bowing its head in contemplation of the greatness of Almighty God. In Figure 7, inspired by the verse on prayer, the artist symbolizes the five daily prayer movements of Muslims through the tulip flower[11]. While the tulip is a symbol of God, it is also emphasized that humans should be in unity with God during their prayers.

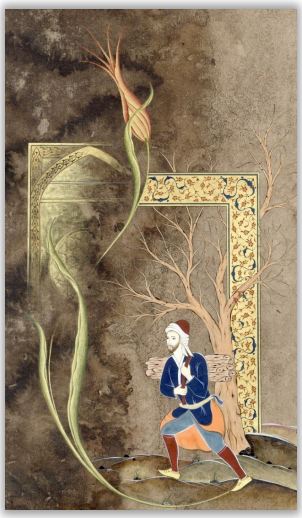


Figure 8. The Path of Love, Illustration: Çiğdem Bektaş, (Selçuk University, Faculty of Fine Arts Archive, 2008)

Figure 9. Symbols Used Instead of the Words Eye and Dragon. Poem: Muhammed Lutfî Erzurîmî. Calligraphy-Illumination-Illumination: Ersan Perçem, 2004

[11] Hüseyin Kutlu, Tulip Exhibition Album, (Istanbul: Asır Printing, 2001), 10.

In Figure 8, Yunus Emre is depicted carrying firewood between the forest and the door of his sheikh, Taptuk, for 40 years as a way of reaching God. His long years of service, carrying wood to his master's door, matured him spiritually; every word he heard from his teacher later turned into poetry that flowed from his lips. In Figure 9, in a poem by Efe Hazretleri, the lines *'The Lover Sees the Beautiful with the Eyes, My Eyes See the Beautiful, Let the Ugly Be Swallowed by the Dragon, Let the Beautiful Be Seen by the Beautiful Eyes'* emphasize symbolic elements like 'eyes' and 'dragon' to enhance the poetic impact.

Symbols (Remiz) Used in Depictions

When examining the miniatures we have created, it is also important to consider the historical meanings of some of the symbols (remiz) we used. In Sufism, the tulip (*lâle*) is a symbol of God. The tulip, which came from Central Asia to Anatolia, became the most sacred flower of the Turks and, by extension, of Islam. In Sufism, the tulip symbolizes God. In Islamic art, it has long been used because, in the *abjad* (numerical) system, the words "Allah," "Hilal" (crescent), and "Lâle" (tulip) all correspond to the number 66[12]. The rose, in Sufism, symbolizes divine beauty and also represents the beloved of God, the Prophet Muhammad (peace be upon him). It is frequently encountered as a symbolic motif in Turkish-Islamic decorative arts. Beşir Ayvazoğlu explains the rose as follows: "In Arabic, the word for rose is *'ward.'* The letter *'Waw'* in this word refers to the perfected ones (*kâmil*) who are the inheritors of Prophet Muhammad (PBUH); the letter *'Ra'* points to the Prophet's names *'Rauf'* (kind) and *'Rahim'* (merciful); and the letter *'Dal'* alludes to *'Dai'*, meaning inviter or caller to faith" [13]. The wheat ear has become a symbol of rebirth and abundance. The Tuba Tree is believed to be a great tree in Paradise, with its roots above and its branches below[14]. Süleyman Uludağ also defined the Tuba tree as a tree in paradise and as happiness. He also described the term *Tuba makamı* (the Tuba station) in Sufism as "the station of intimacy with the Truth (God) and being in peace and tranquility in the presence of the Divine"[15]. He described it as such. The Emerald Phoenix (*Simurgh*) in Sufism symbolizes multiplicity (kesret) through the expression "thirty birds," and the unity (wahdat) of those thirty birds becoming one the sovereignty of the Simurgh. It is a symbol of a person's self-discovery and enlightenment; of attaining strength, abundance, beauty, healing, and immortality. The dragon is one of the symbols that has been reflected in Turkish culture from pre-Islamic times to the present. According to Necmettin Ersoy, "the motif of the snake/dragon biting its own tail, which we often encounter in the art of ancient civilizations, the Far East, and Seljuk ornamentation, reflects the image of eternal cyclical motion"[16]. Beyond miniatures, the dragon has been used within Turkish culture as a symbol of power, strength, and might. In architectural contexts, the dragon was also considered a talisman used to prevent evil and enemies from entering[17]. miniatures, the dragon symbolizes the *nafs* (the ego or carnal self), in other words, evil — and it is symbolized that if the *nafs* is not defeated, the inner eye (heart's eye) that perceives divine knowledge will not be opened. The lion is a commonly seen symbol in Anatolian Turkish architecture. According to Pilici, "The lion symbol, above all, represents strength, power, sovereignty, nobility, and courage for humans"[18]. When this power is considered as the *nafs* (ego), the struggle of the human being becomes more difficult. The Tree of Life the sanctity and symbolism of the tree in nature has existed since ancient cultures and has continued to the present day. As humankind has lived intertwined with nature, the tree has become a structure with many different functions and benefits. "The tree symbol, by emphasizing the sanctity, fertility, and continuity of the world, is associated with the idea of creation and the concept of absolute immortality. Thus, the world tree becomes the tree of life or the tree of immortality"[19]. The tree, seen as a symbol of life rising toward the sky, represents the universe, paradise, immortality, reproduction, and abundance. The cloud, in its most well-known

[12] Beşir Ayvazoğlu, Fire Flower Tulip (Istanbul: Istanbul Municipality Culture Inc., 2003).
[13] Beşir Ayvazoğlu, The Book of Roses, (Istanbul: Publication No. 78, 2013).
[14] Şükrü Haluk Akalın, Recep Toparlı, Nevzat Gözaydın, Hamza Zülfikar, Mustafa Argunşah, Nurettin Demir, Belgin Tezcan Aksu, Beyza Gültekin, Turkish Language Association Turkish Dictionary, (Ankara: Turkish Language Association Publications, 2005), 549.
[15] Süleyman Uludağ, Dictionary of Sufi Terms, (Istanbul: Islamic Research Series 19, Marifet, Pub. No: 45, 1991), 493.
[16] Necmettin Ersoy, Symbols and Interpretations (Istanbul: Donence Printing and Publishing, 2007), 159.
[17] Gönü Öney, First Anatolian Seljuk Architecture and Handicrafts, (Ankara: Türkiye İş Bankası Cultural Publications, 1988).
[18] Aliona Pilici, From Symbol to Icon in Historical Process: Logo, (Istanbul: Mimar Sinan Fine Arts University, Institute of Social Sciences, Proficiency in Art Thesis, 2008), 34.
[19] Ramazan Işık, Beliefs Related to Trees Among Turks and Associated Cults, (Elazığ: Fırat University Faculty of Theology Journal, Vol. 9, No. 2, 2004), 93.

symbolic forms, represents rain and plenty. Clouds, which are invisible to the touch and constantly changing, possess a mysterious nature[20]. Throughout history, such symbols and emblems have been frequently used in our ornamental arts, with references made to written texts or miniatures to enhance expression. In this article, the miniature artist was first asked to perceive the main idea that Yunus Emre aimed to emphasize in his poems and to create designs by using or generating appropriate symbols accordingly. As a result, the effective use of different artistic disciplines in a shared space was achieved, and the power of expression was strengthened.

Applications of Some Yunus Emre Poems with the Art of Illustration

Mustafa Tatçı states that the concepts in Yunus Emre's poems are abstract and generally processed with the art of personification[21]. These couplets spoken by Yunus for the maturation of a person describe the spiritual journey of the person in this world. In this spiritual journey, miniature artists have also tried to portray the struggle of the self and the love of God by transferring the couplets onto paper surfaces. In this study, the aim was to transform the abstract expressions in the lines of poetry into more concrete, visually perceivable works, and 15 poems were chosen and depicted using the miniature technique. The application of the selected Yunus Emre poems with miniatures is explained and described below in order,

The Problem Is Where I Was

"Oh friends, oh brothers, ask me where I was,
If you listen, I will tell you, I was in the eternal homeland.
My tongue says from eternity, God is one, God is the Messenger,
While I did not know this, I was in a strange position.
Before any calamity was said, before any arrangement was made,
I was not separate from God, I was in that great council.
Yunus, your lover soul, with the eternal lovers,
I was in the court of God, in the voyage and in the dance"[22].

Figure 10. The Question Was Where Was I, Description, Design, and Implementation: Zeynep Tekeci Genç
Jali Diwani Calligraphy: Murat Okumuş. Technique: Gold, acrylic, and watercolor on textured handmade paper
30x70 cm

The design depicts Yunus Emre's journey with the prophets. In his poem, Yunus Emre expresses that he is on a

[20] C. Gibson, How to Read Symbols? Illustrated Guide to Symbol Reading, (Istanbul: Yem Publishing, 2004), 13.
[21] Mustafa Tatçı, Yunus Emre Divan (Ankara: Republic of Turkey Ministry of Culture and Tourism, General Directorate of Libraries and Publications, 1990), 3-5.
[22] Tatçı, Yunus Emre Divan, 175.

journey by asking, "Ask me where I was." He begins recounting the lived events mentioned in the Qur'an starting from *Qalu Bala* (the primordial covenant). He narrates the stories of the prophets from Adam to Muhammad (peace be upon him) as if he had been present during those events. He says he was with Prophet Noah during the flood, with Prophet Joseph in the well, and with the Prophet Muhammad on the night of Mi'raj.

I'm Painted In Color

"I am burnt in your love until I become ashes
I am painted in your color, I will not fade, Ayruk
Let my soul burn, let my love burn in its wood
Let my tears flow, I will not wipe, Ayruk"[23].

Figure 11. I Was Dyed in Its Color, Description, Design, and Implementation: Ersan Perçem-Şükran Şavlı.Technique: Gold, acrylic, and watercolor on textured handmade paper. 35x50 cm

The poetic expressions of Yunus Emre, which begin with his entrance into the dervish lodge of Taptuk (bottom right section), are depicted as concluding at his tomb located in the lower left corner. During this symbolic timeline, the interwoven tulips represent Yunus (the small tulip) becoming similar to God (the large tulip).

In the poem, Yunus declares: *"O beloved! I have burned with your love until I turned to ashes. I have taken on your color, I have come to resemble you. I shall no longer fade, lose my hue, or be corrupted!"*

As he says, "Let my soul burn more and more in the fire of love," it becomes clear that both tulips symbolize love through flames.

Curtain

"Hear, my friends, love is like the sun
A heart without love is like a stone
A stone heart does not grow poison on its tongue
A word spoken softly resembles war
A heart with love burns, softens and turns into a candle
Stone hearts are like a darkened, steep winter
Be at the gate of the sultan, be at the title deed of the saint
The star of lovers always resembles a sergeant
Pass Yunus, what need is this steed
A man needs love from the front, he resembles a dervish"[24].

[23] Editor: Yavuz Kartallıoğlu, Yunus Emre Institute Turkish World, (Vol. II, Issue, January-June 2020).
[24] Kartallıoğlu, Yunus Emre Institute Turkish World, Vol. II, Issue.

Figure 12. Curtain, Description, Design, and Implementation: Ersan Perçem-H. Güler Yağcı.Technique: Gold, acrylic, and watercolor on textured handmade paper. 35x50 cm

In the miniature, the tulip in the center symbolizes God (Allah, exalted is He) and is likened to a white sun. This sun — representing the divine light (*nūr*) — illuminates those with awakened hearts (*the eye of the heart*), and they, in turn, radiate light to their surroundings. The people depicted on the left, however, symbolize those who have not been touched by this light; their hearts have turned to black stone, representing spiritual blindness and hardness.

On the right side, the white-colored **Simurgh** (the legendary phoenix-like bird) represents pure-hearted individuals who strive to conquer their *nafs* (ego). In contrast, the black dragon depicted on the left side symbolizes the *nafs* itself and its inherent evils.

Yunus Emre proclaims*: "O friends, listen! The love of God is like the sun. Wherever it enters, it brings light. A heart without love is like a hard, coarse stone — difficult to shape or refine. O Yunus, free yourself from all fearful thoughts. Leave behind your doubts. Love is the first step on this path. Only then can a person become like a dervish."*

Here, the *dervish symbol* placed above the tulip represents the transformation of the individual — through divine love — into a true seeker on the Sufi path.

Five Times

"A person who says he is a Muslim should know what the condition is
He should obey God's command and pray for a while
He should sit with the sun and raise his head and dip his hands in the water
Both the devil's neck should be broken and the soul should die
If you pray, your prayer should be with God and your supplication should be
In the hereafter, you should find 'honor and coquetry'
So that you pray, whatever you wish for, you should find
You should be free from the devil and the servants should be free
Those who pray the afternoon prayer are pure and alive
They are those who always understand God, they should understand
In the evening, three obligatory prayers are in the pure sin
Oh, in your deeds, there should be a candle and a candle
To the night prayer the ready loves the ready, the Qadir
Your faith is incomplete, your faith must be pure and pure
Whoever has not taken this word and has not prayed a single time
Know that he has not become a Muslim, he must enter Tamu"[25].

[25] https://hadislerleislam.diyanet.gov.tr/sayfa.php?CILT=2&SAYFA=175

Figure 13. Five Daily Prayers, Description, Design, and Implementation: M. Banu Bayrak, Jali Diwani Calligraphy: Murat Okumuş.Technique: Gold, acrylic, and watercolor on textured handmade paper. 34x55 cm

Based on this poem by Yunus Emre, the miniature we designed aims to capture a simple yet profound expression through symbols. While designing the composition, the minareta hallmark of Islamic architecture and the station of the call to prayer was used. The calls to prayer echoing one after another from the minarets represent the five daily prayer times and also regulate the hearts of the believers. These continuously recurring times are imagined as parts of a wheel of time, each represented in proportion to the duration it occupies within the day.

Reward

"Those who dive into the pool of Kawthar, Those who die before they die,
Those who consider themselves enemies, Perch on the branches of the pipe,
Who will open a door to someone as a friend, Let the enemy escape from your hand,
The mouth of a dolphin will scatter the silver, Do not touch the wise man"[26].

Figure 14. Reward, Description, Design, and Implementation: Rümeysa Demircan.Technique: Gold, acrylic, and watercolor on textured handmade paper. 44x67 cm

Tūbā is a tree imagined in the culture, art, and literature of Muslim nations as rooted in the Paradise of "Wasīlah," the station of the Prophet Muhammad, with its branches extending from the highest level down to all layers of Paradise.

[26] Mustafa Tatçı, *Yunus Emre* (2013)

In the design of this work, it is depicted that those who consider their ego as their enemy and perform acts of worship during their earthly lives will ultimately reach the Ṭūbā tree. To represent worldly life, houses, trees, and clusters of grass were used. The mosque and the ship in the design symbolize those who have left behind worldly life and overcome their ego.

According to a narration, Ṭūbā is the name of a tree in Paradise; all the homes in Paradise are made from its branches, which hang over the houses. When the dwellers of Paradise desire its fruits, the tree leans toward them, and they eat from it as much as they wish.[27].

Deception

"The silver you have earned
They have punished your soul
Tomorrow, each of them
Must turn into a scorpion and sting
Oh Yunus, the Most Gracious
Reach your soul to the friend
What do you feed this body of yours
The arrow of death should be enough"[28].

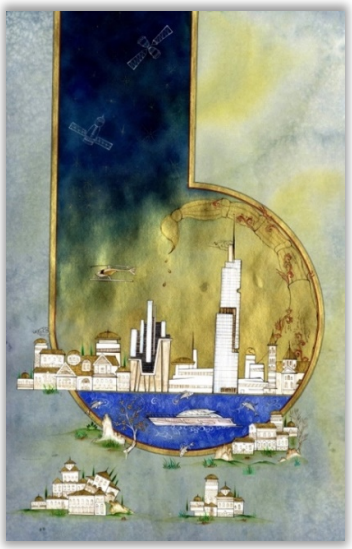


Figure 15. Deception, Description, Design, and Implementation: Zekine İnat.Technique: Gold, acrylic, and watercolor on textured handmade paper. 35x50 cm

Yunus Emre, who emphasizes that worldly life is transient, that we will eventually leave behind our possessions and move on to the afterlife, conveys that this worldly life is nothing but an illusion. He states that the wealth and riches we hold are not blessings, but in fact punishments to our souls.

Inspired by Yunus Emre's verses, modern structures such as skyscrapers and buildings were illustrated to highlight the deceptive magnificence of worldly life. To emphasize wealth, the color gold was predominantly used in these structures. Satellites were added to point out that mankind's presence extends not only on Earth but also into space. Following the depiction of these grand worldly achievements, the scorpion is shown beginning to rage. Surrounded by flames, the scorpion releases its venom upon these fleeting riches of the world, symbolizing how they ultimately poison humanity.

[27] Ali Erbaş, Tûbâ (Istanbul: TDV Islamic Encyclopedia, Vol. 41, 2012), 316-317.
[28] Y. Bakı Yazıcı, Yunus Emre, Güldeste, (1992).

Struggle Against the Self

"Hear, my friends, love is like the sun
A heart without love is like a stone
A stone heart does not grow poison on its tongue
No matter how softly it speaks, its words are like war
A heart with love burns, softens and turns into a candle
Stone hearts are like the darkened, steep winter
Be at the gate of the sultan, be at the title deed of the saint
The star of lovers always resembles a sergeant
Pass Yunus, what need is there for this steed
A man needs love from the front, he resembles a dervish"[29]

Figure 16. Struggle of the Self, Description, Design, and Implementation: Zeynep Yazıçi.Technique: Gold, acrylic, and watercolor on textured handmade paper. 50x70 cm

In order for a person to attain truth, they must first battle their own ego. When one realizes their own frailty before succumbing to pride and begins this inner struggle, the veils of truth begin to lift, revealing the essence within. In this way, a person sheds their ego and reaches the truth.

The dragon is likened to the ego that believes all greatness lies within itself. Its act of biting its own body symbolizes the inner struggle of man against the self. Through this act, the beauty hidden within is revealed, and greenery begins to sprout from the earth. At the very top of the design, the tulip symbolizes the ultimate truth to be attained: Allah (Glorified and Exalted be He).

The Way of Love

"I walk from place to place
I ask the Sheikh from mouth to mouth
Who knows my condition in a foreign land
Come see what love has done to me
Or take my hand and lift me up
Or make me reach your peace
You made me cry a lot and make me laugh

[29] Kartallıoğlu, Yunus Emre Institute Turkish World, (Issue: 2, January-June 2020).

Come see what love has done to me
I walk in a foreign land
I see the Friend in my dream
I wake up and become Majnun
Come see what love has done to me
Poor Yunus, I am helpless
I am a lover from head to toe
I am a vagabond from the land of the Friend
Come see what love has done to me"[30]

Figure 17. The Path of Love Depiction Design and Application: Tuba Yaprak Technique: Gold, acrylic, and watercolor on textured handmade paper. 50x65 cm

Yunus Emre's journey is a journey toward Divine Love. The name of this path is *Sufism* (*Tasawwuf*). Sufism is a gradual path that a human, bearing earthly attributes, must traverse in order to attain a perfected state. This spiritual path in Sufism is expressed through seven stages, each manifested in the realm of meaning (*māna*) with different symbolic colors. These colors, in essence, represent *divine light (nūr).* The luminous colors, as stages, are ordered as follows:

Nafs al-ammārah (The Commanding Self): Blue – rebellion.
Nafs al-lawwāmah (The Self-Reproaching Self): Red – remorse.
Nafs al-mulhimah (The Inspired Self): Yellow – repentance.
Nafs al-muṭma'innah (The Tranquil Self): White – gratitude and praise.
Nafs al-rāḍiyah (The Content Self): Green – annihilation of self.
Nafs al-marḍiyyah (The Pleasing Self): Black – being in harmony with Divine will.
Nafs al-ṣāfiyyah (The Pure Self): Pure color – symbolizing union with the Divine.

The stages that Yunus Emre passes through to reach the station of *nothingness* (*fanā*) are illustrated. Birds transforming and taking flight from his hands symbolize the maturing of the soul at each stage, ultimately turning into the legendary *Simurgh (Phoenix)*, signifying the manifestation of God's names (*al-Asmā' al-Ḥusnā*) within the human spirit and its transformations.

The cosmic void represents the universe and timelessness, while the golden line along the edge symbolizes a fleeting glimpse of this world—suggesting that *divine love* is an experience to be lived only in this earthly realm.

[30] Mustafa Özçelik, Our Yunus (Nar Publications, 2013), 158-159.

Could you ask?
"I asked yellow dewdrop
Your gas is yellow
What do you ask, hey dervish
I fear God"[31]

Figure 17. Were You Able to Ask? Depiction Design and Application: Tuba Yaprak.Technique: Gold, acrylic, and watercolor on textured handmade paper. 30x50 cm

In this stanza, Yunus Emre engages in a dialogue with a yellow flower. However, in order to be able to converse with a flower, a person must first be cleansed of their negative traits and become, in terms of inner meaning, as beautiful and refined as a flower.

To achieve this, one must discipline the lower self (*nafs*) and rid it of its undesirable qualities. Only then does the Divine Name (*Ism al-Ḥaqq*) manifest within the person, and everything they hear, see, and speak comes from the Truth (*al-Ḥaqq*). Just as Yunus Emre speaks with the flower — it is, in fact, a conversation with the Divine.

Like Rustem
"These nine lions, seven universes and four dragons
I will fight with them, I will be Rustem, I will be an epic"[32]

Figure 18. Like Rustam Depiction Design and Application: Ayşenur Özdemiray.Technique: Gold, acrylic, and watercolor on textured handmade paper. 30x50 cm

[31] D.K. Wannig & M. Özdemir, Nature in Traditional Turkish Folk Poetry (Erzurum: Atatürk University Journal of Turkology Studies, 2010).
[32] Emel Copur Nalçagil, The Lion Metaphor in Divan Poetry (Rumeli Journal of Language and Research, 2020), 285-302.

The four dragon elements mentioned in the couplet have been reduced to two dragon figures in the composition. The nine lion figures are symbolically placed among the vegetal motifs that surround Yunus during his spiritual battle (*Cenk*). In this way, while Yunus is encircled by dragons and engaged in struggle, he is also surrounded by the lions hidden within the background of plant motifs.

The contrast between the dark and light ground reflects the shadowed and illuminated sides of the heart. Through this inner battle, Yunus aspires to become a hero — like Rustam — and to transform his journey into an epic.

My Life Has Come and Gone

"My life has come and gone like this year
And it came to me like this, like the opening and closing of an eye
God is witness to this word, this soul is a guest to the dead
One day it will come and go like a bird flew out of a cage
They likened the poor son of Adam to the sower
Some sprout, some fade away, like scattering seeds
My inner self burns for something in this world
As if the sky reaped the crops for those who died while being brave
If you visit a sick person, give them a drink of water
Tomorrow, the cashew will come to you like God's wine
If you see a poor person, give them a drink of wine
Tomorrow, the cashew will come to you like God's wine
Yunus Emre, two people will remain in this world
It turns out that Hızır and İlyas have drunk the Ab-ı Hayat"[33].

Figure 19. My Life Has Come and Gone Depiction Design and Application: Zeynep Uysal.Technique: Gold, acrylic, and watercolor on textured handmade paper. 40x55 cm

The circular form depicted at the center of the miniature represents the brevity of human life, as expressed in the first three lines of the poem — life passes in the blink of an eye, and no matter how much one indulges in worldly pleasures, they will ultimately pass on to the eternal realm.

The blue color surrounding the golden ground, along with the designs on its surface, symbolizes the cyclical nature of the world and the various occupations and preoccupations of human beings on Earth.

The third layer conveys the notion that after worldly life comes the afterlife, where a person will receive the consequences of whatever they did in this world.

[33] Tatçı, Yunus Emre Divan.

The green wheat ear at the top of the miniature symbolizes a person who dies young, while the golden wheat ear at the bottom represents the mature, wise human being — the *ʿārif*, the one who has reached spiritual enlightenment.

Shariʿah is the Path to the Reached One

"I love You from the heart
I have a path from this path
Sharia-Tariqah is the path to the one who arrives
Truth-Knowledge is from the moment
You say I am in me, I am not in me
There is a me in me, I am from me
Poor Yunus's eye has become a trap for you
A servant at your door is from the Sultan"[34]

Figure 20. Sharīʿa Is the Path for the Seeker Depiction Design and Application: Naciye Detseli.Jalī Naskh Calligraphy: Murat Okumuş Technique: Gold, acrylic, and watercolor on textured handmade paper. 40x60 cm

The design of the artwork is based on the line *"There is a 'self' within me, deeper than myself"* from Yunus Emre's poem titled *"I Love You More Than Life Itself"*. This verse serves as the conceptual core of the composition.

The main theme of the piece revolves around a dragon and a flowering tree. The dragon, depicted in black, symbolizes the darker inclinations within a person — the ego (*nafs*), while the blossoming spring branches represent the virtuous, good aspects of the inner self.

At the center of these contrasting elements, a circular form blending gold and blue has been illustrated to represent the world itself.

Friend's House

"I have no decision in this, I came to go in this
I am a merchant, I have many goods, I came to sell to the buyer
My madness is the drunkenness of friends, lovers know what I am
I am a devsurum, I came to end my unity
I did not come for the cause, my job is for love
The house of the friend is hearts, I came to make hearts
Yunus Emre fell in love, he died from the pain of the beloved
At the door of the real man, I came to offer my soul
Be my teacher, I am his servant, I am the nightingale of the garden of friends
I came to my teacher's garden, to sing with joy

[34] Burhan Toprak, Yunus Emre Divan (Istanbul, 2006), 160.

Souls who have knowledge in this, know in the moment
I came to offer my state with my teacher, with knowledge
I did not come for the fight, my job is for love
The house of the friend is hearts, I came to make hearts"[35]

Figure 21. The House of the Friend Depiction Design and Application: Hümeyra Özdemir.Technique: Gold, acrylic, and watercolor on textured handmade paper. 40x60 cm

The tulip, which forms the main theme of the design, is used to represent Allah (cc). The garden of friends is depicted through the flowers within the tulip form. The Kaaba, as the house of the Friend, symbolizes the heart and is therefore included in the design; it has been implemented in accordance with the meaning of the phrase "I came to build hearts."

It is the ego (nafs) that leaves a person stranded on the path.
"If you look at the truth, your ego will be your enemy
Now, go and fight with your ego
The ego is the one who puts you on the path, the ego remains on the path, follow the ego
What business do you have with anyone, walk with your ego
If you wish, you will be safe from the evil of this world
Abandon this arrogance and hatred, wear a cloak, walk like a dervish
No one will enter your garden, no one will hurt your rose
There is your beloved, walk hand in hand in the garden
Yûnus, now you speak pleasantly, you will explain with your tongue
When you sell advice to the people, be a man, walk pleasantly on your path"[36]

[35] Çopur, The Lion Metaphor in Divan Poetry (Rumeli Journal of Language and Research), 285-302.
[36] Mustafa Tatçı, Yunus Emre Divan, Doctoral Dissertation (Ankara: Gazi University, Institute of Social Sciences, Department of Turkish Language and Literature, 1990).

Figure 21. It Is the Ego That Leaves a Person Stranded on the Path Depiction Design and Application: Eyüp Özdemir Technique: Gold, acrylic, and watercolor on textured handmade paper. 31x41 cm

It is the ego (nafs) that leaves a person stranded on the path. This expression carries a Sufi meaning; it emphasizes that the greatest obstacle in a person's spiritual journey is their own ego (self, desires).

In the illustration, the tree represents worldly life, and the dragon—symbolizing the ego—becomes a figure that struggles to dry up or destroy it.

It is emphasized that in order to live a happy and peaceful life in this worldly existence, a person must constantly struggle against their ego.

Oman in the Layer

"I am the sea of love, the seas are amazed by me
The sea is my drop, the ocean is my particle
For my path to the friend is the realm of eternity, my knowledge
This tongue of mine tells me from God, neither a servant nor a sultan
Mustafa was created, his face is light, his heart is pure
He made loyalty to God a promise of grace for me
Yûnus Emrem, on this path, informs me of your deficiency
The one who is intoxicated calls me to the dervish slander"[37]

Figure 22. The Ocean in a Drop Depiction Design and Application: M. Banu Bayrak.Technique: Gold, acrylic, and watercolor on textured handmade paper. 34x55 cm

[37] Mustafa Tatçı, *Yunus Emre Divanı*, 20

The sea, known as the large body of water covering the earth, has been the subject of imagery with its endless appearance and being the living space of some creatures. In some religions and mythologies, water has been accepted as the reason for the existence of life. In Sufism, when explaining the unity of being, the sea represents "Allah, the absolute being, his infinite station of being and unity. Sufis have mostly used the image of the sea to explain that existence is one and that multiplicity remains apparent"[38]. In Sufism, the sea represents the unity of God with its vastness, width, eternity, depth and abundance; while the waves represent the multitude of creation.[39] The sea is the symbol of One, that is, unity, and the drop is the symbol of the servant, that is, the created human being.

The Prophet Muhammad (pbuh) is associated with the sea and water in terms of the abundance of his mercy, the universality of the religion of Islam that he preached, his being the most superior of creation, and Islam's abolition of previous religions. "Dürr-i yektâ, dürr-i yekdâne" meaning the only pearl of the world and "Dürr-i yetim" meaning the only pearl in mother-of-pearl[40] The combinations are used to refer to the Prophet Muhammad through metaphor and comparison.

The first two couplets were decisive in the composition of the miniature design prepared based on Yunus Emre's poem. Based on the multiplicity-unity, part-whole relationship used in many places in Sufism, an ocean was designed inside a drop, inspired by Yunus who said, "The ocean is mine, the particles are my droplets, the ocean is mine." Yunus, who said, "Mustafa created the face light and the heart pure, He made loyalty to God a promise of generosity for me," indicates that generosity originates from the existence of our Prophet (pbuh). "If you were not there, I would not have created the worlds."[41] The sacred hadith has been the source of inspiration for many literary works in verse and prose. While designing the composition of the work, the Mosque was placed inside this “sea of love” to represent our Prophet (pbuh), the reason for the existence of all the worlds. The circles formed by interlocking were conceived as the world. Mountains, hills, clusters of flowers and grass, clouds and natural elements were used to express human elements with houses placed in small clusters. A dark blue background covering the whole of the work was preferred, and no other background color was used except for the drop form. With this transparent background, it was tried to reflect the meaning of the world more than its visible and audible appearance.

Conclusion

Miniature painting is the applied form of illustrative art on paper. Throughout its historical course, it has been used to support texts in manuscripts and has evolved into an art form. The expressivepower of illustration, a vibrant branch of art, has been used to support the expression found in Yunus Emre’s poems. These poems often revolve around the human struggle with the self in the worldly realm and divine love; artists have created illustrations focusing on these two themes.

Artistic language has been used to emphasize that the words Yunus Emre presented to the Islamic world through poetry continue to enlighten humanity even after 600 years. The aim of these illustrations is to make the abstract expressions in the verses more tangible and visually perceivable. Fifteen poems have been selected and illustrated using the miniature technique on paper surfaces.

The chosen papers were handmade and selected to suit the theme, while gold leaf and acrylic paints were used in the application. During the preparation of the illustrations, the semantic integrity of the text was preserved. Conceptual expressions from Yunus Emre’s poems were chosen and expressed through new symbols and signs.

While creating these works, a unique style was pursued, free from external design influences and without detaching from classical miniature technique or its own cultural and spiritual roots. In producing these new symbols and forms, the attempt was also to develop a cultural technique.

[38] Mahmut Gider, The Concept of the Sea in the Divans of Bâkî and Fuzûlî, (Journal of Ottoman Studies, Issue 3, 2017), 22-36.
[39] İskender Pala, Encyclopedic Dictionary of Divan Poetry (Ankara: Akçağ Publications, 1995), 137.
[40] Pala, *Encyclopedic Dictionary of Divan Poetry* (Ankara: Akçağ Publications, 1995), 155.
[41] Yusuf Nebhânî, *Envâr-ı Muhammediyye* (circa 1900), 13.

Through symbolic forms used in miniature art, references were made to both give meaning to the past and ensure the continuity of tradition, as well as to remind people of their spiritual journey in this world. The thoughts Yunus distilled from the Qur'an and Hadith have been made concrete through Islamic arts, revealing the richness of both our intellectual and artistic world.

Biodata of Author

Lecturer and Artist Ersan Perçem was born in 1976 in Erzincan, Türkiye. He graduated in 2001 from Marmara University, Faculty of Fine Arts, Department of Traditional Turkish Handicrafts, with a major in Illumination (Tezhip) and Miniature Arts. In 2005, he began his academic career at Selçuk University, Faculty of Fine Arts, in the Department of Traditional Turkish Arts. He completed his Master's degree in 2010 at Selçuk University, Institute of Social Sciences, Department of Traditional Turkish Arts. Between 2004 and 2005, he received training in miniature art from Taner Alakuş. In 2005, he studied illumination (tezhip) under İnci Ayan Birol, received training in marbling (ebrû) from Sadreddin Özçimi in 2010, and earned certifications in thuluth and naskh calligraphy from Hüseyin Kutlu in 2015. From 2016 to 2023, he contributed to the "Istanbul Mushaf" project, prepared under the auspices of the Presidency of the Republic of Türkiye, by producing designs in various historical styles for illumination, binding, and lectern decorations. Between 2003 and 2015, he worked at the Applied Turkish-Islamic Arts Library as an illumination artist, and since 2005, he has been teaching Illumination and Miniature Arts at Destegül Fine Arts Center. In 2015, he also began teaching Islamic calligraphy (Hüsn-i Hat). Since 2007, the number of students who have received formal certifications (ijazah) in illumination and miniature from him has reached 30. He currently continues his academic duties at the same faculty and pursues his work in calligraphy, illumination, and miniature arts on weekends at Destegül Culture and Arts Association. He is married and the father of four children.

Affiliation: Selçuk University, Faculty of Fine Arts, Department of Traditional Turkish Arts, Konya, Türkiye
Email: percemi@selcuk.edu.tr / ersanpercem@gmail.com
ORCID: 0000-0002-4861-6600
Personal Website: https://www.selcuk.edu.tr/Person/Detail/percemi

References

Akalın, Ş. H., Toparlı, R., Gözaydın, N., Zülfikar, H., Argunşah, M., Demir, N., Aksu, B. T., & Gültekin, B. (2005). *Türk Dil Kurumu Türkçe sözlük* (Turkish Language Association Turkish Dictionary) (10th ed.). Türk Dil Kurumu Yayınları.

Ayvazoğlu, B. (2003). *Ateş çiçeği lale* (The Fire Flower Tulip). İstanbul Büyükşehir Belediyesi Kültür A.Ş.

Ayvazoğlu, B. (2013). *Gül kitabı* (The Book of Roses) (13th ed.). İstanbul.

Bağcı, S. (2006). *Osmanlı resim sanatı* (Ottoman Painting Art). Mas Matbaacılık.

Çopur Nalçagil, E. (2020). *Divan şiirinde aslan metaforu* (The Lion Metaphor in Divan Poetry). *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*.

Devellioğlu, F. (2013). *Osmanlıca-Türkçe ansiklopedik lügat* (Ottoman Turkish–Turkish Encyclopedic Dictionary). Aydın Yayınları.

Erbaş, A. (2012). *Tuba*. In *TDV İslâm Ansiklopedisi* (Vol. 41). Türkiye Diyanet Vakfı.

Ersoy, N. (2007). *Semboller ve yorumları* (Symbols and Interpretations). Dönence Yayıncılık.

Gibson, C. (2009). *Semboller nasıl okunur? Sembolleri okumaya dair resimli rehber* (How to Read Symbols? An Illustrated Guide to Symbol Reading). Yem Yayınları.

Gider, M. (2017). *Bâkî ve Fuzûlî divanlarında deniz kavramı* (The Concept of the Sea in the Divans of Bâkî and Fuzûlî). *Osmanlı Araştırmaları Dergisi*, (3).

İnel, B. (1999). *Osmanlı Devleti'nde minyatür sanatı ve ressamlarının öncüleri üzerine genel bir değerlendirme* (An Overview of Miniature Art in the Ottoman Empire and Pioneers of Painting). *Sanat Türkiye*.

Işık, R. (2004). *Türklerde ağaçla ilgili inanış ve kültler* (Beliefs and Related Cults about Trees in Turks). *Fırat Üniversitesi İlahiyat Fakültesi Dergisi*, 9(2).

Karamağralı, B. (1992). *Ahlat mezar taşları* (Ahlat Tombstones) (1st ed.). Türk Tarih Kurumu Yayınları.

Keskiner, C. (2004). *Minyatür sanatında tabiattan çizim ve boyama teknikleri* (Nature Drawing and Painting Techniques in Miniature Art). Kültür ve Turizm Bakanlığı Yayınları.

Koca, S. K. (2012). *Türk kültür tarihinde sembollerin dili* (The Language of Symbols in Turkish Cultural History) [Doctoral dissertation, Sakarya Üniversitesi Sosyal Bilimler Enstitüsü].

Kutlu, H. (2001). *Lale sergisi albümü* (Tulip Exhibition Album). Asır Matbaası.

Manu, B. (2012). *Osmanlı minyatür sanatı* (Ottoman Miniature Art). Kabalcı Yayınları.

Nebhanî, Y. (ca. 1900). *Envârü'l-Muhammediyye* (Anwar al-Muhammadiyya).

Öney, G. (1988). *Anadolu Selçuklu mimarisi ve el sanatları* (Anatolian Seljuk Architecture and Handicrafts). Türkiye İş Bankası Kültür Yayınları.

Özçelik, M. (2013). *Bizim Yunus* (Our Yunus). Nar Yayınları.

Pala, İ. (1995). *Ansiklopedik Divan Şiiri sözlüğü* (Encyclopedic Dictionary of Divan Poetry). Akçağ Yayınları.

Pilici, A. (2008). *Tarihi süreçte sembolden ikona: Logo* (From Symbol to Icon in Historical Process: Logo) [Art proficiency thesis, Mimar Sinan Güzel Sanatlar Üniversitesi Sosyal Bilimler Enstitüsü].

Tatçı, M. (1969). *Yunus Emre divanı* (The Divan of Yunus Emre). Türk Tarih Kurumu Yayınları.

Tatçı, M. (1990a). *Yunus Emre divanı* (The Divan of Yunus Emre). Kültür ve Turizm Bakanlığı Yayınları.

Tatçı, M. (1990b). *Yunus Emre divanı* (The Divan of Yunus Emre) [Doctoral dissertation, Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Türk Dili ve Edebiyatı Anabilim Dalı].

Tatçı, M. (2013). *Yunus Emre*. İstanbul.

Tonguç, A. (2019). *Geleneği yenilemek: Minyatür, perspektif ve farklı görme rejimleri bağlamında "II. Mehmed Portreleri"nin analizi* (Renewing Tradition: Analysis of "Portraits of Mehmed II" in the Context of Miniature, Perspective and Different Regimes of Seeing). *Sosyal ve Kültürel Araştırmalar Dergisi*, 5(9).

Topbaş, O. N. (2017). *İmandan ihsâna tasavvuf* (Sufism from Faith to Benevolence). Erkam Yayınları.

Uludağ, S. (1991). *Tasavvuf terimleri sözlüğü* (Dictionary of Sufi Terms). Marifet Yayınları.

Wannig, K. D., & Özdemir, M. (2010). *Türk halk şiirinde doğa* (Nature in Traditional Turkish Folk Poetry). *Atatürk Üniversitesi Türkoloji Dergisi*.

Web sites

Web 1. Diyanet İşleri Başkanlığı. (n.d.). *Hadislerle İslam* [Islam through Hadiths]. Retrieved July 15, 2025, from https://hadislerleislam.diyanet.gov.tr/sayfa.php?CILT=2&SAYFA=175

Journal for the Interdisciplinary Art and Education, 6(3), 195-210, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd. (Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Tangible cultural heritage examples from Konya Hacı Fettah Cemetery: a study on the writing and form features of gravestones

Hatice Unlersen[1]

Presidency of Religious Affairs, Konya, Turkiye

Article Info

Received: 19 April 2025
Accepted: 21 June 2025
Available online: 30 Sept 2025

Keywords
Gravestone
Cultural heritage
Epigraphy
Konya Hacı Fettah Cemetery
Turkish-Islamic Art

Abstract

Gravestones are extremely important, both artistically and as historical documents. Tombstone culture has persisted in Turkish-Islamic art from the Karakhanids to the Ottomans. Gravestones, which have a three-dimensional feature, are not only a personal structure but also have a social place. Information or an ornamental element on a tombstone sheds light on the art, socio-cultural situation, history, economy, and important events of the period. Each tombstone of such importance is put under scrutiny, with none of it being overlooked. Since Hacı Fettah Cemetery is vast, areas that have not been studied sufficiently were included in the scope of the research. Historical gravestones on islands 101, 102, 104, 106, 108, 110, and 116 in the cemetery were examined. The examined gravestones are 3 on the 101st island, 4 on the 102nd island, 5 on the 104th island, 1 on the 106th island, 3 on the 108th island, 1 on the 110th island, and 2 on the 116th island. The study adopts an on-site observational approach supported by photographic documentation and physical measurement. The analysis is structured under the headings of Artifact Review, Evaluation, and Conclusion, following a chronological and thematic classification. A total of 19 tombstones on these islands were photographed. The width, length, and thickness measurements of the gravestones were taken. The inscription texts of the stones were written and recorded in both Ottoman Turkish and modern Turkish. The content of the inscriptions was analyzed. The names of dynasties, titles, hometowns, professions, and details of death in the inscription texts on the tombstone have been identified. These dynasty names extracted from the inscriptions are significant in terms of shedding light on past periods and providing information to subsequent generations. The gravestones were evaluated in terms of material, technique, form, and decoration. All the gravestones examined are headstones, with no footstones found in situ.

To cite this article

Unlersen, H. (2025). Tangible cultural heritage examples from Konya Hacı Fettah Cemetery: a study on the writing and form features of gravestones. *Journal for the Interdisciplinary Art and Education, 6*(3), 195-210. DOI: https://doi.org/10.5281/zenodo.16948042

Introduction

Hacı Fettah Cemetery, located in Baruthane Street, Hacı Fettah District, in Meram, the central district of Konya, constitutes our study area. Hacı Fettah Mosque is located in the northeast of the cemetery. Hacı Fettah Cemetery, one of the three largest cemeteries of Konya, dates back to the 12th century. Burial procedures have been in place since the 19th century and continue to do so today. Seven islands of Hacı Fettah Cemetery, which has a rectangular area of 25000 square meters, were examined(*Mezarlık Bilgi Sistemi*, 2024). Our investigation focuses on 19 tombstones with inscriptions found on these seven islands. Among these islands, there are 3 gravestones on the 101st island, 4 on the 102nd island, 5 on the 104th island, 1 on the 106th island, 3 on the 108th island, 1 on the 110th island, and 2 on the

[1] Dr., Presidency of Religious Affairs, Konya, Turkiye. E-mail: haticeunlersen@gmail.com: ORCID: 0000-0002-0925-8564

116th island. The dates of 17 of these gravestones have been determined. The dates of the two gravestones could not be determined due to deformation. Among the 17 tombstones whose dates have been determined, the oldest belongs to Seyyid Abdullah, dated H.1198-G.1784, and the most recent belongs to Kâtip Hasan Efendi, dated H.1358-G.1939. Of the 17 tombstones whose dates have been determined, 2 belong to the XVIII century, 8 to the XIX century, and 7 to the XX century.

Our aim with this study is to reveal the fact that these 7 islands in Hacı Fettah Cemetery have not been examined in detail and therefore to reveal unseen data by translating these tombstones into modern Turkish. Among this data, the most common are first names, nicknames, ancestries, occupations, and historical details. Apart from the inscription texts, the form decoration, material, and technical information of the stones are also significant as they reflect their period.

The research started with an extensive literature review. In particular, the studies on Hacı Fettah Cemetery were reviewed. As a result of the examination of the studies carried out, not all artifacts could be examined due to the cemetery covering a large area. The islands with the least amount of research were chosen for study. After all of these islands were examined on site, photographs of the tombstones dating back to the first half of the XX century were taken, and their measurements were made. During the writing phase, the study was discussed under the headings 'Introduction', 'Artifact Review', and 'Evaluation and Conclusion'. While artifact review, they are arranged chronologically.

Nowadays, the tendency towards gravestones is quite high within the scope of research and investigations. This allows inventories to increase and more comprehensive studies to be carried out. Valuable studies on tombstones have been produced over the years. The studies conducted within a certain region's limitation can be listed as follows. Beyhan Karamağaralı's book titled Ahlat Gravestones (Karamağaralı, 1992), which pioneered many studies and made the biggest contribution to this field, Halit Çal's article titled Heads on Male Gravestones in Eyüp Istanbul (Çal, 1999), Mustafa Çetinaslan's book titled Language of Stones, İnegöl Cemeteries and Tombstones (Çetinaslan, 2014), Süleyman Berk's book titled Historical Tombstones of Zeytinburnu Stones That Transcend Time (Berk, 2006), Hacer Kara – Şerife Danışık's book titled Konya Cemeteries and Tombstones (Kara & Şerife, 2005), and Hatice Ünlerşen's doctoral thesis titled Gravestones found mosques' burial areas and Karaman Museum in Karaman (Ünlerşen, 2023).

Emine Güzel's doctoral thesis titled Serpuş Forms in Ottoman Male Gravestones (Güzel, 2016), Canan Hanoğlu's doctoral thesis titled Rize Gravestones in the Westernization Period (Hanoğlu, 2015), Demet Karaçağ's master's thesis titled 14th-15th Century Gravestones in Bursa (Karaçağ, 1994), and Hans Peter Laqueur 's book titled Hüve'l Baki Ottoman Cemeteries and Gravestones in Istanbul (Laqueur, 1997) are some of the studies that contribute to the field in terms of examining gravestones within certain periods.

'Then Allah sent a crow scratching the ground to show him how to bury his brother's body. 'Shame on me!' he said, 'I was not even as good as this crow in burying my brother's body.' And he became one of those who regretted it.' (The Qur'an, Al-Ma'idah 5:31). With the creation of life on Earth, the reality of death also emerged. Allah taught the knowledge of the burial ritual to human beings through different living species. Graves, which are the most concrete indicator of belief in the afterlife and show that worldly life is finite, have diversified over the centuries with the effects of different religions, history, and geography and have survived until today.

First of all, when we look at the origin of the word "mezar" which means grave in Turkish, it is seen that it comes from the Arabic word "ziyaret" which means visit (Bozkurt, 2004). Shahida, meaning witness, is a stone placed vertically at the head and foot of the graves (*Kubbealtı Lugatı: Şahide*, n.d.). These Shahidas may contain personal information about the deceased, sometimes a poem, and sometimes an element of decoration.

The Turkish grave culture was tent-centered, especially for the nobles. The tent-centered burial ritual has reached the burial ceremonies of the Ottoman sultans (Diyarbekirli, 1997). Just as all the cultures encountered in geography affect every paradigm of our lives, they have also affected the tombstones, which contain everything in terms of socio-economics and have survived to this day. In addition to being sources of personal data, gravestones are extremely important three-dimensional structures that shed light on many aspects of the period in which they were built.

Art has the transformative power to foster collective consciousness by engaging individuals with shared symbolic meaning. Artistic expressions, ranging from allegorical and revolutionary works to socially creative practices, can transcend emotional divides and strengthen social bonds even amid globalization and technological fragmentation(Bastaban, 2024). Similarly, funerary monuments, such as the tombstones of the HacıFettah Cemetery, serve not only as markers of individual memory but also as collective cultural artifacts. Their calligraphic inscriptions, symbolic motifs, and communal locales evoke shared histories, collective identity, and cultural continuity. By providing a visual and textual narrative of social values—such as religious belief, craftsmanship, and local aesthetics—these stones act as silent but powerful agents of collective consciousness, as publicly displayed works of art that mobilize people and encourage social change.

This study aims to examine 19 historical tombstones located in the Hacı Fettah Cemetery in Konya, focusing on their artistic, epigraphic and cultural characteristics. The research is based on on-site observations supported by photographic documentation, dimensional measurements (height, width, thickness) and inscription analysis. Each tombstone was documented and analyzed in terms of material, form, decorative elements, calligraphic style and textual content. The study is structured under three main sections: Artifact Analysis, which presents detailed documentation and descriptive analysis of each tombstone; Evaluation, which thematically classifies and interprets the findings (material and technique, form, ornamentation, inscription and content); and Conclusion, which synthesizes the results and discusses the significance of these tombstones as examples of tangible cultural heritage. Through this framework, the research provides a multidisciplinary understanding of the tombstones as both artistic expressions and socio-historical documents.

Artifact Review

Following the examinations, historical tombstones with inscriptions on seven islands in Hacı Fettah Cemetery were included in the scope of the research. 3 gravestones on the 101st island, 4 on the 102nd island, 5 on the 104th island, 1 on the 106th island, 3 on the 108th island, 1 on the 110th island, and 2 on the 116th island will be examined in chronological order below. The last two rows will list the two tombstones whose historical records are unavailable because of degradation.

Table 1. Tombstone of Seyyid Abdullah

هو الباقى انتقل المرحوم المغفور پيري زاده سيد احمد سيد بن سيد عبدالله روحيچون الفاتحه سنة ١١٩٨ ٥٨١ ح٨١	Hüve'l Baki İntekal el-merhum el-mağfur Pirizâde Seyyid Ahmed Seyyid bin Seyyid Abdullah Ruhiçün el-Fatiha sene 1198 581 81H

Figure 1. Tombstone of Seyyid Abdullah

The tombstone located on the 102nd island of Hacı Fettah Cemetery, shown in Figure 1, is dated H.1198-G.1784. It ends with a stone pointed arch rising in a vertical rectangular shape. The gravestone is made of limestone material, 75cm wide, 225cm high, and 14cm thick. The text of the inscription, written in Celi Thuluth calligraphy, is enclosed in six rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. At the end of the

text of the inscription, there are two stylized cypress trees on the right and left, and a symbol of unknown meaning in between. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 2. Tombstone of Seyyid İsmail Ağa

.....	
المرحوم المغفور	
السيد محمد امين اغا	
ابن السيد اسماعيل اغا	
روحيچون الفاتحه سنة ١٢٠٨	
.....	
el-merhum el-mağfur	
Seyyid Muhammed Emin Ağa	
İbn Seyyid İsmail Ağa	
Ruhiçün el-Fatiha sene 1208	

Figure 2. Tombstone of Seyyid İsmail Ağa

The tombstone located on the 116th island of Hacı Fettah Cemetery, shown in Figure 2, is dated H.1208-G.1793. The vertically rectangular stone-segmented arch, rising slightly from bottom to top, ends with a crown. The gravestone is made of limestone material, 82cm wide, 170cm high, and 13cm thick. The text of the inscription, written in Celi Thuluth calligraphy, is enclosed in five rows of cartridges. The first row of the text cannot be read due to flaking on the stone. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 3. Tombstone of Kazancızâde's Son Halil

هو الحى البا قى	
ايد المرحوم المغفر	
قازنجى زاده محدوم خليل	
روحيچن الفاتحه	
سنة ١٢١٥	
Hüve'l Hallaku'l Baki	
İde el-merhum el-mağfur	
Kazancızâde mahdumu Halil	
Ruhiçün el-Fatiha	
Sene 1215	

Figure 3. Tombstone of Kazancızâde's Son Halil

The tombstone located on the 102nd island of Hacı Fettah Cemetery, shown in Figure 3, is dated H.1215-G.1800. The stone, which expands slightly from bottom to top, has a vertical rectangular shape and ends with a segmented arch cap. The tombstone is made of limestone material, 80cm wide, 223cm high, and 21cm thick. The text of the inscription,

written in Celi Thuluth calligraphy, is in five rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 4. Tombstone of Ebubekir Ağa

اه من الموت المغفور پرزاد .... علی سید الحاج الشهید ابو بکر روحیچون فاتحه ١٢١٦	Ah mine'l mevt el-mağfur Pirizâde .... Ali Seyyid el-Hâc eş-şehid Ebu Bekir ruhiçün Fatiha 1216

Figure 4. Tombstone of Ebubekir Ağa

The tombstone located on the 104th island of Hacı Fettah Cemetery, shown in Figure 4, is dated H.1216-G.1801. A vertical rectangular stone single-stage segmented arch ends with a crown. The tombstone is made of limestone material, 57cm wide, 218cm high, and 22cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The last row of cartridges has a semicircular shape. There is a stylized cypress motif in relief painted red in the lower right corner of the stone. In the lower left corner and middle part of the stone, a stylized cypress motif is engraved, painted only in red, without any relief. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 5. Tombstone of Muhammed Descendant of Haji Suleiman

..... المرحوم ..... **...ذار الحاج سلیمان لردان** **محمد روحیچون الفاتحه** **سنة ١٢١٨**	**..... el-merhum .....** **.....zâde Hacı Süleymanlardan** **Muhammed ruhiçün el-Fatiha** **Sene 1218**

Figure 5. Tombstone of Muhammed Descendant of Haji Suleiman

The tombstone located on the 108th island of Hacı Fettah Cemetery, shown in Figure 5, is dated H.1218-G.1803. A vertical rectangular stone single-stage segmented arch ends with a crown. The gravestone is made of limestone material,

67cm wide, 235cm high, and 14cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in four rows of cartridges. There is an anchor decoration at the bottom of the inscription text. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 6. Tombstone of Pirlizâde Osman Efendi's Son Emrullah

هوالخلاق الباقى المرحوم المغفور پرلىى ذاده عثمان افندينك اوغلوامرالله روحيچون الفاتحه سنة ١٢٥٦	
Hüve'l Hallaku'l Baki el-merhum el-mağfur Pirlizâde Osman Efendi'nin Oğlu Emrullah ruhiçün el-Fatiha Sene 1256	

Figure 6. Tombstone of Pirlizâde Osman Efendi's Son Emrullah

The tombstone located on the 116th island of Hacı Fettah Cemetery, shown in Figure 6, is dated H.1256-G.1840. It ends with a vertical rectangular stone triangular top. The upper part of the stone is broken. The tombstone is made of limestone material, 66cm wide, 162cm high, and 12cm thick. The text of the inscription, written in Celi Thuluth calligraphy, is located in five rows of cartridges. The last cartridge of the inscription text is in the form of a semicircle and has a stylized flower motif. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 7. Tombstone of Mıhçızâde Hafız Muhammed

هو الخلاق الباقى المرحوم المغفور مخچى زاده حافظ محمديك روحيچون فاتحه سنة ١٢٦٦	
Hüve'l Hallaku'l Bâki el-merhum el-mağfur Mıhçızâde Hafız Muhammed'in ruhiçün Fatiha Sene 1266	

Figure 7. Tombstone of Mıhçızâde Hafız Muhammed

The tombstone located on the 104th island of Hacı Fettah Cemetery, shown in Figure 7, is dated H.1266-G.1850. It ends with a vertical rectangular stone triangular top. The tombstone is made of limestone material, 56cm wide, 102cm

high, and 13cm thick. The text of the inscription, written in Celi Thuluth calligraphy, is located in five rows of cartridges. The last cartridge of the inscription text is in triangular form. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 8. Tombstone of Alime Hâtun, Wife of Muhammed Ağa of The Kadızâdes

هو
الخلاق الباقى
قاضى زاده لر ك محمد
اغا زوجسى عالم
خاتونك روحنه
فاتحه سنة ٢ ع

Hüve'l
Hallaku'l Baki
Kadızadelerden Muhammed
Ağa zevcesi Alime
Hatun'un ruhuna
Fatiha sene AYN 2

Figure 8. Tombstone of Alime Hâtun, Wife of Muhammed Ağa of The Kadızâdes

The gravestone of Alime Hâtun, Wife of Muhammed Ağa of The Kadızâdes, shown in Figure 8, is located on the 101st island of Hacı Fettah Cemetery. The date information of the stone is given by ebced calculation. After the phrase Fâtiha in the last row of the inscription text, there is the word Sene, the Arabic Ayn (ع), and the Arabic number 2 (٢). According to the Ebced calculation, Ayn(ع) corresponds to the number 70. In this case, it is understood that the stone is dated (70+2=72) H.1272-G.1856. It ends with a vertical rectangular stone triangular top. The tombstone is made of limestone material, 43cm wide, 104cm high, and 10cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The first and last cartridges containing the inscription text are in triangular form. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 9. Tombstone of Hüseyin Ağa

هو
الخلاق الباقى
المرحوم المغفور
.... حسين
اغانك روحنه فاتحه
سنة ١٢٧٣

Hüve'l
Hallâku'l Bâki
el-merhum el-mağfur
.... Hüseyin
Ağa'nın ruhuna Fatiha
Sene 1273

Figure 9. Tombstone of Hüseyin Ağa

The tombstone on the 108th island of Hacı Fettah Cemetery, shown in Figure 9, is dated H.1273-G.1856. The stone, which expands slightly from bottom to top, has a vertical rectangular shape and ends with a segmented arch cap. The gravestone is made of limestone material, 50cm wide, 133cm high, and 13cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The last cartridge of the inscription text is in the form of a semicircle. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 10. Tombstone of Fatima Hatun, Wife of Mıhçızâde Ahmed

هو الباق المرحومة لها مخجى زاده احمد افنديڭ زوجسى فاطمة خاتون روحنه فاتحه ١٢٨٢	Hüve'l Baki el-merhume leha Mıhçızâde Ahmed Efendi'nin zevcesi Fatıma Hatun Ruhuna Fatiha1282

Figure 10. Tombstone of Fatima Hatun, Wife of Mıhçızâde Ahmed

The tombstone on the 104th island of Hacı Fettah Cemetery, shown in Figure 10, is dated H.1282-G.1865. The vertical rectangular-shaped stone ends with a pointed arch cap. The gravestone is made of limestone material, 51 cm wide, 148 cm high, and 12 cm thick. The inscription text written in Celi Thuluth calligraphy is engraved in seven rows within five rows of cartridges. The inscription text of the stone is carved with the ground carving technique. It is thought that the gravestone is the headstone due to its position in the grave structure.

Table 11. Tombstone of Fatima, Mother of Galatalizade Mustafa Efendi

هو الباقى المرحوم المغفور غلطه لى زاده مصطفى افندى والده سى فاطمة روحنه فاتحه ١٣٢٠	Hüve'l Baki el-merhum el-mağfur Galatalızâde Mustafa Efendi validesi Fatıma ruhuna Fatiha 1320

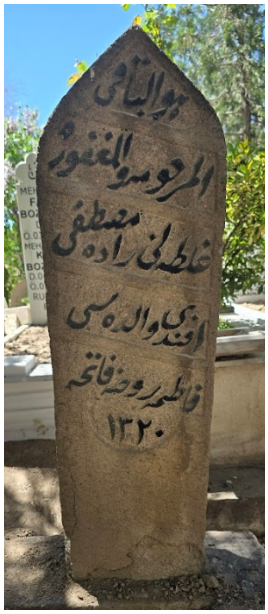


Figure 11. Tombstone of Fatima, Mother of Galatalizade Mustafa Efendi

The tombstone located on the 101st island of Hacı Fettah Cemetery, shown in Figure 11, is dated H.1320-G.1902. It ends with a vertical rectangular stone pointed arch cap that widens slightly from bottom to top. The gravestone is made of limestone material, 30cm wide, 102cm high, and 17cm thick. The inscription text, written in Celi Talik calligraphy, is located in five rows of cartridges. The lower part of the last cartridge was expanded in a circular form and the date was written in this area. The inscription text of the stone was carved with the ground carving technique. The letters of the inscription text are painted black. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 12. Tombstone of Fatima Hatun, Arpacizade Hacı Ta-hir Ağa's Mother

المرحومة	el-merhume
ارپچی زاده لردك	Arpacızadelerden
شیخی حاجی	Şeyhi Hacı
طاهر اغا واده سی	Tahir Ağa validesi
فاطمة خاتون	Fatıma Hatun
روحنه فاتحه	Ruhuna Fatiha
رمضان ١٣٢٢	Ramazan 1322

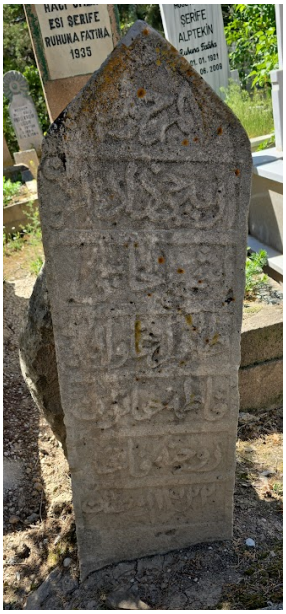


Figure 12. Tombstone of Fatima Hatun, Arpacizade Hacı Tahir Ağa's Mother

The tombstone located on the 104th island of Hacı Fettah Cemetery, shown in Figure 12, is dated H.1322-G.904. The vertical rectangular-shaped stone, slightly widening from bottom to top, ends with a pointed arch. The gravestone is made of limestone material, 34cm wide, 103cm high, and 24cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in seven rows of cartridges. The inscription text of the stone was carved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 13. Tombstone of Emetullah, Kara Mustafa Zade Ahmet Aga's Wife

هو	Hüve
المرحومة و المغفرة	el-merhume ve'l mağfure
قره مصطفی	Kara Mustafa
زاده احمد	Zâde Ahmed
اغا زوجسی	Ağa zevcesi
امت الله روحنه	Emetullah ruhuna
فاتحه ١٣٢٣	Fatiha 1323

Figure 13. Tombstone of Emetullah, Kara Mustafa Zade Ahmet Aga's Wife

The tombstone located on the 110th island of Hacı Fettah Cemetery, shown in Figure 13, is dated H.1323-G.905. The stone, which slightly widens from bottom to top and rises, has a vertical rectangular shape and ends with a pointed arched top. The gravestone is made of limestone material, 30cm wide, 114cm high, and 21cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in seven rows of cartridges. The inscription text of the stone was carved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 14. Tombstone of Kasapoğlu Osman Çavuş

المرحم قصاب اوغلى عثمان چاويش روحنه فاتحه ١٣٢٩	el-merhum Kasapoğlu Osman Çavuş Ruhuna Fatiha 1329

Figure 14. Tombstone of Kasapoğlu Osman Çavuş

The tombstone located on the 110th island of Hacı Fettah Cemetery, shown in Figure 14, is dated H.1329-G.911. The stone, which slightly widens from bottom to top and rises, has a vertical rectangular shape and ends with a pointed arched top. The gravestone is made of limestone material, 40cm wide, 91cm high, and 15cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in four rows of cartridges. The inscription text of the stone was carved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure. The stone is in contact with another newly constructed tomb structure.

Table 15. Tombstone of Emine Hatun, Wife of Nuri from Hacı Osman Zâde

هو حاجى عثمان زاده محمد محدوم نورى حرمى و يونجو احمديك كريم سى امينة خاتون روحنه فاتحه سنة ١٣٣٤	Hüve Hacı Osman Zâde Muhammed mahdumu Nuri Haremi ve Yüncü Ahmed'in Kerimesi Emine Hatun Ruhuna Fatiha sene 1334

Figure 15. Tombstone of Emine Hatun, Wife of Nuri from Hacı Osman Zâde

The tombstone located on the 102nd island of Hacı Fettah Cemetery, shown in Figure 15, is dated H.1334-G.916. The stone, which slightly widens from bottom to top and rises, has a vertical rectangular shape and ends with a pointed arched top. The tombstone is made of limestone material, 41cm wide, 101cm high, and 15cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 16. Tombstone of Süleyman Çavuş

هو **المرحوم بوزقرلى حاجى** **رجب افند ينك سليمان** **چاويش روحنه فاتحه** **سنة ١٣٤٠**	**Hüve** **el-merhum Bozkırlı Hacı** **Recep Efendi'nin Süleyman** **Çavuş ruhuna Fatiha** **Sene 1340**

Figure 16. Tombstone of Süleyman Çavuş

The tombstone located on the 101st island of Hacı Fettah Cemetery, shown in Figure 16, is dated H.1340-G.921. The stone, which slightly widens from bottom to top and rises, has a vertical rectangular shape and ends with a pointed arched top. The gravestone is made of limestone material, 40cm wide, 100cm high, and 9cm thick. The text of the inscription, written in Celi thuluth calligraphy, is located in five rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. A lot of deterioration is observed in the stone. The tombstone is thought to be the headstone due to its location in the tomb structure.

Table 17. Tombstone of Kara Mustafa Zâde Kâtip Hasan Efendi

هو الخلاق الباقى المرحم و المغفور قره مصطفى زاده كاتب حسن افندبك روحنه الفاتحه سنة ١٣٥٨	Hüve'l Hallâku'l Bâki El-merhum ve'l mağfur Kara Mustafa Zâde Kâtip Hasan Efendi'nin Ruhiçün el-Fatiha Sene 1358

Figure 17. Tombstone of Kara Mustafa Zâde Kâtip Hasan Efendi

The tombstone located on the 106th island of Hacı Fettah Cemetery, shown in Figure 17, is dated H.1358-G.939. The vertical rectangular-shaped stone ends with a triangular top. The gravestone is made of limestone material, 54 cm wide, 122 cm high, and 15 cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Table 18. Tombstone of Kara Mustafa Zâde Kâtip Hasan Efendi

.....	.....
مخچی محمد اغا ایل	Mıhçı Muhammed Ağa ile
خفید حافظ محمد	Hafidi Hafız Muhammed
افندی مخدومی حافظ	Efendi mahdumu Hafız
احمد افندی مدفون لر	Ahmed Efendi medfunlar
الفاتحه روحنه	el-Fatiha ruhuna
.....	....

Figure 18. Tombstone of Mıhçı Muhammed Ağa and Hafız Ahmed

The tombstone located on the 104th island of Hacı Fettah Cemetery, shown in Figure 18, cannot be read due to the deterioration of the stone. The vertical rectangular-shaped stone, which slightly widens from bottom to top, ends with a pointed arch. The gravestone is made of limestone material, 42cm wide, 120cm high, and 10cm thick. The inscription text, written in Celi Thuluth calligraphy, is located in six rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure. This gravestone belongs to two deceased. The first deceased was Mıhçı Muhammed Ağa, and the second deceased was Hafız Muhammed Efendi's son Hafız Ahmed, the grandson of Mıhçı Muhammed.

Table 19. Tombstone of Kara Mustafa Zâde Kâtip Hasan Efendi

هو الخلاق الباقی	Hüve'l Hallâku'l Bâki
المرحوم المغفور پری زاده	el-merhum el-mağfur Pirizâde
....	....
الحاج علی اغا روحیچون	el-Hâc Ali Ağa ruhiçün
فاتحه سنة.....	Fatiha sene .....

Figure 19. Tombstone of Pîrizâde El-Hâc Ali Ağa

The date of the gravestone located in the 102nd block of the Hacı Fettah Cemetery, given in Figure 19, cannot be read due to deformations in the stone. The vertical rectangular-shaped stone ends with a single-stage segmented arch cap. The tombstone is made of limestone material, 77cm wide, 174cm high, and 14cm thick. The text of the inscription, written in Celi thuluth calligraphy, is located in five rows of cartridges. The inscription text of the stone was engraved with the ground carving technique. The gravestone is thought to be the headstone due to its location in the grave structure.

Evaluation

Our study titled A Group of Tombstones Found in Konya Hacı Fettah Cemetery covers 19 tombstones in Hacı Fettah Cemetery, one of the largest cemeteries in Konya. This study was conducted using a qualitative field research method based on on-site observation. The tombstones included in the study were photographed on-site, under natural light conditions, using a digital camera, and their physical properties (height, width, thickness) were measured with a tape measure. Each tombstone was systematically catalogued by coding it according to the cemetery island it was located in. During this process, the current physical condition of each stone, traces of deterioration, and the direction of placement were also taken into consideration and documented. The study covers 19 tombstones located on islands 101, 102, 104, 106, 108, 110, and 116.

The epigraphic analysis process was carried out in three basic stages: First, the inscriptions written in Ottoman Turkish on the stones were transcribed in accordance with the letter characters and line structure. Then, these texts were transferred to Latin letters while preserving their originality (transliteration), and in the last stage, they were translated into contemporary Turkish while preserving their semantic integrity, and an interpretive analysis was conducted. The sections that were partially unreadable due to reasons such as deterioration and surface wear were evaluated comparatively with similar epigraphic examples from the same period. The personal names, family names, titles, professions and expressions about death in the inscriptions were interpreted within the historical context; in the light of this data, the period, social and cultural value of the stones was revealed. At the same time, the decorative elements and symbolic motifs on the gravestones were analyzed together with their iconographic meanings.

The tombstones listed in our research catalog will be examined in this part under the headings "Material and Technique," "Form," "Decoration," and "Inscription and Content". None of the 19 tombstones examined have a footstone that should be at the foot end. Because of where the stones are located within the tomb structure, it is assumed that they are headstones. The tombstones are in chronological order as follows;

- Seyid Abdullah of Pirizâde (H.1198-G.1784),
- Seyyid İsmail Ağa (H.1208-G.1793),
- Kazancızâde's Son Halil (H.1215-G.1800),
- Ebubekir Ağa (H.1216-G.1801),
- Muhammed Descendant of Haji Suleyman (H.1218-G.1803),
- Pirlizâde Osman Efendi's Son Emrullah (H.1256-G.1840),
- Mıhçızâde Hafız Muhammed (H.1266-G.1850),
- Alime Hâtun, Wife of Muhammed Ağa of Kadızâde (H.1272-G.1856),
- Hüseyin Ağa (H.1273-G.1856),
- Fatima Hatun, Wife of Mıhçızâde Ahmed (H.1282-G.1865),
- Fatima, Mother of Galatalizade Mustafa Efendi (H.1320-G.1902),
- Fatima Hatun, Arpacizade Haji Tahir Ağa's Mother (H.1322-G.1904),
- Emetullah, Kara Mustafa Zade Ahmet Aga's Wife (H.1323-G.1905),
- Kasapoğlu Osman Çavuş (H.1329-G.1911),
- Emine Hatun, Wife of Nuri from Hacı Osman Zâde (H.1334-G.1916),
- Süleyman Çavuş (H.1340-G.1921),
- Kara Mustafa Zâde Kâtip Hasan Efendi (H.1358-G.1939),
- Mıhçı Muhammed Ağa and Hafız Ahmed (The date is not readable),

- Pîrizâde El-Hâc Ali Ağa (The date is not readable),

Material and Technique

All of the gravestones we examined were made using limestone material. The stones are deteriorating and flaking since the material has a soft structure. It is thought that these stones are preferred because of their low cost, easy access, and processing. The inscription texts were engraved on stone using the ground carving technique. Flaking is also observed in the letters here and there.

Form

Every single one of the 19 gravestones in the Hacı Fettah Cemetery that we examined is in the vertical rectangular form. The gravestones examined end with three different crowns. Nine of the gravestones end with pointed arch crowns (01, 10, 11, 12, 13, 14, 15, 16, 18), six ends with segmented arch crowns (02, 03, 04, 05, 09, 19), and four ends with triangular crowns (06, 07, 08, 17).

Decoration

Of the 19 gravestones examined in the Hacı Fettah Cemetery, 3 have decorations. 2 of these have plant motifs and 1 has an objective motif. Gravestone number 04 has 3 cypress motifs, 1 embossed and 2 painted. Gravestone number 05 has an anchor motif used by sailors. However, there is no information in the inscription text of the gravestone indicating that the deceased was related to seafaring. At the end of the inscription text of gravestone number 06, there is a stylized flower motif in the cartridge containing historical information.

Inscription and Content

Of the 19 tombstones examined in Hacı Fettah Cemetery, 1 is engraved with celi talik (gravestone number 11), and the others are engraved with celi thuluth calligraphy.

When the tombstones are examined in terms of inscription contains, the heading section of 6 tombstones (06, 07, 08, 09, 17, 19) features Hüve'l Hallâku'l Bâkî. On 3 tombstones (01, 10, 11), it reads Hüve'l Bâkî. Another 3 tombstones (13, 15, 16) have Hüve. The tombstone indexed as 03 has Huve'l Hayyü'l Bâkî, the one indexed as 04 has Ah Mine'l Mevt, the one indexed as 12 has El-Merhûme, and 2 tombstones (05, 14) feature El-Merhum in their heading sections. The title headings of tombstones numbered 02 and 18 cannot be read due to erosion.

The dates of 17 out of the 19 gravestones examined can be read. The historical records of these gravestones are included in the last cartouches of the inscription texts. The historical records were written according to the Hijri calendar. Only the date information of gravestone number 08 was deducted with the abjad calculation. In addition, the month information was also given on gravestone number 12 by adding the word Ramadan in addition to the year information.

One of the most striking sections in the inscriptions of gravestones are dynasties and titles. Since the gravestones examined cover the last quarter of the 18th century and the first quarter of the 20th century, surnames are not mentioned. For this reason, dynasties and title names are important. The dynasty names mentioned on the tombstones are as follows;

- Pirizâde 01, 04, 19
- Mıhçı-Mıhçızâde 07, 10, 18
- Kazancızâde 03
- Pirlizâde 06
- Hacı Süleymanlar 05
- Kadızâdeler 08
- Galatalızâde 11
- Arpacızâdeler 12
- Kara Mustafa Zâde 13
- Kasapoğlu 14
- Hacı Osman Zâde 15

In addition, the titles, nicknames and forenames mentioned in the inscription text are;

- Ağa 02, 04, 08, 09, 12, 13, 18, 19
- Efendi 06, 10, 11, 16, 17, 18
- Hatun 08, 10, 12, 15
- Hacı 05, 12, 16
- Mahdum 03, 15, 18
- Seyyid 01, 02, 04
- Zevce 08, 10, 13
- Çavuş 14, 15
- El-Hâc 04, 19
- Hafız 07, 18
- Valide 11, 12
- Bozkırlı 16
- Hafîd 18
- Harem 15
- Kâtip 17
- Kerime 15
- Oğul 06
- Şehid 04
- Şeyhî 12
- Yüncü 15

Of the 19 tombstones examined, 6 (08, 10, 11, 12, 13, 15) belong to the female deceased, and the others belong to the male deceased.

Conclusion

There are many historical burial grounds and cemeteries in the central districts of the ancient city of Konya. Many of the cemeteries located here have been examined and recorded by scientists. When these studies are examined in general, it has been determined that rectangular-bodied gravestones are the most common in gravestone bodies. In addition, it is seen that pointed archtops are frequently preferred, as well as triangular and segmented archtops. Decorations are not very common on gravestones in this region. The gravestones in the Hacı Fettah Cemetery, which is within the scope of our study area, show similarities in form, decoration, writing, material, and technique to gravestones both in Konya and in the central Anatolia region. Excluding the grave structures of prominent figures in history such as mausoleums, it is a common situation that the vertical rectangular stones seen in the gravestones of the 18th, 19th, and 20th centuries end with pointed arches, triangular tops, segmented archtops, or capital.

The characteristics of the gravestones we examined in our study bear the characteristics seen in literature, and in the field as mentioned above.

The fact that the materials and workmanship in the gravestones we examined are second-class, that there is little room for decorations, and that the materials and other works used are low-cost indicate that the welfare level of the people living in the examined period was not very high.

The gravestones we examined are thought to be headstones due to their position in the grave structure. None of them have a footstone. The factors that will cause this situation can be listed as follows.

- Not having sufficient budget to have a footstone made
- Instead of having a special footstone made, an ordinary stone was placed, and the stone was lost over the years.
- There are possibilities, such as the footstones without inscriptions being erected unconsciously at the foot or head of other grave structures during the arrangements of the cemetery or being lost.

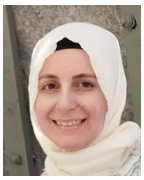
Burial operations are still ongoing today in the Hacı Fettah Cemetery, which has a long history. This situation leads to the deterioration of old grave structures and the rapid destruction of gravestones. For this reason, it is understood that many historical grave structures have deteriorated, and gravestones have been damaged or lost.

Gravestones have been damaged by natural events over the centuries. Improper repairs and inadequate protection, as most of them need to be preserved in situ, are the main difficulties that gravestones face. It is considered extremely important that hundreds of gravestones that have been lost throughout history are not added to the list but at least photographed and their information recorded to shed light on both history and the future.

Conflict of Interest: The author has no conflicts of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

Biodata of Authors



Dr. Hatice Unlersen was born in 1983 in Türkiye. She completes his primary and secondary education in Kastamonu. In 2005, she earned his bachelor's degree from Faculty of Theology in Selcuk University. In 2015, she completed his master's degree at Institute of Social Sciences - Institute of Social Sciences, Department of Islamic Arts and History. In 2023, she obtained her Ph.D. in Turkish Islamic arts and history in Necmettin Erbakan University. Her research interests include topics such as the historical origins, production methods and materials of Seljuk and Ottoman period artworks. E-Mail: haticeunlersen@gmail.com
ORCID: 0000-0002-0925-8564

References

Bastaban, Ü. (2024). *Kolektif farkındalığın geliştirilmesinde sanatın rolü* (The Role of Art in Developing Collective Awareness). *Uluslararası İletişim ve Sanat Dergisi*, 11, 172–192.

Berk, S. (2006). *Zeytinburnu'nun tarihi mezar taşları: Zamanı aşan taşlar* (The Historical Tombstones of Zeytinburnu: Stones Beyond Time). Zeytinburnu Belediyesi.

Bozkurt, N. (2004). Mezarlık (Cemetery). In *İslam Ansiklopedisi* (Vol. 29, pp. 519–522).

Çal, H. (1999). *İstanbul Eyüp'teki erkek mezar taşlarında başlıklar* (Headgear on Male Tombstones in Eyüp, Istanbul). In *Tarihi Kültürü ve Sanatıyla III. Eyüp Sultan Sempozyumu Tebliğler* (pp. 206–225).

Çetinaslan, M. (2014). *Taşların dili: İnegöl mezarlıkları ve mezar taşları* (The Language of Stones: Cemeteries and Tombstones in İnegöl). İnegöl Belediyesi.

Diyarbekirli, N. (1997). *Türklerde mezar yapısı ve defin merasimleri* (Grave Structures and Funeral Rituals among Turks). *Türk Kültürü Araştırmaları*, 28(1–2), 53–62.

Güzel, E. (2016). *Osmanlı erkek mezar taşlarında serpuş biçimleri* (Headgear Forms on Ottoman Male Tombstones) [Master's thesis, Süleyman Demirel University].

Hanoğlu, C. (2015). *Batılılaşma dönemi Rize mezar taşları* (Tombstones from the Westernization Period in Rize) [Master's thesis, Atatürk University].

Kara, H., & Şerife, D. (2005). *Konya mezarlıkları ve mezar taşları* (Cemeteries and Tombstones of Konya). Meram Belediyesi Kültür Yayınları.

Karaçağ, D. (1994). *Bursa'daki 14–15. yüzyıl mezar taşları* (14th–15th Century Tombstones in Bursa).

Karamağaralı, B. (1992). *Ahlat mezar taşları* (Ahlat Tombstones). Kültür Bakanlığı.

Kubbealtı Lugatı. (n.d.). *Şahide*. Retrieved May 9, 2024, from http://www.lugatim.com/s/%C5%9Fahide

The Qur'an. (n.d.). *Al-Ma'idah* 5:31. Diyanet İşleri Başkanlığı.

Laqueur, H. P. (1997). *Hüve'l Baki: İstanbul'da Osmanlı mezarlıkları ve mezar taşları* (Huwa al-Baqi: Ottoman Cemeteries and Tombstones in Istanbul) (S. Dilidüzgün, Trans.).

Mezarlık Bilgi Sistemi. (2024, May 5). *Konya cemetery database*. https://konmeb.konya.bel.tr/#!/App/Mezarliklar

Ünlerşen, H. (2023). *Karaman cami hazirelerinde ve Karaman Müzesi'nde bulunan mezar taşları* (Tombstones in Mosque Courtyards and the Museum of Karaman) [Doctoral dissertation, Sosyal Bilgiler Enstitüsü].

Journal for the Interdisciplinary Art and Education, 6(3), 211-224, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd.
(Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Computational aesthetics in dystopian visualization: an integrated approach using python programming and adobe photoshop's generative features

Ozan Bebek[1]*, Kevser Kübra Kırboğa[2], and Mehmet Coşar[3]

Department of Ceramics and Glass, Faculty of Fine Arts and Design, Bilecik Şeyh Edebali University, Bilecik, Türkiye

Article Info

Received: 5 June 2025
Accepted: 17 August 2025
Available online: 30 Sept 2025

Keywords
Algorithmic design
Digital visualization
Dystopian aesthetics
Generative art
Python programming

Abstract

This study aims to investigate how fundamental geometric shapes and digital tools can be integrated to create visually compelling representations of dystopian and post-apocalyptic themes, focusing on expanding the boundaries of digital art by combining traditional artistic practices with algorithmic design methods. Using Python programming and Adobe Photoshop's "Generative Image" feature (Beta version 25.11), five fundamental geometric shapes were generated and transformed into thematic visualizations through a two-phase methodological approach. Initially, the shapes were designed using Python's Matplotlib and NumPy libraries and programmed with algorithms containing random variables, establishing the foundation of structured randomness and algorithmic patterns controlled by the artist. Subsequently, these base shapes were enhanced and restructured through Photoshop's advanced generative tools, guided by specific thematic keywords such as "dystopian pattern," "post-apocalyptic scenario," and "hopelessness," resulting in a total of fifteen visuals comprising three variations for each geometric shape. The findings highlight the effective integration of basic design principles with advanced generative technologies, resulting in visually striking artworks that encapsulate dystopian aesthetics while effectively reflecting themes of isolation, decay, and technological domination through elements such as chaotic urban landscapes, fragmented architectures, and alien world terrains. This research contributes to existing work in algorithmic design and digital visualization while being associated with theoretical frameworks such as Jean Baudrillard's concept of hyperreality, Donna Haraway's union of human-machine-nature, and Walter Benjamin's critiques of modern urban life, demonstrating that generative art functions not only as an aesthetic tool but also as a platform for social and philosophical criticism, illustrating how art evolves into new narrative forms in the digital age and suggesting its capacity to expand artistic boundaries and redefine modes of expression.

To cite this article

Bebek, O., Kırboğa, K.K., and Coşar, M. (2025). Computational aesthetics in dystopian visualization: an integrated approach using python programming and adobe photoshop's generative features. *Journal for the Interdisciplinary Art and Education, 6*(3), 211-224. DOI: https://doi.org/10.5281/zenodo.15971532

Introduction

Generative art represents an innovative artistic movement that facilitates the automatic creation of art through the use of computer algorithms and software. This approach allows artists to integrate digital technologies into their creative processes, offering opportunities to produce unique works that transcend traditional art production methods. The

[1] Corresponding author: Res.Asst., Bilecik Şeyh Edebali University, Faculty of Fine Arts and Design, Department of Ceramics and Glass, Bilecik, Türkiye. E-mail: oznbbk@gmail.com ORCID: 0000-0003-3292-4403
[2] Res.Asst., Bilecik Seyh Edebali University, Faculty of Engineering, Bioengineering Department, 11100, Bilecik, Türkiye. E-mail: kubra.kirboga@yahoo.com ORCID: 0000-0002-2917-8860
[3] Asst.Prof.Dr., Çanakkale Onsekiz Mart University, Faculty of Fine Arts, Department of Ceramics and Glass, 17100, Çanakkale, Türkiye. E-mail: mehmetcosars@gmail.com ORCID: 0000-0003-1931-845X

origins of generative art date back to the 1960s, evolving alongside the adoption of computers in artistic creation (McCormack et al., 2019; Ren & Du, 2024). Today, the rapid advancements in digital art and sophisticated software tools have further enhanced the potential and significance of generative art (Galanter, 2003).

Theoretical Framework

In recent years, the widespread use of digital art tools and the evolution of algorithmic design techniques have enabled artists to redefine their creativity and modes of expression. These developments have allowed artists to focus on data in new media art, using it both as a subject and a material (Whitelaw, 2004). Generative art offers artists the ability to create complex and aesthetically rich visual structures by incorporating innovative elements such as randomness and algorithmic composition. This process minimizes human intervention in the creation of artworks, positioning computer algorithms as key determinants and enabling artists to explore new and uncharted avenues in their artistic expressions (Boden & Edmonds, 2009). This study moves beyond a mere descriptive association with critical theory by operationalizing key concepts as analytical lenses. Specifically, Jean Baudrillard's theory of hyperreality is used to analyze the simulated, often placeless nature of the generated dystopian environments (Baudrillard, 1994). Walter Benjamin's critiques of mechanical reproduction and the modern city inform the analysis of the artworks' digital origins and their thematic content (Benjamin, 1968; Benjamin, 1999). Finally, Donna Haraway's (1991) concept of the human-machine union provides a framework for understanding the creative process itself as a cyborgian practice, where artistic intent and algorithmic processes merge. This approach ensures that the theoretical framework is not merely a backdrop but an integrated tool for analysis.

Literature Review

Key Technologies and Applications in AI-Based Art

Chauhan et al. (2023) discussed the current applications of generative art, highlighting the innovative possibilities offered by these techniques in the fields of media, design, and entertainment. The study comprehensively examined various methods used in the field of generative art. Among these methods, tools such as Generative Adversarial Networks (GANs), DALL-E, Stable Diffusion, Multi-Diffusion, DIFF EDIT, SEMSTYLE, LAFITE, and Mirror GAN stand out. The research focuses specifically on the functioning and design principles of DALL-E, Stable Diffusion, and GANs, emphasizing that these three techniques form the basis of AI-based artistic production (Chauhan et al., 2023).

A key development in this area is the Creative Adversarial Network (CAN), proposed by Elgammal et al. (2017). This system, built on the principles of GANs, can produce creative artworks by maximizing deviation from established art styles while minimizing deviation from the general art distribution. The rise of these technologies also impacts traditional art institutions. A report by Christie's (2018) highlights the emergence of artificial intelligence (AI) and generative art as a new medium in the art world, raising new questions regarding the production, distribution, and perception of art.

Conceptual and Philosophical Frameworks

Beyond the technical aspects, significant studies have explored the conceptual dimensions of generative art. Philip Galanter's (2003) oundational work, for instance, frames generative art within the context of complexity theory, providing a critical vocabulary to discuss how complex, seemingly intelligent behavior can emerge from simple, deterministic rules. This perspective is crucial for understanding how our own simple geometric shapes can evolve into intricate visual worlds. Building on these philosophical questions, McCormack et al. (2019) challenge traditional notions of autonomy, authenticity, and authorship, questioning the roles of the artist and the machine in the creative process. These theoretical discussions are complemented by other seminal works from the early 2000s (GA2003(Generative Art 2003)) that explored diverse facets of the field, such as those by Soban (2003) focused on self-representing generative programs, Viscardi (2003) investigated architecture envisioned through material imagination, Freeman (2003) explored the interaction between generative art and music through the MetaMix project, and Romero et al. (2003) delved into the development of artificial art critics.

Technical Quality of Article

The Python programming language plays a pivotal role in the development of generative art (Joseph & Raghav, 2021). Its flexible and robust structure, combined with extensive library support, provides artists with powerful tools for realizing creative projects (Simon et al., 2018). Libraries such as Matplotlib are frequently employed to produce visual arts in Python. Moreover, Python's integration capabilities with other software and tools enable artists to develop versatile and comprehensive projects, facilitating more efficient and effective management of creative processes (Van Rossum & Drake, 2009).

Importance of Study

Dystopian and post-apocalyptic themes have long held a significant place in literature, cinema, and the arts. These themes often depict potential dark and collapsing futures, exploring societal and political critiques as well as the darker facets of human nature (Maclaran & Brown, 2010; Youvan, 2024). Post-apocalyptic scenarios, in particular, address humanity's struggles for survival and the quest for new order, offering profound and thought-provoking opportunities for artistic exploration (Galanter, 2019; Williams, 2005; Wojcik, 1999). Such themes provide artists with a vast creative landscape to produce works that captivate and challenge audiences (Kermode, 1967).

Aim of the Study

This study focuses on visualizing five distinct fundamental geometric shapes to reflect dystopian and post-apocalyptic scenarios, utilizing Python programming and the "Generative Image" feature of Adobe Photoshop (Beta version 25.11). Unlike previous approaches that often simulate human creativity, this research adopts a methodology grounded in fundamental design principles and digital production techniques. The primary aim is to explore how these principles can be systematically integrated into creative visual arts to present dystopian themes in an aesthetically compelling manner.

- How can basic geometric shapes generated with Python be effectively transformed into visual representations of dystopian and post-apocalyptic themes?
- What role does the integration of algorithmic design and generative software tools play in creating aesthetically compelling dystopian visualizations?
- How might the synthesis of structured design principles and digital technology expand the boundaries of artistic expression in the digital age?

By emphasizing the role of structured design over mimicking human artistic behavior, the study highlights the importance of generative art as a tool for digital art innovation. Furthermore, it underscores Python's potential in automating and enhancing creative processes. Ultimately, this research demonstrates how the synergy between art and technology can foster the development of innovative and transformative art forms, pushing the boundaries of digital creativity.

Method

This study employs a systematic approach to generate and transform geometric shapes into dystopian-themed visual art using computational techniques and digital tools. The research methodology combines algorithmic design with creative digital transformation, allowing for the exploration of how fundamental design principles can be integrated into the representation of dystopian and post-apocalyptic themes.

Research Model

The research adopts an experimental design model focused on the creative application of computational tools for artistic expression. This model involves a two-phase process: (1) the algorithmic generation of fundamental geometric shapes using Python programming, and (2) the creative transformation of these shapes using Adobe Photoshop's generative tools. The approach combines structured programming with creative digital manipulation, enabling the systematic exploration of how basic geometric forms can evolve into complex visual narratives that reflect dystopian themes.

Process

The creation process consisted of two main stages:

Phase 1: Generation of Reference Shapes Using Python Programming

Five fundamental geometric shapes were programmatically generated using Python, with an emphasis on incorporating fundamental design principles:

- Random Rectangles Composition: Using Python's Matplotlib pyplot module and NumPy library, 15 random rectangles were generated within a 10×7 canvas. Each rectangle was assigned random attributes including position coordinates, dimensions, and rotation angles between 0-360 degrees. The rectangles featured black edges without fill color, creating a minimalist aesthetic.
- Fractal Spiral Pattern: A recursive geometry method was implemented to create intricate fractal structures. A base function drew spirals around specified central points, with angle and radius calculations determining the spiral curves. The patterns were generated with random central points, radii, and colors, with parameters controlling recursion depth and color schemes. Random lines were superimposed to add an organic, hand-drawn quality.
- Geometric Intersections: Created using Matplotlib's pyplot and patches modules with NumPy, this pattern featured a primary rectangle as the central element, complemented by iteratively added lines that created dynamic intersections. Black-filled polygons and parallel lines added visual contrast, depth, and layering effects.

Phase 2: Creative Transformation Using Adobe Photoshop

The base shapes generated in Python were then processed and transformed using Adobe Photoshop's "Generative Image" feature (Beta version 25.11):

- Each geometric shape was subjected to thematic transformation using specific keywords related to dystopian and post-apocalyptic scenarios.
- For each of the five base shapes, three distinct visual variations were created, resulting in a total of fifteen outputs.
- The transformation process integrated the foundational geometric structures with Photoshop's advanced generative capabilities, converting abstract forms into intricate representations of dystopian themes.

Analysis

The analysis of the generated visuals focused on:

- The visual transformation from basic geometric forms to complex dystopian representations.
- The effectiveness of the integration between programmatically generated shapes and Photoshop's generative tools.
- The aesthetic qualities and thematic resonance of the final visuals.
- The relationship between specific keywords and the resulting visual characteristics

The analysis examined how fundamental design principles manifested in the final visual outputs and how effectively the dystopian themes were conveyed through the transformed geometric shapes.

Analytical Framework

The visual outputs were analyzed through both aesthetic and theoretical lenses (Table 1). The aesthetic analysis focused on compositional integrity, thematic alignment with dystopian concepts, and visual complexity. The theoretical analysis was guided by the operationalized concepts from the theoretical framework:

Baudrillard's Hyperreality: This concept was used to assess the degree to which the visuals created a self-referential, simulated reality detached from an original, paying attention to elements of artificiality and placelessness.

Benjamin's Aura: The concept of the "aura" was used to discuss the nature of the digital artworks as infinitely replicable objects lacking a unique physical original, and how this impacts their perception. His urban critiques were used to analyze representations of architectural alienation.

Haraway's Human-Machine Union: This framework was applied to the creative process itself, analyzing the workflow as a tangible example of human-machine collaboration where artistic intent and algorithmic agency merge.

Table 1. Conceptual mapping of theoretical lenses to visual outcomes

Theoretical Lens	Manifestation in Visuals	Relevant Visuals
Hyperreality (Jean Baudrillard)	Creation of simulated, self-referential worlds that lack a real-world original. Use of artificial textures and placeless but convincing environments.	Figures 1, 2, 3
Loss of "Aura" & Urban Critique (Walter Benjamin)	Images as infinitely replicable digital artifacts lacking a unique original. Representation of fragmented, chaotic, and oppressive architectural forms reflecting urban alienation.	All Figures (for aura); Figures 1 & 5 (for urban themes)
Human-Machine Union (Donna Haraway)	The creative process itself as a hybrid of human intent (prompts), algorithmic logic (Python), and AI interpretation (Photoshop), resulting in visuals that neither human nor machine could create alone.	The entire creative process; Figure 4 (visual representation)

Evaluation Framework

To move beyond subjective interpretation and to formally evaluate the visual outputs, a qualitative evaluation framework was developed. Each generated visual was systematically assessed based on four key criteria derived from the study's objectives:

Compositional Integrity: The degree to which the final visual retains the structural essence of the initial Python-generated geometric shape.

Thematic Alignment: The effectiveness of the visual in conveying core dystopian themes such as decay, oppression, isolation, or technological overreach.

Visual Complexity: The level of detail, texture, and aesthetic richness in the final artwork, reflecting the successful integration of generative processes.

Narrative Potential: The ability of the image to evoke a story, a specific scenario, or a sense of a larger world, enhancing its function as a piece of art.

This framework provides a structured basis for the analysis presented in the Results and Discussion sections.

Materials

The research utilized the following software tools and libraries:

- Python programming language (3.9)
- Python libraries: Matplotlib (Hunter, 2007) and NumPy (Harris et al., 2020)
- Adobe Photoshop (Beta version 25.11) with the "Generative Image" feature
- Thematic keywords for transformation as specified in Table 2.

Table 2. Keywords Used for Generative Process by Shape.

Shape	**Keywords**
Random Rectangles Composition	dystopian pattern
Fractal Spiral Pattern	post-apocalyptic scenario, dystopian
Wavy Surface	dystopian pattern hopelessness, dystopian pattern
Chaotic Lines	dystopian pattern
Geometric Intersections	post-apocalyptic scenario pattern, post-apocalyptic scenario

The integration of these computational tools and design principles facilitated the systematic exploration of dystopian visual aesthetics through a structured yet creative methodological approach.

Results

Figure 1 shows the transformation of the "Random Rectangles Composition." Applying the evaluation framework introduced in the Method section, these outputs demonstrate high thematic alignment with dystopian aesthetics. This is achieved through the deliberate interplay of sharp, rigid architectural forms and dynamic, often oppressive, lighting effects that capture a futuristic and alienating atmosphere. The compositional integrity is successfully maintained, as the foundational structure of the initial Python-generated rectangles is clearly visible within the complex cityscapes, providing a coherent visual transformation. Furthermore, the visual complexity is significantly enhanced through the generative process, which adds intricate textures and details that were absent in the minimalist base shape. The narrative potential of the images is also strong; each variation suggests a different dystopian scenario, from a cold, corporate-controlled metropolis to a city experiencing technological decay. This transformation process, which creates convincing realities without a real-world original, also serves as a clear example of Baudrillard's (1994) concept of hyperreality, where the generated visuals are not copies of a real-world dystopia but simulations that create their own self-referential, convincing reality .

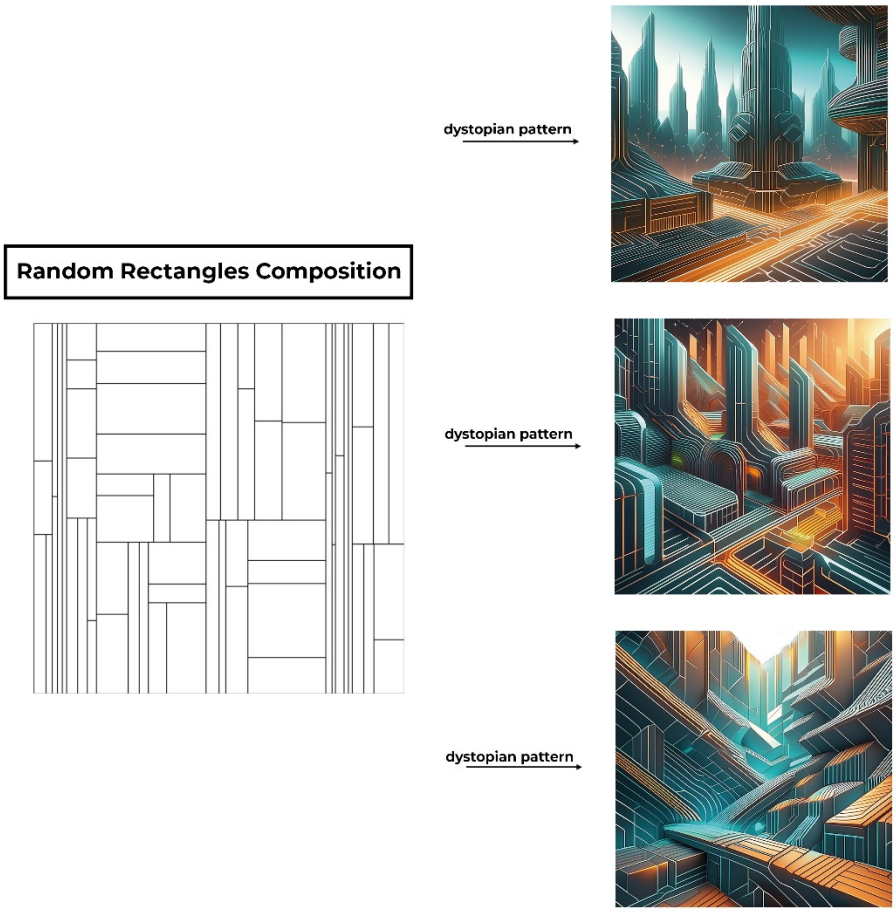


Figure 1. Transformation of Random Rectangles into Dystopian Environments

The transformation of the "Fractal Spiral Pattern" is presented in *Figure 2* From an analytical perspective, these outputs demonstrate a high degree of thematic alignment, as the "post-apocalyptic" and "dystopian" prompts effectively guided the AI to produce immersive environments defined by structural decay and architectural monumentality. The visual complexity is dramatically increased from the simple base shape, with the AI generating intricate textures, dense scaffolding-like structures, and a strong sense of atmospheric depth. Compositional integrity is also strong; the underlying hexagonal and spiraling forms of the original pattern are visibly echoed in the arrangement of the generated buildings and cityscapes, providing a clear structural lineage. This results in significant narrative potential, where each variation suggests a different facet of a post-human world from organized decay to isolated, monumental futurism.

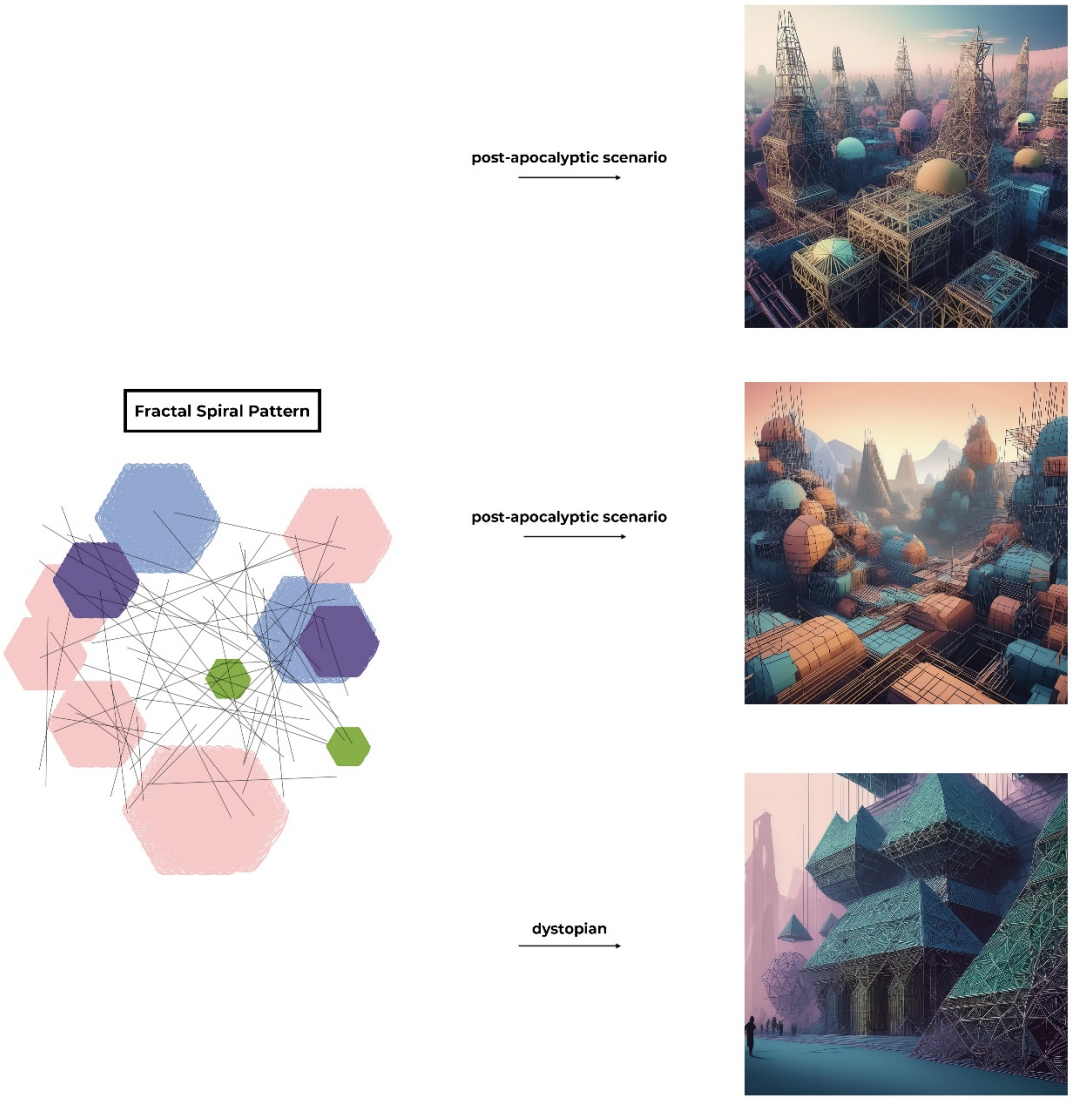


Figure 2. Transformation of Fractal Spiral into Post-Apocalyptic and Dystopian Environments

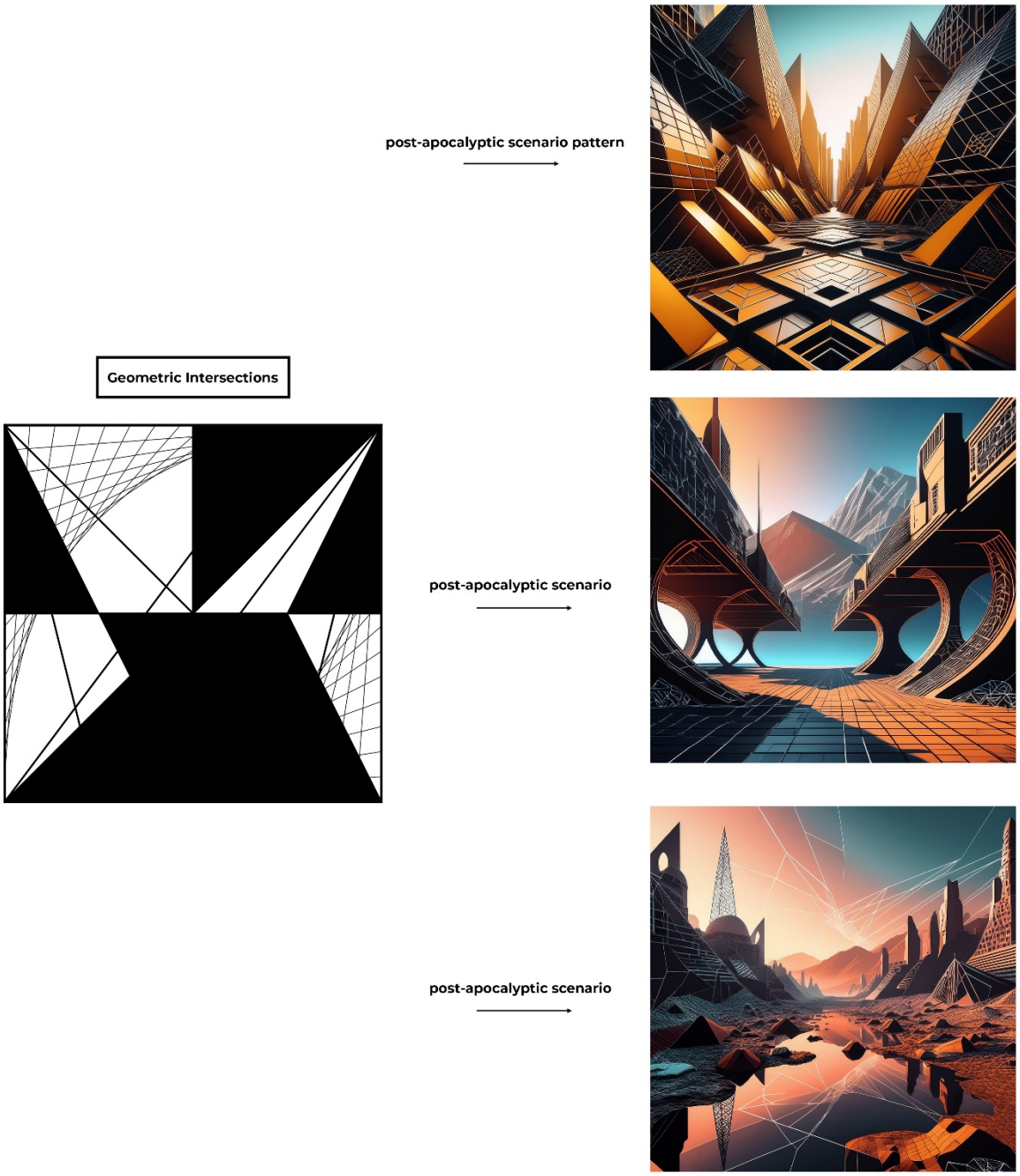


Figure 3. Geometric Intersections Transformed into Post-Apocalyptic Scenarios

The transformation of the "Geometric Intersections" base design into three distinct interpretations is shown in *Figure 3* These outputs are strong examples of thematic alignment, where the "post-apocalyptic scenario" prompt guided the generation of evocative visuals. Each variation displays strong narrative potential: the first suggests a dense, decaying cityscape; the second, a surreal world of structural ambiguity; and the third, a desolate landscape symbolizing isolation. The visual complexity is significantly elevated from the high-contrast 2D base image, with the AI introducing rich textures, atmospheric lighting, and a sense of vast scale. This is achieved while maintaining compositional integrity, as the sharp angles and intersecting lines of the original design are clearly reinterpreted as architectural edges and landscape features in the final visuals.

The "Wavy Surface" *(Figure 4)* provides a compelling case study in thematic alignment, where specific keywords radically altered the visual narrative. The "dystopian pattern hopelessness" prompt, for instance, generated a dark, cavernous environment that directly translates an abstract emotion into an oppressive architectural form, evoking isolation and despair. The other variations demonstrate diverse narrative potential, one exploring a monumental, alien-

like structure and the other a dense, organic-mechanical labyrinth that visually embodies a biotech dystopia. In all outcomes, the visual complexity is exceptionally high, transforming a smooth computational model into richly detailed worlds. Compositional integrity is maintained through an interpretive approach, where the 3D curvature of the base shape is re-imagined as interior spaces or complex cityscapes rather than a literal outline.

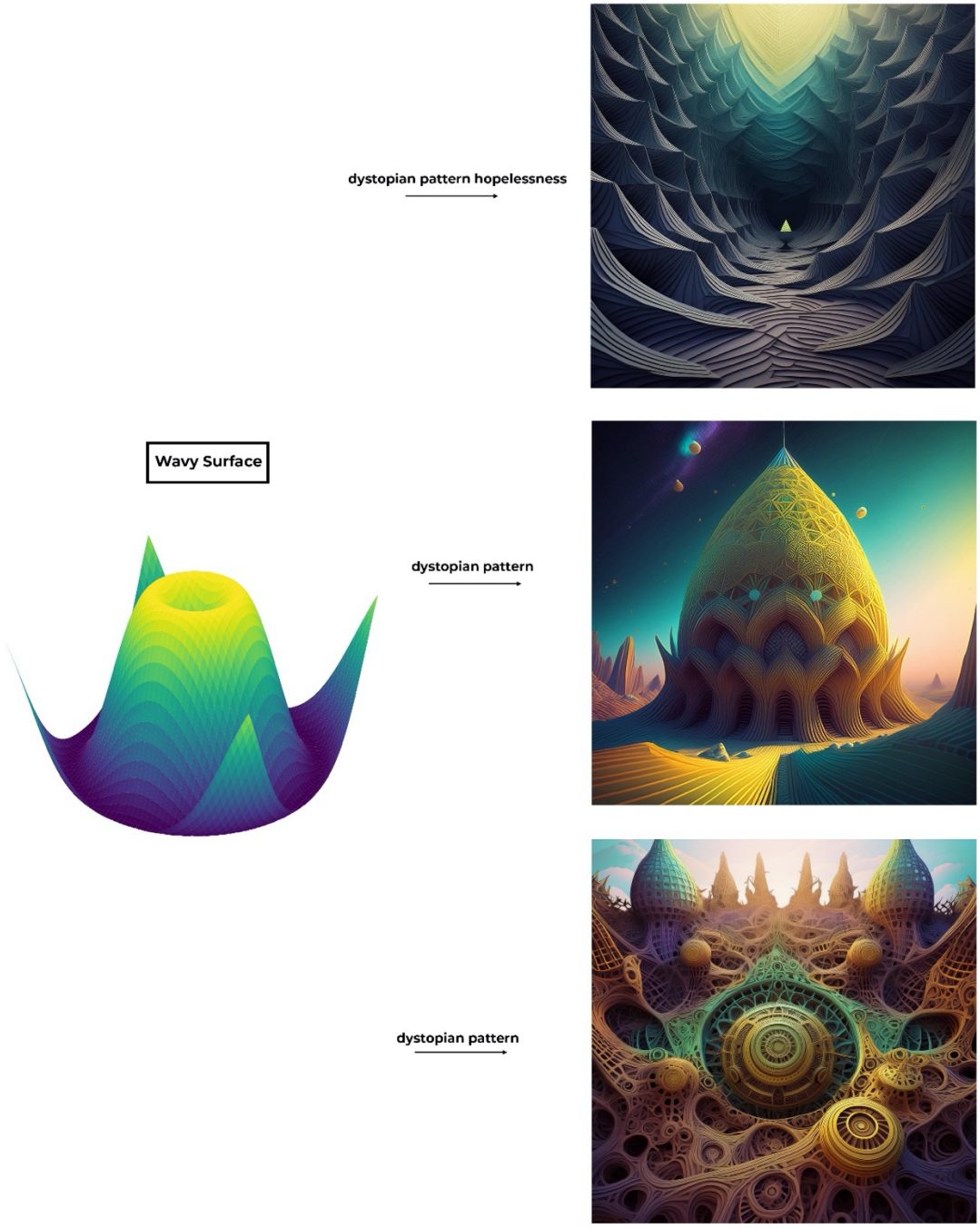


Figure 4. Reimagining Wavy Surface as Dystopian Landscapes

Figure 5 illustrates how a "Chaotic Lines" base shape can be transformed to explore the interplay between randomness and order. Analytically, these outputs excel in thematic alignment, as the "dystopian pattern" prompt channels the abstract concept of chaos into varied dystopian visions. The narrative potential is high, with each output offering a distinct scenario: a claustrophobic, oppressive interior; a desolate, grid-like industrial landscape; and an otherworldly, bio-digital environment. A significant increase in visual complexity is achieved by adding depth, color, and atmospheric effects to the flat base image. The compositional integrity is cleverly maintained not by preserving the exact form, but by reinterpreting the dense, chaotic texture of the original lines into new, structured systems, such as the intricate patterns of the interior or the grid-like formations of the landscape.

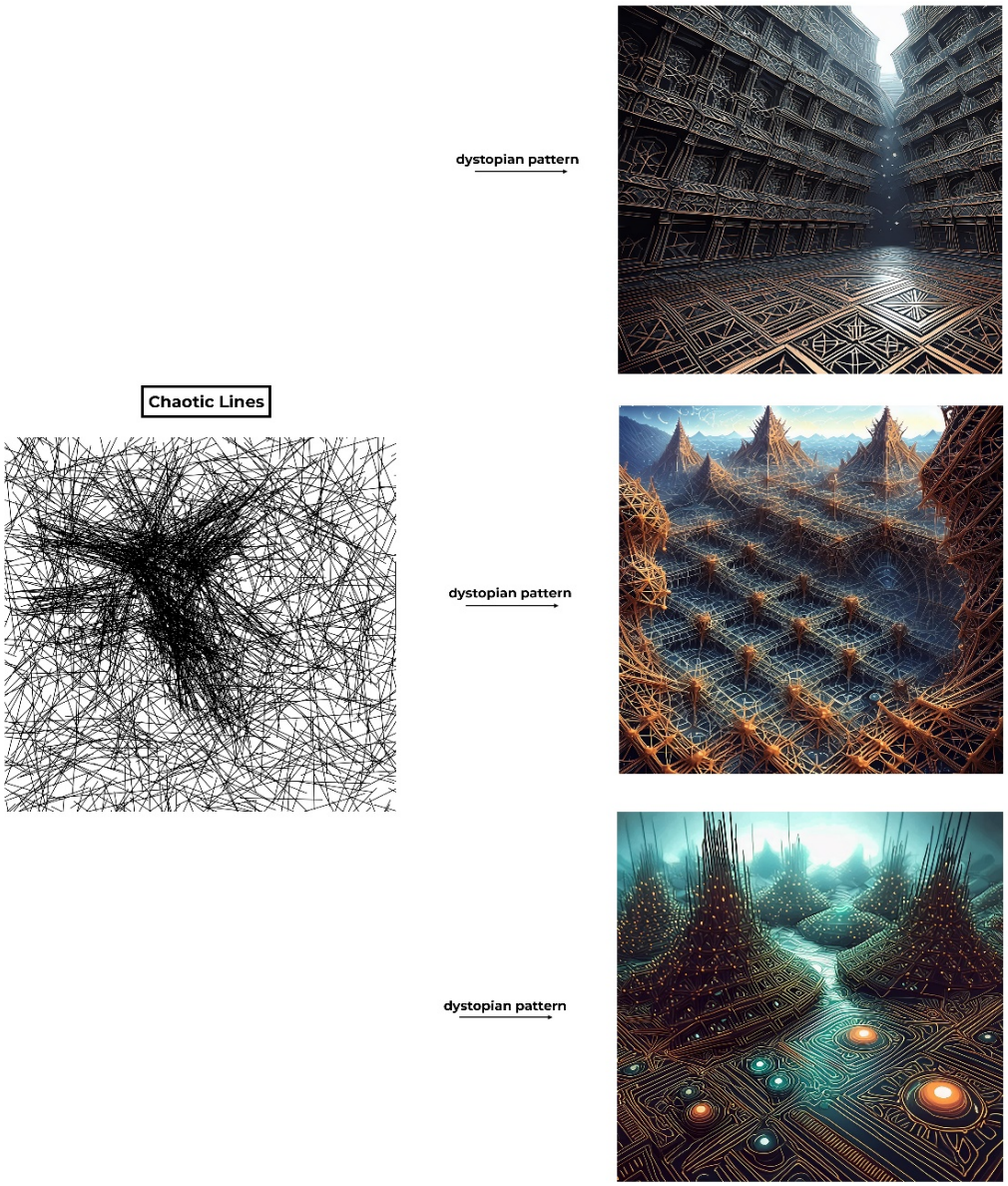


Figure 5. Chaotic Lines into Dystopian Structures

A comparative analysis of the outcomes reveals that the foundational geometric shapes significantly influenced the specific nature of the generated dystopian aesthetics. For instance, the sharp, disjointed nature of the "Chaotic Lines" (Figure 5) proved highly effective at evoking themes of urban decay and technological oppression. Its inherent randomness was readily interpreted by the AI as fragmented architecture or complex, oppressive systems. In contrast, the smooth, volumetric form of the "Wavy Surface" (Figure 4) yielded more organic or psychological dystopias; its curves were transformed into vast, alien structures or cavernous, labyrinthine interiors that suggest psychological entrapment rather than societal collapse. This demonstrates that while a chaotic base effectively produces imagery of structural failure, an organic base is more suited to exploring themes of biological or existential unease. This highlights that the initial algorithmic choice is not merely a starting point but a crucial directorial input that guides the AI toward distinct sub-genres of dystopian expression.

Conclusion and Discussion

The main purpose of this study was to investigate how dystopian and post-apocalyptic themes can be visually expressed through the integration of digital tools and algorithmic design methods. Basic geometric shapes generated using the Python programming language were processed using the advanced generative tools of Adobe Photoshop, creating structural compositions that considered elements of randomness and order simultaneously. These geometric abstractions were enriched with thematic keywords using Photoshop's "Generative Image" feature and transformed into

immersive dystopian scenes. The resulting visuals effectively addressed the relationship between chaos, order, and randomness, strongly reflecting dystopian themes through dramatic perspectives, isolated structures, and dark atmospheres. For example, compositions initially designed with chaotic lines transformed into dense cityscapes or barren post-apocalyptic landscapes, while fractal spiral patterns portrayed post-apocalyptic scenarios through complex structural geometries. These transformations demonstrate the capacity of computational tools to enhance creative processes and produce thematically compelling artworks. Beyond visual outputs, this study demonstrates a deep engagement with critical theory, using it to analyze both the process and the product. The transformation of simple geometric shapes into complex, self-contained worlds directly engages with Jean Baudrillard's (1994) concept of hyperreality. The generated images are not mere representations of a possible dystopia; they are simulations that establish their own logic, becoming convincing realities without an original. This process highlights how generative AI creates "the real for the real's sake." Furthermore, the methodological reliance on algorithmic reproduction resonates with Walter Benjamin's analysis of art in the age of mechanical reproduction (Benjamin, 1968). The digital artworks, infinitely replicable and algorithmically derived, inherently lack a traditional "aura," a quality Benjamin associated with unique, original artworks. The chaotic yet structured cityscapes visually echo his critiques of the alienating, fragmented nature of modern urban life. Finally, the entire creative workflow embodies Donna Haraway's (1991) vision of a human-machine union. The artist's initial guidance, the Python script's execution, and Photoshop's AI interpretation form a cybernetic loop a collaborative entity where human creativity and non-human algorithmic agency are inseparable. This integrated process does not just produce dystopian images; it performs a dystopian (or post-human) reality, validating generative art as a powerful medium for philosophical inquiry.

The algorithmic and generative methods used in the study offer an aesthetic perspective that brings together Benjamin's observations on the complexity of modernity with Galanter's theory of artistic randomness and order. Parallel to similar studies in the literature, these images combine the randomness features of algorithms with artistic aesthetics, presenting work that offers both artistic and technical depth. The study has shown that the boundaries of traditional art practices can be expanded through the integration of generative art and digital tools, providing a new perspective on how dystopian and post-apocalyptic themes can be artistically expressed with algorithmic methods. Python's flexibility in geometric abstraction and Adobe Photoshop's generative capabilities provided a foundation for combining randomness and order within a cohesive thematic framework. While Python played a significant role in creating structured randomness and algorithmic patterns, Adobe Photoshop transformed these visuals into rich narrative forms. The generated visuals effectively reflected dystopian themes such as isolation, decay, and technological domination with elements such as chaotic urban landscapes, fragmented architectures, and alien world terrains. This study highlights the transformative potential of generative art as a tool that combines technology with creativity. It has been demonstrated that creative processes can be managed more thematically, aesthetically, and efficiently by using Python's flexibility and Photoshop's generative tools together. The resulting images function not only as aesthetic tools but also as platforms for social and philosophical criticism, showing how art has evolved into new narrative forms in the digital age. The work has not only contributed to discussions on dystopian aesthetics but has also opened up new avenues for exploring artistic expression in the digital age. By advancing the integration of computational tools with artistic vision, future work in this area has the potential to redefine the boundaries of visual storytelling and conceptual art.

Recommendations

Recommendations for Researchers

Future research should explore a broader range of algorithmic approaches beyond geometric patterns, including cellular automata, L-systems, and particle systems to create more diverse dystopian visualizations, while developing deeper theoretical connections between generative art practices and philosophical perspectives on dystopia. Researchers would benefit from conducting comparative analyses between AI-generated and human-created dystopian artwork to understand perceptual differences between computational and traditional approaches, as well as incorporating audience

reception studies to gather data on how viewers interpret algorithmically generated dystopian imagery. Additionally, examining how dystopian themes manifest across different cultural contexts through generative art could reveal important variations in visual language and thematic emphasis, while developing systematic methodological frameworks for evaluating the aesthetic and narrative qualities of generative dystopian art would establish more rigorous standards for analysis in this emerging field.

Recommendations for Applicants

Practitioners in generative art should enhance their creative practices by integrating multiple software environments beyond Python and Photoshop, such as Processing, TouchDesigner, or Blender, while establishing systematic documentation practices for algorithmic parameters and transformation processes to ensure reproducibility and refinement of their projects. Artists would benefit from exploring interactive implementations that allow viewers to manipulate parameters in real-time, developing custom tools or plugins specifically designed for dystopian aesthetic exploration, and incorporating multisensory elements, including sound and haptic feedback, to create more comprehensive dystopian experiences. Furthermore, forming collaborative networks between programmers, visual artists, and theorists could facilitate more sophisticated implementations that leverage diverse expertise, while thoughtfully engaging with the ethical dimensions of creating dystopian imagery in an era of significant social and environmental challenges, using this artistic medium to foster constructive dialogue about contemporary issues.

Limitations of Study

This research exhibits several methodological and technical constraints that warrant acknowledgment within the academic discourse on generative art and dystopian visualization. The study's deliberate limitation to five fundamental geometric shapes potentially restricted the diversity of visual outcomes and thematic expression, while the reliance on specific dystopian-related keywords within Adobe Photoshop's generative process may have inadvertently channeled the visual results toward particular aesthetic interpretations, potentially obscuring alternative dystopian narratives that might emerge from different linguistic prompts. Technical parameters, including the use of Adobe Photoshop's "Generative Image" feature in its Beta version (25.11), render the results contingent upon the capabilities of an evolving software tool, while the two-dimensional focus of the methodology precluded exploration of potentially valuable three-dimensional or time-based expressions of dystopian themes. While this study introduces a formal qualitative framework to guide the analysis, the application of this framework still relies on the researchers' interpretation, which introduces a degree of subjectivity. This is further compounded by the lack of audience reception studies to validate these interpretations beyond the research context. Despite efforts to control variables through fixed random seeds, the inherent stochasticity in generative processes, combined with subjective human intervention in keyword selection and parameter adjustment, presents challenges for scientific reproducibility and limits the generalizability of findings, illustrating the complex tension between artistic creation and methodological rigor in this emerging interdisciplinary field. A further limitation lies in the study's primary focus on the technical and aesthetic aspects of creation, with less emphasis on the ethical considerations of generating dystopian imagery with AI. The use of AI to create powerful and realistic dystopian visuals raises important questions about their potential to influence public perception of technology and the future. There is a responsibility for creators to consider how these narratives might contribute to a climate of fear or hopelessness, rather than fostering constructive dialogue. The psychological impact on viewers and the new ethical questions surrounding human-AI collaboration in producing such culturally potent images are significant areas that warrant deeper investigation. While a full exploration of these ethical dimensions was beyond the scope of this technically-focused paper, we acknowledge their critical importance for future research in the field of generative art.

Acknowledgment

This research does not require ethical committee approval. There is no conflict of interest in the study. No funding support was received. All authors have contributed equally to the preparation and writing of this article.

Biodata of Authors

Res.Asst. **Ozan Bebek** was born in 1989 in Konak (İzmir). His academic journey began at Ege University Vocational School's Ceramics-Glass-Tile Program in 2011, followed by his graduation from Mersin University Faculty of Fine Arts, Department of Ceramics in 2016. He completed his master's degree at Çanakkale Onsekiz Mart University Graduate School of Education, Department of Ceramics in 2017, with his thesis titled "Polygon Expressions in Ceramic Art." In 2024, he earned his Proficiency in Art from Hacettepe University Institute of Fine Arts, Department of Ceramics, with his dissertation "Interpretation of Post-Apocalyptic Scenarios Based on the Concept of Dystopia with Ceramic Forms." His work explores the intersection between traditional ceramic techniques and digital technologies, with a particular focus on algorithmic design and generative art approaches that inform his three-dimensional creations. Bebek has participated in numerous national and international group exhibitions and was awarded the "Architectural Ceramic Art Workshop Special Prize" at the 12th Muammer Çakı International Student Ceramic Competition organized by Anadolu University Faculty of Fine Arts in 2024. Since 2018, he has been working as a Research Assistant at Bilecik Şeyh Edebali University, Faculty of Fine Arts and Design, Department of Ceramics and Glass, where he continues to develop innovative approaches combining traditional craft with computational design methods. ORCID: 0000-0003-3292-4403
Personel website: https://avesis.bilecik.edu.tr/ozan.bebek and https://www.ozanbebek.com
ResearchGate: https://www.researchgate.net/profile/Ozan-Bebek-2
AcademiaEdu: https://bilecikedu.academia.edu/OzanBebek
Google Scholar: https://scholar.google.com.tr/citations?user=HFVNcI8AAAAJ

Res.Asst. **Kevser Kübra Kırboğa** completed her undergraduate studies in Molecular Biology and Genetics at Muğla Sıtkı Koçman University, Turkey, in 2018. She pursued her postgraduate education in Biotechnology at İzmir Institute of Technology, Turkey, from 2019 to 2020, and later obtained her M.Sc. degree in Bioengineering from Süleyman Demirel University, Turkey, in 2022. Since 2022, she has been serving as a Research Assistant at Bilecik Şeyh Edebali University, Faculty of Engineering, Department of Bioengineering. Her research interests include bioengineering, computational biology, explainable artificial intelligence, and genetic diseases. She possesses strong programming skills, particularly in Python and R, which she utilizes for data analysis, machine learning applications, and generative art projects. Her computational expertise extends to bioinformatics tools, statistical modeling, and visualization libraries including NumPy, Pandas, Matplotlib, and SciPy. Kırboğa has a substantial number of publications in the field of bioinformatics and has authored several articles published in internationally recognized journals indexed by SCI, SCIE. ORCID: 0000-0002-2917-8860
Personel website: www.tissueandcells.com / https://avesis.bilecik.edu.tr/kubra.kirboga
ResearchGate: https://www.researchgate.net/profile/Kevser-Kirboga
AcademiaEdu: https://bilecikedu.academia.edu/KubraKirboga
Google Scholar: https://scholar.google.com.tr/citations?user=LU0UujUAAAAJ&hl=tr&oi=ao

Asst. Prof. Dr. **Mehmet Coşar** graduated from Çanakkale Onsekiz Mart University, Faculty of Fine Arts, Department of Ceramics in 2005, and completed his master's degree at the same university in 2008 with his thesis titled "Whistling Ceramics and New Propositions." He furthered his academic credentials by earning his Proficiency in Art from Dokuz Eylül University, Institute of Fine Arts, Department of Ceramic and Glass Design in 2021, with his research titled "Application of the Stylistic Features of Troy Period Ceramics in Contemporary Tile Designs." Throughout his career, Coşar has actively participated in numerous national and international symposiums and group exhibitions, earning three distinguished awards for his artistic contributions. His work explores the intersection of traditional ceramic techniques with contemporary digital and generative design approaches, bridging historical craft traditions with modern technological applications. Currently, he serves as a lecturer at Çanakkale Onsekiz Mart University, Faculty of Fine Arts, Department of Ceramics and Glass, where he continues to integrate innovative approaches to art and design in his teaching and research. ORCID: 0000-0003-1931-845X
Personel website: https://avesis.comu.edu.tr/mehmetcosar
ResearchGate: https://www.researchgate.net/profile/Mehmet-Cosar-4
AcademiaEdu: https://comu.academia.edu/MehmetCo%C5%9Far
Google Scholar: https://scholar.google.com.tr/citations?user=0g91tMcAAAAJ

References

Baudrillard, J. (1994). *Simulacra and simulation*. University of Michigan Press.

Benjamin, W. (1968). The work of art in the age of mechanical reproduction. In H. Arendt (Ed.), *Illuminations: Essays and reflections* (pp. 217–251).

Benjamin, W. (1999). *The arcades project*. Harvard University Press.

Boden, M., & Edmonds, E. (2009). What is generative art? *Digital Creativity, 20*(1), 21–46. https://doi.org/10.1080/14626260902867915

Chauhan, A., Chauhan, R., Nainwal, A., Arora, A., & Bhatt, C. (2023, September 14–16). Image multidiffusion algorithms for AI generative art. *2023 6th International Conference on Contemporary Computing and Informatics (IC3I)*.

Christie's. (2018). *The AI art at Christie's: How one painting generated more than $432,500*. https://www.christies.com/en/stories/a-collaboration-between-two-artists-one-human-one-a-machine-0cd01f4e232f4279a525a446d60d4cd1

Elgammal, A. (2017). CAN: Creative adversarial networks, generating "art" by learning about styles and deviating from style norms. *arXiv Preprint*, arXiv:1706.07068. https://arxiv.org/abs/1706.07068

Freeman, J. (2003). MetaMix: A symbiosis of familiar content with generative form [Conference presentation]. *Generative Art Conference*, Milan, Italy.

Galanter, P. (2003). What is generative art? Complexity theory as a context for art theory. *Generative Art Conference*, Milan, Italy.

Galanter, P. (2019). Artificial intelligence and problems in generative art theory. *Electronic Visualisation and the Arts (EVA 2019)*. https://doi.org/10.14236/ewic/EVA2019.22

Haraway, D. J. (1991). A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century. In *Simians, cyborgs, and women: The reinvention of nature* (pp. 149–181). Routledge.

Harris, C. R., Millman, K. J., van der Walt, S. J., Gommers, R., Virtanen, P., Cournapeau, D., ... & Oliphant, T. E. (2020). Array programming with NumPy. *Nature, 585*(7825), 357–362. https://doi.org/10.1038/s41586-020-2649-2

Hunter, J. D. (2007). Matplotlib: A 2D graphics environment. *Computing in Science & Engineering, 9*(3), 90–95. https://doi.org/10.1109/MCSE.2007.55

Hutchings, J. M. T. G. P. (2019). Autonomy, authenticity, authorship and intention in computer generated art. In *EvoMUSART 2019: 8th International Conference on Computational Intelligence in Music, Sound, Art and Design*, Leipzig, Germany. https://dx.doi.org/10.48550/arxiv.1903.02166

Joseph, B., & Raghav, B. (2021). *Generative AI with Python and TensorFlow 2: Create images, text, and music with VAEs, GANs, LSTMs, Transformer models*. Packt Publishing.

Kermode, F. (1967). *The sense of an ending: Studies in the theory of fiction*. Oxford University Press.

Maclaran, P., & Brown, S. (2010). The future perfect declined: Utopian studies and consumer research. *Journal of Marketing Management, 17*. https://doi.org/10.1362/0267257012652069

McCormack, J., Gifford, T., & Hutchings, P. (2019). Autonomy, authenticity, authorship and intention in computer generated art. *International Conference on Computational Intelligence in Music, Sound, Art and Design (part of EvoStar)*.

Ren, L., & Du, M. (2024). From canvas to code: The evolution of generative art in the AI era. https://doi.org/10.4108/eai.15-9-2023.2340877

Romero, J., Machado, P., & Santos Ares, M. L. (2003). Artificial music critics [Conference presentation]. *Generative Art Conference 2003*, Milan, Italy.

Simon, A. L.-R., Albluwi, I., Becker, B. A., Giannakos, M., Kumar, A. N., Ott, L., ... & Szabo, C. (2018). Introductory programming: A systematic literature review. *Proceedings Companion of the 23rd Annual ACM Conference on Innovation and Technology in Computer Science Education*, Larnaca, Cyprus. https://doi.org/10.1145/3293881.3295779

Soban, B. (2003, December 15–17). Methodological approaches in the development of programs for generating images [Conference presentation]. *Generative Art Conference*, Florence, Italy.

Van Rossum, G., & Drake, F. L. (2009). *Python 3 reference manual* (Python Documentation Manual Part 2). CreateSpace Independent Publishing Platform.

Viscardi, A. (2003). Imagined architecture via material imagination: A matter of transformation [Conference presentation]. *Generative Art Conference*, Milan, Italy.

Whitelaw, M. (2004). *Metacreation: Art and artificial life*. MIT Press.

Williams, P. (2005). Beyond Mad Max III: Race, empire, and heroism on post-apocalyptic terrain. *Science-Fiction Studies, 32*, 301–315.

Wojcik, D. (1999). *The end of the world as we know it: Faith, fatalism, and apocalypse in America*. NYU Press.

Youvan, D. (2024). Exploring common themes in dystopian fiction. https://doi.org/10.13140/RG.2.2.23807.21922

Journal for the Interdisciplinary Art and Education, 6(3), 225-238, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd.
(Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Music education as a field of social responsibility: The example of Izmir Little Hands Music Project[1]

Gülce Yanmaz Düztaban[2*] and Levent Ergun[3]

Dokuz Eylül University, Institute of Fine Arts, Department of Music Sciences, Music Teacher, Izmir, Türkiye

Article Info

Received: 24 June 2025
Accepted: 21 August 2025
Available online: 30 Sept 2025

Keywords
Ethnographic study
Music education
Social responsibility
Social transformation

Abstract

This study focuses on the Izmir Little Hands Music Project (İzmir Küçük Eller Müzik Projesi) as a social responsibility model that offers equal opportunities for children outside the city center and integrates it with local cultural dynamics. With music education offered within the scope of the project, children's sociocultural development processes are addressed together in the context of social responsibility. For this purpose, the ethnographic method and a qualitative research design were adopted. This research was conducted between June 2021 and August 2022 in the Yakaköy and Vişneli villages of Izmir. The data sources consisted of children between the ages of 7-16 who participated in the project, trainers, coordinators, volunteers, project documents, and media content. Data were collected through participant observation and semi-structured interviews, and analyzed using content and thematic analysis methods. The findings revealed that this project, which started during the Covid-19 pandemic, positively affected children's social interactions and group dynamics through music education. The findings show that the project improved children's social skills, self-confidence, and empathy skills through non-formal education. Choir, rhythm, and instrument (bağlama, kabak kemane, guitar, and violin) training reinforced the children's sense of community and musical harmony. The project demonstrated a sustainable structure by incorporating local cultural elements (folk songs and Zeybek performances) into the training and receiving of community support through instrument donations. The findings also revealed that concerts and organized events increased social awareness by providing children with stage experience. The Izmir Little Hands Music Project was found to be a successful implementation that combines music education with social responsibility, contributes to the sociocultural development of children in many ways, and can serve as a model for similar initiatives. In line with the findings of this study, the importance of enriching music education programs with local elements and supporting and expanding such social responsibility projects with educational policies has emerged.

To cite this article

Yanmaz Düztaban, G., and Ergun, L. (2025). Music education as a field of social responsibility: The example of Izmir Little Hands Music Project. *Journal for the Interdisciplinary Art and Education, 6*(3), 225-238. DOI: https://doi.org/10.5281/zenodo.16948065

Introduction

Beyond contributing to the cultural and social development of individuals, music education is considered an important tool for the construction of social transformation and social responsibility in modern societies. Although music is seen

[1] This study was produced from Gülce Yanmaz Düztaban's master's thesis titled "Music Education as a Field of Social Responsibility: The Example of Izmir Little Hands Music Project", completed at Dokuz Eylül University, Department of Music Sciences, in 2024.

2 Corresponding author: Dokuz Eylül University, Institute of Fine Arts, Department of Music Sciences, Music Teacher, Izmir, Türkiye. E-mail: gulce.duztaban@ogr.deu.edu.tr ORCID: 0000-0001-8842-0234

3 Assoc. Prof. Dr, Dokuz Eylül University, Faculty of Fine Arts, Department of Musicology, Izmir, Türkiye. Email: levent.ergun@deu.edu.tr ORCID: 0000-0002-9959-8780

as a universal phenomenon, the definition and function of music vary among different cultures. In this context, the concept of music gains meaning and is shaped within the framework of social and cultural values (Erol, 2018, p. 29). Elliott (1995, p. 39) defined music as part of interactions and participation between people. Music education plays a central role in the learning and teaching process, as it teaches social and cultural values as well as musical knowledge and experiences.

Music education provides students with emotional expression and expressive skills by developing their music-making and listening abilities and offers students the opportunity to participate in various musical activities through processes such as listening, performing, and composing. In this process, musical understanding and production skills are developed (Elliott, 1995, p. 10). Swanwick (1999, p. 43) stated that music is valuable for both technical skills and aesthetic and emotional understanding. Music education gives students the opportunity to understand different cultural processes and participate effectively in society. This education allows students to better understand themselves and their environment, and music contributes to the emotional and social development of individuals.

The main purpose of education is to raise individuals as good citizens equipped with the knowledge and skills to adapt to society (Uçan, 1993, p. 116). In this sense, music education supports cultural and social development by providing students with the skills to understand and perform music through both formal and non-formal education. While formal music education proceeds with a defined curriculum and teacher guidance, non-formal music education offers a more flexible and participatory learning process shaped according to the interests and needs of students. The combination of these two forms of education makes music education more inclusive and effective, allowing students to explore and internalize music in their own cultural and individual contexts.

Music education that deepens individuals' cultural interactions and educates them as active participants improves their quality of life and strengthens social cohesion. While music develops the individual's ability to understand and express cultural realities, it also enables them to make constructive and conscious contributions to the social and cultural environment (Uçan, 1993, p. 116). Music education, which supports the development of children and young people in particular, increases their cognitive, emotional, social, and physical competencies, and enables them to grow up as more conscious and active individuals. At this point, equality of opportunity is another important theme in music education that is emphasized in the field of social responsibility. Equal access to music education for all children is strongly supported by the Convention on the Rights of the Child adopted by the United Nations, which stipulates that children's rights to participate fully in arts and culture should be protected and promoted (UNICEF, 2004). However, disadvantaged children may be deprived of such educational opportunities, particularly because of economic, social, geographical, and environmental barriers. These inequalities in education can severely limit children's potential to discover and develop their talent.

Social responsibility projects in the field of music education can significantly contribute to reducing inequalities in education and ensuring a more equitable distribution of opportunities. For example, the El Sistema program, which was initiated in Venezuela and spread worldwide, aims to alleviate problems such as poverty and social exclusion while supporting social participation and individual development by using music as a tool for social change (Fenercioğlu, 2015, p. 60). By involving children and young people in a comprehensive music education process, the program aimed to increase social skills, self-esteem, and discipline.

Through social responsibility projects, music education can reach all segments of society and have a significant impact. In addition, music education projects lay the foundation for a fairer and more inclusive society by promoting social cohesion and cultural richness. In this context, the Izmir Little Hands Music Project stands out as a unique initiative that focuses on music education within the social responsibility framework. The project is a social responsibility project initiated by Yılmaz Demirtaş in 2021, especially for children living outside the city center. The focus of the project is to contribute to the social and cultural development of children through music and to provide them with music education. The project also gained importance in terms of solidarity and cultural transmission by providing music education through cooperative labor. Analyzing the project using an ethnographic method allows us to understand the effects of music education on the field of social responsibility. In this context, ethnographic study

provides an understanding of the project, documents the far-reaching social impacts of music education, and makes an important contribution to other studies in this field.

Education and Music Education

Music education is considered a process that encourages students to understand cultural processes and structures, as well as their musical experiences (Elliott, 1995, p. 23). Elliott (1995, p. 129) defined music as a human activity and stated that music education includes activities such as music making, listening, and composing. Swanwick (1999, p. 44), on the other hand, emphasizes that music is not only about technical skills, but also about developing aesthetic and emotional understanding. Music education supports students' personal and cultural development by allowing them to discover their identity (Campbell et al., 2007). 221).

Although music education plays a critical role in the musical and cultural development processes of individuals, it is important that it be offered through different pedagogical approaches and learning environments. Music education can assume different functions, both within the formal education system and in non-formal education settings.

While formal education is defined as a structured system with a specific curriculum and teacher guidance (Coombs & Ahmed, 1974, p. 1), non-formal education stands out as a more flexible, participatory, and community-oriented learning model. Non-formal education has been evaluated as an effective method to produce solutions to the complex problems of modern society, and has been accepted as an alternative to address the inadequacies of formal education, especially in developing countries (Campbell & Higgins, 2015, p. 654). Mok (2011, p. 13) emphasized that non-formal education is a participant-oriented process that does not require planning, while D'Amore (2009, p. 44) stated that this model supports student participation and the development of non-cognitive skills.

In Türkiye, non-formal education is defined by the Ministry of National Education as a process that provides lifelong education to individuals outside formal education based on their interests, desires, and abilities (Demirel & Ün, 1987, p. 186). Kurt (2000, p. 2), on the other hand, sees non-formal education as systematic and continuous educational activities aiming at the economic, social and cultural development of individuals. Non-formal music education in Türkiye aims to provide music education to large segments of society through institutions such as vocalization teams, radio and television programs, and folk houses. Today, music education is offered through many channels such as public education centers, cultural centers, and private institutions. Thus, artistic and sociocultural development opportunities are offered to a wide audience, including disadvantaged children.

Social Responsibility

Social responsibility relates to an individual's ability to bear the consequences of his or her own actions, and this responsibility requires an approach that encompasses not only individual interests but also social welfare (Owens, 1983, p. 22). Glover (1970, p. 87) emphasizes that individuals should bear the consequences of their actions in a moral and legal context and states that social responsibility includes basic elements such as cooperation and contributing to the general welfare of society. Carroll (1991, p. 41) explains voluntary responsibilities within the framework of elements such as participating in projects aimed at improving the quality of life of society, supporting artistic activities, and making financial contributions to educational institutions. Such activities reflect individuals' desire to contribute to society and to support social transformation and sustainable development. Moreover, these responsibilities, combined with art, education, and social projects, have become important tools for improving society's welfare (Lantos, 2001, p. 608).

The Relationship between Social Responsibility and Non-Formal Education

The relationship between social responsibility and non-formal education is seen as an important strategy for providing access to disadvantaged segments of society and creating equal opportunities in education. Non-formal education offers individuals lifelong learning opportunities and provides an alternative and complementary education model, especially for groups at risk of poverty, discrimination and social exclusion (Coombs & Ahmed, 1974, p. 8). At this point, the integration of non-formal education with social responsibility projects functions as an effective method to achieve the

goals of equality in education by supporting the access of disadvantaged groups to educational opportunities, as well as increasing social benefits.

Music Education as an Area of Social Responsibility

While music education develops an individual's aesthetic needs and artistic taste, it also enables them to interact with their social and cultural environments (Uçan, 1993, p. 113). Music contributes to the emotional, psychosocial, and cognitive development of children and helps them lead healthy lives (UNICEF, 2004). However, to provide equal opportunities to all children, equal opportunities in education must be ensured. Especially for disadvantaged groups, access to artistic activities such as music education can positively affect the development of their talent. Social responsibility projects aim to ensure children's full participation in education by contributing to the multifaceted development of music education.

One example in which music education and social responsibility projects are combined is the El Sistema. Launched in 1975 in Venezuela by José Antonio Abreu, this program aimed to promote social change through music, bringing together children and young people from different segments of society around the collective practice of music. The program aims to reduce social problems such as poverty, illiteracy, and exclusion while keeping children away from negative environments and harmful habits, as well as helping them gain discipline, solidarity, and self-confidence through music in groups. The program helps children develop ethical and aesthetic values through music education, and stands out as a social development tool that strengthens social cohesion through various musical genres. El Sistema's methodology is flexible and adaptable to any community. Students usually begin by joining the choir and continuing with the orchestra. The training is based on group activities, so that children develop social skills and experience social dynamics. Students who participated in the program underwent intensive training supported by lessons in music theory and history, with an emphasis on group work rather than individual lessons (El Sistema, n.d.).

El Sistema's global practices have been adapted in many countries according to local cultural and social dynamics. However, the core principles remain consistent despite the different contexts. In countries such as the USA, UK, Canada, and Australia, models compatible with the program have been developed, and children have shown academic success and personal development through these programs (Youth Orchestra Los Angeles, n.d.).

Another example is Music for Peace, which was established in Istanbul in 2005 and became a foundation in 2011. This project provides children with free music education and brings them together through music. Based on the El Sistema model, the Music for Peace Foundation is structured as a system of orchestras. In this project, children learn to play a musical instrument in a short period of time, become part of an orchestra, and develop the discipline and cooperative skills of making music together (Music for Peace, n.d.).

Importance of the Research

This research contributes to the literature by examining the effects of music education on children in the context of social responsibility through the Izmir Little Hands Music Project using an ethnographic method. The project focuses on the development of social and musical skills through music education for children living outside the city center of Izmir and the contributions of this process to the sociocultural development of children. This research shows how music education is not only an artistic activity but can also be used as a strategic tool for individual and social change.

This study is important in terms of demonstrating how music education can improve children's social skills, such as empathy, cooperation, self-confidence, and the social impact of these skills. In addition, the fact that the project includes the adaptation of music education during challenging periods, such as the Covid-19 pandemic and the pedagogical strategies applied to the needs of students in this process is noteworthy in terms of flexibility and innovation in educational practices.

The Izmir Little Hands Music Project offers music education integrated with local culture, allowing children to discover their own cultural identities, and through these identities to participate in a broader social context. This project, the place of music education in social responsibility projects, constitutes a model for similar projects and makes an important contribution to the literature in this field.

Purpose and Problem of the Research

The main purpose of this research is to evaluate how the project contributes to the sociocultural development of children through music using an ethnographic methodology. The project aims to provide children with social and musical skills through music by considering music education as a social responsibility tool. This research examines the project's efforts to integrate music education into the non-formal education system and its adaptation strategies during the pandemic, while questioning the extent to which pedagogical approaches appropriate to the individual needs of students are applied. In addition, this research aims to examine the effects of music education on children's social interactions and group dynamics, as well as to reveal how this education can be considered as a learning process with a pedagogical approach. In this context, the aim of this research is to determine the effects of the Izmir Little Hands Music Project on sociocultural development, and to show how music education can be used as a strategic tool in the field of social responsibility.

In this context, the main problem statement of this research is as follows: “How does music education carried out within the scope of the Izmir Little Hands Music Project contribute to the sociocultural development of children in the context of social responsibility?".

The sub-objectives determined within the framework of this main problem statement are as follows.

- What is the sociocultural background of the Izmir Little Hands Music Project?
- What is the implementation and content of the education programs in the Izmir Little Hands Music Project?
- What are the performances and activities organized within the scope of the Izmir Little Hands Music Project?
- What is social interaction and children's sociocultural development in the Izmir Little Hands Music Project?

Method

This study is structured on the basis of an ethnographic method and qualitative research design. Ethnography was used as the research method.

Research Model

A qualitative ethnographic design was adopted for the research model. This model aimed to analyze the process of the "Izmir Little Hands Music Project" carried out in the Bornova/Yakaköy and Kemalpaşa/Vişneli villages of Izmir. Through participant observation and semi-structured interviews, the researcher attempted to analyze the practices within the project, the experiences of the participants, and the social impacts of music education.

Participants / Data Sources

The study participants consisted of children between the ages of 7-16 who actively participated in the project between 2021-2022, project trainers, coordinators, and volunteer supporters. Individuals who took part in the active period of the project and participated in various music education activities (instrument, rhythm, choir, performance, etc.) within the scope of the project were preferred as a criterion for participant selection. In this study, various documents such as project archives, visual materials (photographs, posters), activity programs, and media reports were also analyzed as qualitative data.

Data Collection Process

The research was conducted between June 2021 and August 2022, and the data collection process was conducted through both on-site observations and semi-structured interviews with participants. The lessons, performances, and community activities organized within the scope of the project implemented in two different rural areas of Izmir (Yakaköy and Vişneli) were observed on-site, and face-to-face interviews were conducted with project trainers and participating children.

During the research process, carried out in line with ethical principles, care was taken to ensure the confidentiality of personal data. Explicit consent and assent were obtained from parents of the participating children during the observation and interview stages. All ethical rules and participants’ rights were recorded during the study. Throughout

the research process, the researcher aimed to collect data by establishing natural and trusting communication with the participants.

Analysis Techniques

The obtained data were analyzed through content analysis and thematic analysis, which are qualitative data analysis techniques. Observation notes, interview transcripts, and documents were categorized under certain themes and the contributions of music education to children's sociocultural development were interpreted. While creating the themes, criteria such as children's sociocultural development, social interactions, self-confidence gains, and musical competencies were considered.

Findings

This chapter presents a detailed analysis of the music education practices and sociocultural impacts of the project in the context of social responsibility based on fieldwork, observations, and interviews conducted within the scope of the research. In this framework, the effects of the project's music education on the development of children's social and musical skills were reported and interpreted, supported by tables and visual presentations. Thus, the positive effects of music education on the sociocultural development of children, the success of the interventions carried out within the scope of the project, and the role that music education can play in the context of social responsibility are discussed.

Findings on the Sociocultural Background of the Izmir Little Hands Music Project

Izmir Little Hands Music Project is a socially responsible initiative launched by Yılmaz Demirtaş in April 2021 in Yakaköy. The project aims to provide music education to children living outside the city center. Demirtaş's experiences in various music and social responsibility projects form the basis of this project.

Yakaköy is a neighborhood on the Bornova-Manisa highway, known for its historical and cultural richness. Law No. 6360 transformed Yakaköy from a village into a neighborhood, and the lifestyle and economic structure have undergone significant changes. With the decline in traditional agriculture and animal husbandry activities, the young population has moved to the city center for education and job opportunities.

The project began to take shape after a meeting with Fidan Cabar, a pharmacist involved in social affairs in Yakaköy, through Yılmaz Demirtaş and Emel Acar, whom he had met at the Lausanne Mübadilleri Foundation Choir. The Yakaköy Development and Promotion Association provided space and community support for the project, and the village's old school became the "Little Hands Classroom" through a culture of collective labor. This classroom served as the center of the project. In order to expand the project, Demirtaş also included Vişneli Village in Kemalpaşa district of Izmir and collaborated with Erdoğan Altun, with whom he had a personal acquaintance, who had been working voluntarily on folk dances with the children living there.

In an interview with Erdoğan Altun, it was emphasized how the project took shape in Vişneli Village and how it was integrated with folk dance activities in the village. Altun explains the social and cultural integration of the project as follows: "Thanks to our previous acquaintance with Teacher Yılmaz, he was aware of my folk dances here and I knew about his children's street orchestra project. As a fruit of our work, we had planned a picnic to meet and mingle" (Personal interview with Erdoğan Altun, February 20, 2024).

In conclusion, the sociocultural impact analysis of the Izmir Little Hands Music Project in Yakaköy and Vişneli Villages shows that music education in these regions contributed not only to individual development but also to social and cultural transformations. Under the leadership of Yılmaz Demirtaş and in close collaboration with local communities, the project aimed to provide children with social skills and self-confidence through music. The importance of music education as an alternative field of learning and personal development is increasing, especially in an environment where young people in villages have limited educational opportunities.

In this context, the effects of the project were supported by the interviews and observations. In Yakaköy and Vişneli villages, music education has resulted in strengthening sociocultural interactions and preserving and transmitting regional cultural heritage. The project also emphasizes that local cultural heritage can be integrated with music education, and the positive effects of this process on children can be demonstrated by including folk songs in the choir

repertoire, as well as kabak kemane and bağlama training. This is in line with Okechukwu and Ibekwe (2024), who examined the critical role of traditional music practices in cultural transmissions. This study states that music is a powerful tool that transmits society's values, traditions, and moral education from generation to generation. In particular, it is emphasized that children learn social behavior and cultural identity through traditional music. Therefore, the Izmir Little Hands Music Project can be considered a model that reinforces the transformative power of music education on individuals and communities and offers new perspectives within the framework of social responsibility.

Findings on Social Transformation through Music Education

Izmir Little Hands Music Project aims to reduce social inequalities and support individuals lifelong learning by following a model in line with the non-formal education approach outside the official formal education program hours of the Ministry of National Education. The project was implemented with the aim of using music education to produce effective solutions to social problems and create a positive impact on students' lives. In this framework, the project adopted an approach that encourages both individual and social transformation.

The music education methods implemented in the project focused on improving students social skills, self-confidence, and personal abilities, such as empathy. Through group-based choral and rhythm activities, the students' production, listening, and adaptation skills were developed, and they were given the opportunity to express themselves through improvisation. Performance-based activities increased students' stage experience, while learning processes allowed for instrument selection and individual progression. By incorporating local cultural elements into the program, the sense of cultural belonging was reinforced through local instruments. In addition, the visibility of education in the local context has increased and social interaction has been strengthened through community participatory activities. The entire education process was customized to meet the individual needs of the students, and instrument training was structured according to their age group and developmental characteristics. This customized approach was shaped according to the students personal interests and preferences, allowing each child to make the most of their potential. Students had the opportunity to explore the social and cultural aspects of music by receiving music education within the framework of an intensive program during weekends and summer holidays.

Although social isolation measures during the Covid-19 pandemic limited physical interactions, the project continued the interactive education process with Little-group work and online activities with peer age groups. This kept the students in constant contact with each other in their daily lives in the village and contributed to the strengthening of their social bonds. How music education strengthens collaboration and group dynamics among students is an example of how a project supports active participation and integration within the community.

Findings on the Implementation and Content of the Education Programs

In this sub-heading, the project's educational activities for children between the ages of 7-16 were analyzed. The music education provided under the project aimed to support children's cognitive, emotional, and sociocultural development. The project ensured continuity of education by offering intensive programs on weekends and summer holidays, and educational activities were continued by switching to both face-to-face and distance education during the pandemic. Table 1 shows in detail the types, frequency, and duration of lessons as well as the educational methods and features of the Izmir Little Hands Music Project.

Table 1. Music courses and their characteristics were offered as part of the Izmir Little Hands Music Project

Course Type	Frequency and Duration	Education Methods and Features
Choir Training	Organized weekly. Three class hours (40x3), Saturdays.	Basic vocal exercises, vocal techniques, solfege training, repertoire study.
Rhythm Education	Three lessons per week (40x3), Sundays.	Rhythmic exercises, use of drum pads, rhythm competitions, group work.
Instrument Education	It covers three 40-45 minute lesson hours on weekends.	Individual and group lessons, various instruments (violin, guitar, bağlama, kabak kemane), student-centered practices. Variable depending on weather conditions, indoors and outdoors.
Bağlama Education	Saturday 40-45 minutes, three class periods.	Transfer of cultural values, technical skills, repertoire diversity.
Kabak Kemane Education	Sunday 40-45 minutes, three lesson hours.	Cultural importance of the instrument, basic performance techniques, working on repertoire.
Guitar Education	Saturday 40-45 minutes, three lessons.	Correct sitting and holding positions, finger exercises, working on popular songs.
Violin Education	Sunday 40-45 minutes, three lesson hours.	Parts of the violin, correct grip and performance techniques, note locations, performing in a group.

Observations and personal interviews conducted during this period show that students coming together during the music education process positively affected their social interactions and group dynamics. For example, in choir and rhythm training, students from various age groups come together on a weekly basis to reinforce musical harmony and a sense of community.

Owing to the pedagogical methods applied in choral education, students musical expression skills and repertoire improved, and a participatory learning environment was encouraged by allowing freedom in song selection. Choral activities enable children to listen to each other, improve their vocal harmony, and increase their social skills and musical knowledge. In this process, students gained experience in discovering their own voices and performing in harmony with other individuals.

Photo 1. Yakaköy Choir Training (Bornova/Yakakaköy, 30.04.2022)

In rhythm education, children are given opportunities to practice understanding the place of rhythm in daily life and the rhythmic structures of music. Students discovered rhythms that exist in nature and integrated these rhythms into their instrument practices. Group activities, especially during rhythm activities, developed children's cooperation and coordination skills while simultaneously creating an environment of healthy competition and providing a fun learning experience.

Photo 2. Yakaköy Rhythm Group (Little Hands Music Photography Archive: Kemalpaşa/Vişneli Village, 30.04.2022)

In the instrument education department, children had the freedom to choose instruments that suited their interests and abilities; in this process, they were introduced to local instruments such as the bağlama and kabak kemane, and learned the cultural meanings of these instruments. The individualized teaching methods applied in instrument training enabled students to improve their technical skills and find opportunities to express themselves musically.

Photo 3. Vişneli Village Bağlama and Kabak Kemane Group, Yakaköy Violin Group (Küçük Eller Music Photo Archive: Kemalpaşa/Vişneli Village, 28.04.2022) (Küçük Eller Music Photo Archive: Bornova/Yakakaköy, 20.01.2022)

As a result, the Izmir Little Hands Music Project adopted various pedagogical approaches to support children's social, cultural, and cognitive development through music education and structured its educational programs by considering individual needs and social context.

Selection of Instruments and Educators

In the Izmir Little Hands Music Project, four instruments are preferred: bağlama, kabak kemane, guitar, and violin. In addition to considering the individual tendencies and preferences of the children, a pedagogical approach was adopted to support their acquisition of cultural identity and develop their musical skills in a multifaceted way. Bağlama and kabak kemane, as instruments representing the folk music tradition, were included in the education program with the idea that they could support children's connection with their own cultural heritage. Guitar and violin, on the other hand, were considered instruments that support children's development open to musical diversity due to their suitability for polyphonic music, their contribution to the development of technical skills, and their access to different musical genres. In the process of identifying trainers within the scope of the project, a structure based on volunteerism was observed. The musical environment and social relations of project coordinator Yılmaz Demirtaş served as an important resource in the recruitment of instructors. Music educators who participated in the project voluntarily from this environment, who are experts in their fields and have pedagogical formation, made meaningful contributions to the process with their professional competencies, as well as their commitment to the project and motivation to volunteer.

Determination Process and Content of the Repertoire

The repertoire used in music education within the scope of the project was structured by considering the age groups, technical proficiency levels, and cultural contexts of the students. Three basic approaches were emphasized in the creation of this repertoire: Turkish folk music pieces, children's songs, and popular music pieces. This diversity provides a multifaceted learning environment for students to improve their technical skills and increase their capacity for musical expression and interpretation.

In the bağlama and kabak kemane groups, traditional folk songs such as "Uzun İnce Bir Yoldayım" and "Altın Yüzüğüm Kırıldı" were included to help children connect with the local music culture and reinforce their sense of cultural belonging. In the guitar and violin groups, works from both traditional and popular music repertoire, such as "Fikrimin İnce Gülü," "Arkadaşım Eşek" and "Gülpembe," as well as basic classical music exercises, were included; in this way, it was aimed to improve students technical competence and to raise them as individuals open to musical diversity (Personal interview with Yılmaz Demirtaş, September 17, 2022).

In choral studies, works such as "Tohumlar Fidana" and "Izmir Marşı" were performed jointly with instrumental groups, and an interdisciplinary approach was adopted in which both instrumental and vocal groups interacted. In the process of determining the repertoire, the instructors observations and feedback from the students were taken into consideration so that the repertoire was enriched dynamically and flexibly throughout the process.

Instrument Donations, Donors and Supporters

One of the most striking aspects of the project was that the instruments were largely provided with community support. The instrument donation campaigns carried out with the understanding that "life is a collaboration" were announced on the Little Hands Music Instagram account, and a wide support network was established in a short time. The calls of project coordinator Yılmaz Demirtaş were disseminated through artists and volunteers, and the required instruments were provided by donors and sent directly to village classrooms. Well-known artists such as Cengiz Özkan, Hüseyin Turan, Sümer Ezgü, Doğukan Manço and Cafer Nazlıbaş supported the project, which not only donated instruments but also shared the project on their social media accounts, increasing its visibility (Turan, 2021; Manço, 2022). Filming within the scope of the documentary "A Story of Kindness (Bir İyilik Hikayesi)" broadcast on TRT (Turkish Radio and Television Corporation) has contributed to the project gaining national recognition (TRT 1, 2022).

Findings Regarding the Performances and Activities Conducted within the Scope of the Project

Izmir Little Hands Music Project aims to revitalize local and traditional music through children and raise social awareness. The events and concerts organized within the scope of the project provide children with stage experience, increase their self-confidence and motivation, and enable them to interact with wider society. Table 2 provides a detailed analysis of the findings regarding the performance and activities of the Izmir Little Hands Music Project.

Table 2. Activities and events in the Izmir Little Hands Music Project

Activity Type	Event Date	Event Location	Featured Activities
Awareness Events	Various Dates	Vişneli Village and Yakaköy	Increased social awareness and community engagement
Open Air Concerts	Various Dates	Vişneli Village, Yakaköy and Nazarköy	Various musical performances and social interaction
Zeybek Shows	23.04.2022	Vişneli Village	Folkloric dance and music performances
Cystic Fibrosis Awareness Event	21.10.2021	Yakaköy Forest Area	Musical performance in line with the theme of social responsibility
Nazarkoy Open Air Concert	23.11.2021	Nazarköy Square	Traditional and cultural awareness events
Ahmed Adnan Saygun Art Center Event	31.03.2022	Ahmed Adnan Saygun Art Center	Professional concert experience
TRT 'A Story of Kindness' Documentary	03.10.2022	Vişneli Village	Reaching wide audiences and promoting the project

As Elliott (2005, p. 257) states, music education should begin with children learning about their own cultural music, which should become part of their identity. By providing a platform in this direction, the Little Hands Music Project enables children to discover their own cultural identity and pass this heritage on to future generations.

Photo 4. Little Hands Vişneli Village Folklore Team (Little Hands Music Photo Archive: Bornova/Yakaköy, 20.01.2022)

The inclusion of folkloric elements in the project, such as Zeybek performances in Vişneli Village, reinforces children's cultural interactions and interactions within the community. Erdoğan Altun cited the positive impact of such cultural activities on children and the community as a motivation for revitalizing local values (personal interviews with Erdoğan Altun, September 11, 2023).

In addition, while various activities carried out within the scope of the project provided children with the opportunity to develop their musical expression and performance skills, it was also observed that such activities contributed to their social, emotional, and cultural development.

Music functions as an effective tool for developing children's social sensitivity and empathy skills, and the bond established through music increases social awareness and participation.

Photo 5. Little Hands Music TRT A Story of Kindness Program Filming (Little Hands Music Photo Archive: Kemalpaşa/Vişneli Village, 03.10.2022)

Through the TRT documentary "A Story of Kindness" the Little Hands Music Project gained national recognition and support from wider segments of society. Such media collaboration has been an important step in strengthening the social and cultural impacts of music education by spreading the effects of the project to a wider audience.

Social Interaction: Findings on the Contribution to Children's Sociocultural Development

The Little Hands Music Project aims to contribute to the social and cultural development of children and to increase their social integration. The art and cultural activities organized within the scope of the project aim to enrich children's aesthetic perception and cultural experiences by offering them the opportunity to meet different branches of art. These activities strengthen children's awareness of historical and cultural sites as well as their social sensitivity and motivation.

Cultural activities within the scope of the project were made possible by transportation support provided by local governments. With the contributions of the municipalities of the Bornova and Kemalpaşa districts, which are the project regions, and the relevant neighborhood mukhtars' offices, the students participating in the project participated in various artistic and cultural activities organized in the Izmir City Center. Students participated in a children's theatre performance at Bornova Altındağ Atatürk Cultural Center on February 2, 2022, and the World Children's Rights Day event at the Izmir International Fairgrounds in Konak on November 18, 2021. By increasing opportunities for cultural participation, students interaction with art was encouraged, and it was observed that these experiences positively contributed to both the individual development and social integration processes of students.

Photo 6. Izmir International Fair World Children's Rights Day Event (Little Hands Music Photography Archive: Izmir/Konak, 18.11.2021)

In addition, activities that support social interactions, such as outdoor games and traditional village activities, increase children's interest in music lessons and create a positive bond between instructors and students. The active role of instructors in these activities helps children to be more motivated in both music education and social responsibilities. The dedicated work of Yılmaz Demirtaş and other trainers in this process plays a critical role in achieving the project's goals of social interaction and responsibility.

Conclusion and Discussion

Music education plays an important role in children's sociocultural development and is considered an effective tool in the context of social responsibility. The Little Hands Music Project provides an example for children in Izmir, contributing to the development of social skills, self-esteem, and social responsibility. Compared to other similar global examples such as "El Sistema," the Izmir Little Hands Music Project has similar effects and plays a strategic role in individual and social transformation by adapting to local cultural dynamics.

This research highlights the positive contributions that music education can make to children's cognitive, emotional, and social development. Music has emerged as an important tool for creating meaning in children's lives, providing emotional support, and developing personal expressions. Making music in a group strengthens social bonds and offers opportunities to enjoy joint creative processes. Music education not only develops artistic skills, but also has significant benefits for children's social interaction and group dynamics.

Observations and experiences in the field have shown that music education not only develops individual talent but can also play an important role as a living dynamic in the sociocultural context. The Little Hands Music Project increases social participation and sensitivity by enabling the display of musical talent, contributes to the personal and social development of children, and documents that music education has a strategic role in social responsibility projects.

The use of music in education positively contributes to children's cognitive and emotional development. As emphasized by Elliott (1995, p. 308), music education improves children's ability to express themselves aesthetically and emotionally. In this study, it was observed that social interactions provided through music strengthened children's cooperation and

empathy skills within the group. It was concluded that the Little Hands Music Project not only developed children's musical competence, but also made significant contributions to the strengthening of emotional and social skills, self-esteem, and social responsibility awareness.

Research findings reveal that music education can be used as an effective tool in social responsibility projects. In this respect, it is important that educational policies are structured in a way that makes music education inclusive and accessible to ensure that all children can benefit equally from these opportunities.

Recommendations

Recommendations for Researchers

To deepen the findings of this study, longitudinal studies should be conducted to examine the long-term effects of similar social responsibility projects. Mixed-method studies can be designed to measure the impact of a project on children using quantitative data (e.g., academic achievement, social skills scales, etc.). Comparative analyses of music education projects carried out in different socioeconomic and cultural contexts can be conducted to reveal the universal and local factors affecting the success of the model.

Recommendations for Practitioners

The content of music education programs should be enriched with a greater integration of local culture and musical elements (workshops with local artists, region-specific songs, etc.). Encourage more active participation of local people and community leaders (mukhtars and associations) in project planning and execution processes to increase project sustainability. To increase the visibility and interaction of the project within the community, it should be supported by various artistic and cultural activities (exhibitions and participation in local festivals).

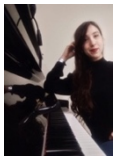
Limitations of the Study

This research is based on the ethnographic method and a qualitative design, and its findings offer an in-depth understanding. However, this study has some limitations. As the research was limited to two villages in Izmir, the generalizability of the findings is limited. Data were collected over a specific period (June 2021–August 2022), which may have excluded assessments of the long-term impacts of the project. Furthermore, the researcher's role as a participant observer may have led to subjective influences on the data interpretation process.

Acknowledgment

In accordance with ethical principles, the faces of participating students have been blurred to ensure the confidentiality of personal data throughout the research process. We extend our gratitude to all students, instructors, the project coordinator, and volunteers who contributed to the study.

Biodata of Author(s)



Gülce Yanmaz Düztaban completed her undergraduate education at Dokuz Eylül University Buca Faculty of Education, Department of Music Education and her master's degree at Dokuz Eylül University Institute of Fine Arts, Department of Music Sciences. She worked as a pianist at Izmir State Theater, assistant conductor, and flutist at the TRT Izmir Radio Polyphonic Children's Choir. Since 2014, she has worked as a music teacher at the Ministry of National Education of the Republic of Türkiye. She is the author of published academic articles in the field of music education, as well as the book titled *Müzik Eğitiminin Sosyal Sorumluluk Projeleriyle Çocuklar Üzerindeki Dönüştürücü Etkisi* (*The Transformative Impact of Music Education on Children through Social Responsibility Projects*).

Assoc. Prof. Dr. **Levent Ergun** completed his undergraduate education at the Dokuz Eylül University Faculty of Fine Arts, Department of Musicology, and his master's and doctoral degrees at the Dokuz Eylül University Institute of Fine Arts, Department of Music Sciences. He is currently a faculty member in the Division of Musicology, Department of Musicology, Faculty of Fine Arts, Dokuz Eylül University.

References

Barış İçin Müzik. (n.d.). *Barış İçin Müzik Vakfı (Music for Peace Foundation).* https://linktr.ee/barisicinmuzik

Campbell, P. S., & Higgins, L. (2015). Intersections between ethnomusicology, music education, and community music. In S. Pettan & J. T. Titon (Eds.), *The Oxford handbook of applied ethnomusicology* (pp. 638–688). Oxford University Press.

Campbell, P. S., Connell, C., & Beegle, A. (2007). Adolescents' expressed meanings of music in and out of school. *Journal of Research in Music Education, 55*(3), 220–236.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons, 34*(4), 39–48.

Coombs, P. H., & Ahmed, M. (1974). *Attacking rural poverty: How nonformal education can help.* International Council for Educational Development.

D'Amore, A. (2009). *Musical futures: An approach to teaching and learning.* Paul Hamlyn Foundation.

Demirel, Ö., & Ün, K. (1987). *Eğitim terimleri (Educational terms).* Şafak Matbaası.

El Sistema. (n.d.). *El Sistema*. https://elsistema.org.ve

Elliott, D. J. (1995). *Music matters: A new philosophy of music education.* Oxford University Press.

Elliott, D. J. (2005). *Praxial music education: Reflections and dialogues.* Oxford University Press.

Erol, A. (2018). *Müzik üzerine düşünmek (Thinking about music).* Bağlam Yayınları.

Fenercioğlu, M. (2015). *Müzikle değişen hayatlar: Bir model olarak El Sistema ve Türkiye'ye uygulanabilirliği (Lives changed with music: El Sistema as a model and its applicability to Türkiye).* [Doctoral thesis, Istanbul University].

Glover, J. (1970). *On responsibility.* Humanities Press.

Güçlü, O., & Aksoy, Y. (2023). Pandemi sürecinde Türkiye'de gerçekleştirilen uzaktan müzik eğitimi alanındaki çalışmalara ilişkin bir içerik analizi (A content analysis of the studies on distance music education in Türkiye during the pandemic process). *International Journal of Eurasia Social Sciences.* https://doi.org/10.35826/ijoess.3242

Kurt, İ. (2000). *Yetişkin eğitimi (Adult education).* Nobel Yayın Dağıtım.

Lantos, G. P. (2001). The boundaries of strategic corporate social responsibility. *Journal of Consumer Marketing, 18*(7), 595–632.

Manço, D. (2022, January 23). *Küçük Eller Müzik Instagram videosu (Little Hands Music Instagram video)* [Video]. Instagram. https://www.instagram.com/kucukellermuzik/reel/CZEMguCo3Mq/

Mok, A. O. N. (2011). Non-formal learning: Clarification of the concept and its application in music learning. *Australian Journal of Music Education, 1*(2), 11–15.

Okechukwu, I. P., & Ibekwe, E. U. (2022). Cultural transmission through traditional musical practices: The Igbo experience. *Ugo Belu N'Oji.* https://journals.ezenwaohaetorc.org/index.php/UBN/article/view/2045

Owens, T. (1983). Helping youth become more responsible. *American Educational Research Association, 67*(22).

Swanwick, K. (1999). *Teaching music musically.* Routledge.

Toksoy, A. C. (2014). *Çok kültürlü müzik eğitimi (Multicultural music education). Akademik Bakış Uluslararası Hakemli Sosyal Bilimler Dergisi, 40,* 1–28.

TRT 1. (2022, April 28). *Bir İyilik Hikayesi 19. Bölüm (A story of kindness, Episode 19)* [Video]. YouTube. https://www.youtube.com/watch?v=Pd_dCCM9Fcc&t=3s&ab_channel=TRT1

Turan, H. (2021, December 30). *Küçük Eller Müzik Instagram videosu (Little Hands Music Instagram video)* [Video]. Instagram. https://www.instagram.com/tv/CYGoUx_IBCn/

Uçan, A. (1993). *Müzik eğitimi: Ülkemizde müzik öğretimine genel bir bakış (Music education: An overview of music teaching in our country).* Müzik Ansiklopedisi Yayınları.

UNICEF. (2004). *Uluslararası Çocuk Hakları Sözleşmesi (Convention on the Rights of the Child).*

Youth Orchestra Los Angeles. (n.d.). *Wikipedia*. https://en.wikipedia.org/wiki/Youth_Orchestra_Los_Angeles

Journal for the Interdisciplinary Art and Education, 6(3), 239-249, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd.
(Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Prefrential dynamics between Unreal Engine and Maya: a comparative analysis of CGI production processes[1]

Murat Firat [2*] and Mehmet Emin Kahraman[3]

Department of Art, Main Art Division of Industrial Product Desig, Faculty of Art and Design, Yıldız Technical University, Istanbul, Türkiye

Article Info

Received: 13 May 2025
Accepted: 21 July 2025
Available online: 30 Sept 2025

Keywords
Animation
Computer generated graphics
Game engines
Three-dimensional animation
Unreal Engine

Abstract

Computer technology has had an impact on the animation industry, just as it has on many other fields throughout history. The development of computer technologies has led to the development of specialised software that enables production in creative processes such as three-dimensional modelling and design, digital game development. Hand-crafted animation processes have gradually begun to give way to digital animated production. The cinema industry has also been affected by technological change. Although animation is historically older than cinema, there are many areas in which the two industries have an influence on each other. With the beginnings of the use of computer-based visual effects in the cinema industry, a great transformation has begun in this field. Experimental projects for the 3D production of cartoons and animations were produced at the same time. The evolution of 3D technologies has also affected digital games. Digital games have been able to reach a very large number of people through computers and game consoles. Over time, this has led to more and more game companies producing many games in different genres in the digital game industry. Game engines that enable digital game production to have emerged, and a major transformation has begun. Game engines have begun to reach small and medium-sized game producers other than large game companies. Unreal Engine and Unity game engines have become the most widely used game engines in the industry. Unreal Engine offers more production tools for realistic and high-quality game production. Unreal Engine has developed its production tools to be used in digital animation production. Unreal Engine has begun to provide solutions for virtual production and three-dimensional animation production in the film industry. In 2025, when the Unreal Engine game engine becomes the standard for 3D animation production, this study will examine the use of new software and hardware production methods in computer animation production.

To cite this article

Firat, M., and Kahraman, M.E. (2025). Prefrential dynamics between Unreal Engine and Maya: a comparative analysis of CGI production processes. *Journal for the Interdisciplinary Art and Education, 6*(3), 239-249. DOI: https://doi.org/10.5281/zenodo.16948712

Introduction

If we look at the technological elements in the creation of an animated work, it is possible to state that in 2D and 3D animation (as in drawing and clay animation films) 'frame by frame' technology is used to give a dynamic quality to the information to be conveyed (Petrukhina, 2020). Three-dimensional animations are produced using the frame-by-frame technique, as in traditional animation, and the technology allows for faster and more complex productions compared

1 This article is based on first author doctoral thesis titled "The transformation of animation on the axis of new media technologies: an example of thematic animation produced with the Unreal Engine Game Engine".

2 Corresponding Author: Lecturer, Dr., Yıldız Technical University, Istanbul, Türkiye, Email: muratfirattr@gmail.com ORCID: 0000-0002-3203-4649
3 Prof. Dr., Yıldız Technical University, Faculty of Art and Design, Department of Art, Main Art Division of Industrial Product Design, İstanbul, Türkiye Email: mek@yildiz.edu.tr ORCID: 0000-0002-2089-3067

to traditional animation. Today, frame-by-frame or other 'frame-by-frame' production is used in many areas, such as cinema animation, film advertising and digital games.

The digital creation of a physical object is called a 3D model and it is in use in a wide range of industries. Industries such as architecture, construction, product development, science, medicine, film, television and video games use 3D modelling applications and software to visualise, simulate and manipulate graphic designs (Autodesk, 2024). The mathematical graphical equivalent of any real-world object in the digital environment is created through 3D modelling. 3D modelling software is used in many professional fields, from medicine to the film industry.

With the development of computer technologies, traditional methods that could be used in this field were transferred to the digital environment through animation software created for desktop computers, and thanks to the development of this software, three-dimensional animated films with detailed graphics were created (Baran, 2023: 382). Traditional methods of animation production were transformed by computer technologies, and three-dimensional animation was created with computer software. As the software used in the production of three-dimensional animation developed, three-dimensional animated films with more detailed graphics began to be produced.

Play is an integral part of human life. From the past to the present, play is a cultural phenomenon found in all societies. Although the forms of play vary according to the cultural characteristics of societies, it is known that the act of playing is a form of activity seen in all cultures from children to adults. (Biricik & Atik, 2021: 451). In the historical process of humanity, play has always been a part of societies. Although it differs according to the cultural characteristics of societies, the activity of playing games has basically the same characteristics.

The digital game is an individual communication environment that contains the characteristics of digitality, interactivity, virtuality, variability, modularity of the new communication environment and adds these characteristics to the act of playing games. These environments can store and host concepts and features that in themselves are described as old or traditional (Yengin, 2012). Digital games offer interaction between users with features such as variability and interactivity. The features of traditional games and those brought by digital technologies coexist in digital games.
Unreal Engine is a software suite of creative tools for game development, architectural and automotive visualisation, film and television content creation, live broadcast production, education, simulation and other real-time applications (Unreal Engine, 2024). The Unreal Engine game engine is used in many professions with digital design discipline. It is a software with functional tools for real-time applications such as game development, architectural visualisation, film industry, education and simulation.

At the 96th Academy Awards, the anti-war animated short film 'War Is Over!', inspired by the music of John & Yoko, made history as the first project created in Unreal Engine 5 to win an Academy Award® for Best Animated Short Film (Unreal, 2024). In the 96th edition of the Academic Awards®, an organisation that has honoured many animated productions in traditional and computer animation disciplines, the production entitled "War Is Over!", created with the Unreal Engine game engine, received an award in the category of "Best Animated Short Film". It is an important project in terms of being a roadmap for animation studios that are changing technologically with the new production solutions offered by the Unreal Engine game engine.

Blue Dot is an animated short film produced by Epic Games partners 3Lateral and Cubic Motion. These companies are also the development team behind the Metahuman Creator app. Designed as a technology demo, Blue Dot has a monologue scenario. In the film, where character design is at the forefront of the project, environmental design elements are kept in the background. The Metahuman Creator application was used to transform the actor's scanned model into a detailed and realistic digital avatar. The team created an experimental production by pushing the limits of Unreal Engine 5 and Metahuman Creator software.

These productions are examples of the use of game engines in place of traditional computer animation techniques and the replacement of green screen technology in traditional production workflows with game engines.

Importance of Study

Since the first game engine, real-time rendering technology has been used for game development, and in recent years, first the Unreal Engine game engine and then the Unity game engine have turned a new page by developing animation-

oriented tools. Although the Unity game engine has started joint development with a major visual effects company such as WETA, it has not yet made as much progress in animation as the Unreal Engine. In this context, this study aims to answer the question of whether the Unreal Engine game engine can replace 3D design programmes in the production of 3D video animation, which is one of the new media disciplines. Epic Games, which aims to be a new alternative in the production of realistic 3D animations and films, is making progress in this field with the monthly updates it releases. While observing the changes in animation production methods in academia, industry and, to a lesser extent, digital arts, end-user and producer evaluation is also within the scope of research. In this context, the research is important in terms of the transformative effects of using a game engine-centric production method in 3D animation production in both academia and the creative industries for the first time in the literature.

Problem of the Study

In this study, it will be tried to reveal the effects of the use of Unreal Engine game engine in three-dimensional animation production paths in the CGI discipline in the computerised animation sector on the projects, the users in the projects and the users' perspectives on the Unreal Engine engine. For this reason, the problem of the research is 'Can the Unreal Engine game engine replace the traditional digital animation programme in 3D video animation production paths in the animation industry?' and 'Is the Unreal Engine game engine-centred production path more efficient than the traditional digital animation production path?'. Within the scope of the research, Autodesk Maya programme will be used to represent traditional digital animation. Depending on the questions, the sub-problems are as follows:

- Can the Unreal Engine game engine replace Maya in the production of 3D animation projects?
- What is the opinion of CGI professionals in the industry about character animation processes in 3D animation projects created with Unreal Engine software?
- What is the opinion of CGI professionals in the industry about the technologies offered by the Unreal Engine game engine?
- Can Unreal Engine render more realistically than Maya in 3D animation projects?
- What are the experiences of CGI artists in the industry with the Unreal Engine game engine?
- Can the Unreal Engine game engine replace Maya for producing 3D character animations?
- Can the Unreal Engine game engine replace Maya for 3D character design?

Method

Research Model

This study is a comparative case study using both quantitative and qualitative research approaches and techniques. This study is a mixed methods case study to compare the efficiency of Unreal Engine and Maya in animation production processes. This research is a mixed design study that tests the ability of the Unreal Engine game engine to replace 3D design software in the production of visually and mechanically realistic 3D video animation. In this research, expert and user opinions will be obtained through a literature review and an interview form will be prepared.

The aim is to use the interview method to evaluate two 3D animations produced using two different technical methods, which are identical in theme and content, by having them produced by employees of the animation department within the company. A 3D animation with the same theme and content was produced by the same team using two different technical methods and asked to be compared. 1000 Volt Postproduction Company's CGI department uses the company's standard Maya software and has received six months of Unreal Engine training from two different experts. The findings obtained from the interviews were compared with the observations during the implementation process, and the consistencies and differences were analysed.

Participants

The population of the research is all designers producing 3D video animation, and the sample of the research is the CGI department in 1000 Volt Postproduction company. In order to protect the confidentiality of the participants, the participants were named as P1-P13. Ethical and confidentiality permissions required during the research were obtained

from 1000 Volt Postproduction Company. To check the accuracy of the coded themes, the themes were emailed to three participants and it was confirmed that their views were consistent with the analysis. This process was reinforced by the method of participant approval, which supported the validity of the study.

Analysis

The MAXQDA programme was used to produce the research findings. The interview transcripts were analysed using an open coding method with MAXQDA, resulting in 184 initial codes for the users' experiences. Participant consent was used to increase the validity of the themes in the research. The findings from the interviews were compared with the observations made during the implementation process, and consistencies and differences were analysed.

In the analysis phase of the research data, 'open coding' based on the 'grounded theory' analysis technique was used. Data was obtained by analysing the participants' statements about the Unreal Engine and Maya software in the interviews and dividing these data into meaningful parts. The aim of this technique is to identify recurring themes and concepts in these small fragments of text. This classifies the participants' experiences and reveals recurring structures within the data. For example, the participant's statement 'I can render fast with Unreal Engine' was coded as 'Giving fast results' and 'Being practical'.

The data obtained during the coding process allows us to see the roles that Unreal Engine and Maya software play in 3D animation production workflows. Thanks to open coding, the factors that influence the usage preferences of the interviewed users for Unreal Engine and Maya software were transformed into concrete data.

Process

Two different production methods based on Unreal Engine and Maya were identified and applied. The CGI department of 1000 Volt Post Production Company realised the productions with a team of 13 people. The entire process, from idea generation to completion of the output, was planned taking into account the intensity of work in the private sector and the division of labour. All employees involved in the project have received Unreal Engine training from the official Epic Games institution. The company has been using Maya for a long time. 1000 Volt Post Production Company is a dynamic private institution that uses the latest technologies in its projects, such as cinema and advertising films, and trains its staff in new technologies. These characteristics make it a suitable universe for the research.

Figure 1. Final results of the project

As part of the research, 'The Gate' was produced in 3D. Programmes used in the project; Reality Capture, Zbrush Substance Painter, Unreal Engine, Metahuman Creator, Autodesk Maya, Mari.

As part of the research, users were asked to produce two animations on the same theme using Maya and Unreal Engine centred production methods. A total of 13 users experienced both production methods. In the other phase,

interviews were conducted with 13 users. The transcripts obtained were translated into numerical data using the MAXQDA programme.

Figure 2. Workflows within the project

Ethics

For this study, an ethics committee approval certificate dated 30 September 2024 and numbered 2024.09 was obtained from the Social and Human Sciences Research Ethics Committee of Yıldız Technical University.

Results

This code matrix contains two main topics: Unreal Engine opinions and Maya program opinions. By analysing the codes in which the participants' opinions are concentrated, I evaluate the advantages, disadvantages and common/different aspects of both themes.

Opinions on Unreal Engine

In this theme, the usage features, advantages and disadvantages of Unreal Engine are discussed. The most emphasised codes are as follows:

Feature	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	Total
Fast Results	●	●	●		●			●	●	●	●	●	●	22
Practical	●		●			●			●	●				14
Open to Development		●	●	●	●			●	●	●	●	●		17
Has Advantageous Platforms		●		●					●	●	●			14
User-Friendly Interface	●	●	●		●		●							8
Technological Competence	●			●			●					●		8
Limited Customization	●					●		●						6
Easy Integration	●	●	●	●		●	●	●						8
Cannot Replace Maya	●	●	●		●		●					●		8
Realistic	●	●	●	●				●						6
Difficult Interface	●	●	●		●		●							5
Optimized Character	●								●					3

Figure 3. Code matrix

Concentrated Positive Codes

Fast Results (22): One of the most important advantages of the Unreal Engine is that it allows you to work fast, using powerful rendering and optimising systems. The ability to use the MetaHuman system for rapid character creation, the Bridge object library and the Unreal Engine Marketplace platform, which offers everything that can be used in projects, allows users to achieve practical results in production processes.Being Open to Development (17): Being constantly updated and supported with new features makes it a long-term investment. The fact that the Unreal Engine is constantly updated and open to development is seen as a positive feature by users. The support from Epic Games and the continuous addition of new features show that the Unreal Engine has long-term potential.

Advantageous Platforms (14): Being compatible with different platforms (PC, consoles, VR, etc.) is a great advantage in terms of flexibility. Unreal Engine has platforms such as Marketplace, Quixel Bridge, MetaHuman, which are used in three-dimensional animation production processes. Secondly, it is compatible with various gaming platforms (PC, consoles, mobile, VR, etc.). This broad platform support gives developers more flexibility

Easy Interface (8): Although it is challenging for beginners, it is considered user-friendly after a certain learning process. Some participants found that the Unreal Engine interface becomes easier to use after a certain learning curve. In particular, the visual programming system (Blueprint) and drag-and-drop tools can be useful for beginners.

Technological Competence (8): Unreal Engine's ability to produce high quality content with its advanced graphics engine, lighting and physics systems is among its strengths. Unreal Engine's advanced physics engine, lighting systems and graphics quality were interpreted as strong technological competence.

Intensifying Negative Codes

Difficult Interface (8): Some participants considered the interface as complex and difficult to learn. Game engines, on the other hand, have an interface that is unfamiliar to any designer or animator because they are designed with game development in mind. Users with game development experience can easily adapt to different game engines because they have similar interfaces.

Limited Customisation (8): It is seen that users think that they are limited to the structure offered by the engine at certain points. MetaHuman's character creation system and the limitations of designing three-dimensional objects from scratch were seen as disadvantages by users.

No Substitute for Maya (8): It is stated that Unreal Engine is not as powerful as Maya in animation and character modelling processes. The fact that Unreal Engine's game engine lacks basic tools such as three-dimensional modelling shows that Unreal Engine cannot be preferred because Maya's modelling is detailed and customisable. Unreal Engine is an engine that delivers fast results, has a powerful graphics system and is open to development. However, for some users, the interface is complex and there are limitations in terms of customisation.

Opinions on the Maya programme

In this theme, the characteristics of the use of Maya, its place in the sector and its difficulties were discussed. The most highlighted codes are:

Feature	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	Total
Detailed	●		●	●		●		●		●	●	●	●	19
Advanced Animation Tools	●			●	●		●			●	●			16
Realistic	●			●	●				●	●	●			9
Customizable		●		●	●				●	●	●			9
Has Limitations	●	●	●	●		●				●	●			9
Traditional	●	●			●									6
Slow	●				●									4
Difficult Interface	●	●		●										3
Widely Used in the Industry	●	●		●		●								3

Figure 4. Code matrix

Intensified Positive Codes

Detailed (19): It is stated that Maya offers the possibility to create highly detailed content, especially in modelling processes. Maya's detailed modelling tools allow you to work at a professional level. It is said to offer complete control, especially when it comes to character design, environmental modelling and fine detail.

Advanced Animation Tools (16): The fact that Maya offers professional animation and rigging systems is one of the most powerful aspects for users. One of Maya's biggest advantages is its advanced animation systems. Features such as complex character movements, rigging and motion capture integration are a great convenience for professional animation projects.

Realistic (15): The ability to produce realistic results in terms of lighting, rendering and shading is one of the most highlighted benefits. Maya's high quality rendering systems and advanced light shading techniques help create realistic images. This feature contributes to its widespread popularity, especially in the film, animation and visual effects industries.

Customisable (14): Python and MEL scripting support allows users to customise their workflow. A key benefit is the ability to customise Maya using Python or MEL scripting. This flexibility is seen as a powerful tool for streamlining workflows in large-scale productions.

Widespread industry use (9): Being an industry standard gives learners a career advantage. The fact that Maya is recognised as the standard software in the animation and visual effects industry gives students a career advantage.

Reinforcing Negative Codes

Difficult interface (9): Maya's complex interface makes the learning curve steep, especially for beginners. It is stated that Maya's performance degrades with large projects and processes can slow down. Scenes with high polygon counts or complex animations are said to take a long time to render.

Slow (7): It has been noted that performance is low on large projects. It is stated that Maya's performance degrades with large projects and processes can slow down. Scenes with high polygon counts or complex animations are said to take a long time to render.

Limitations (7): Although it is customisable, it is stated that in some cases it does not provide flexibility in workflow. Although Maya is customisable, it may have limitations in some areas compared to competing software. For example, Houdini's procedural modelling capabilities or Blender's lightweight structure may be more advantageous for some users. Maya is seen as a powerful programme with its detailed modelling, advanced animation tools and customisable structure. However, it was noted that it can be challenging due to its complex interface, slow operation and some limitations. Unreal Engine is seen as an engine that delivers faster results, is graphically powerful and has broad platform support. Maya has been rated as the industry standard with its in-depth modelling and animation features. Both software have their strengths, but their areas of application are different. This analysis is important in terms of which software is suitable for which project, so that users can make the right choice in terms of their expectations.

Similar aspects

In terms of realism: Both software are strong in producing realistic visuals, but Unreal Engine excels in real-time graphics, while Maya excels in modelling and animation. For learning processes, the learning process for both software is challenging. While Unreal Engine's interface becomes user friendly after a period of time, Maya has a more traditional and complex interface. Regarding limitations, both Unreal Engine and Maya have limitations in certain areas. In Unreal Engine, there is little customisation in some systems, and in Maya it can be difficult to provide flexibility in some workflows.

Different Aspects

In terms of performance and speed: While Unreal Engine delivers fast results, Maya can be slow in some processes. Depending on the nature of the project, the variable 'speed' becomes more important. Unreal Engine offers efficiency for projects with limited time. Customisation and integration, while Maya has a customisable structure, Unreal Engine offers easy integration with different platforms. Animations created in Unreal Engine can be used in a variety of disciplines on a variety of platforms other than game development. Interactive animations created in the Unreal Engine

game engine are also used in the field of interactive art through computer and mobile applications. Areas of use Unreal Engine is more widely used in games and interactive content production, while Maya is more widely used in film, animation and modelling. This analysis shows that both software serve different purposes, but also have common aspects.

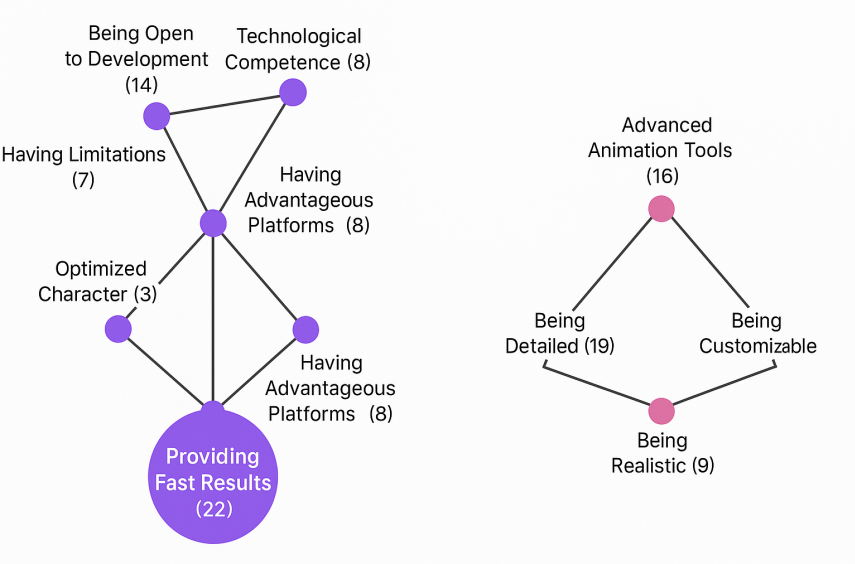


Figure 5. Code map

In the study's code map, the purple codes are associated with opinions about the Unreal engine and the red codes are associated with opinions about Maya, showing the advantages and technical capabilities of the two different systems in comparison. In the purple group belonging to Unreal, the code 'Gives fast results' has the highest weight (22), indicating that Maya offers fast turnarounds in certain workflows but has some disadvantages such as 'Has limitations' and 'Optimised character'. Strong links with codes such as 'Has Advantageous Platforms', 'Open to Development' and 'Ease of Integration' emphasise that Maya can work in harmony with different software and is a constantly evolving tool. In addition, the codes 'Technological Competence' and 'Easy Interface' stand out as important factors affecting the user experience and ease of use of Maya.

In the red group belonging to Maya, 'Being Detailed' (19) received the highest score. This suggests that Unreal Engine's high level of detail and ability to produce realistic scenes is an important feature. There are strong links between the 'Advanced Animation Tools' and 'Customisable' codes, indicating the flexible and advanced nature of Unreal Engine's animation systems. The links to the 'Realistic' code emphasise that the engine's lighting, physics engine and rendering systems produce realistic results. In general, Unreal has a wider range of applications due to its advanced integration capabilities and cross-platform support, while Maya stands out due to its realism, its level of detail and its customisable animation tools. The strengths and weaknesses of both systems become apparent in different areas, while the thickness of the connections on the map shows the strength of the relationship.

Conclusion

According to the findings of sub-problem 1, the ability of the Unreal Engine game engine to replace the Maya programme in the production of three-dimensional animation projects with its current version 5.0 may vary depending on the time allocated to the project. Projects with limited production time can be completed in a short period of time using technologies such as MetaHuman and Brdige of the Unreal Engine game engine. However, Maya remains the industry preference for projects with detailed character and environment design and no production time constraints. Since the Unreal Engine game engine, in its current version, can be integrated with many programs that have become industry standards, it is used as a program where all the productions obtained from the programs used in the projects are collected to obtain the final output. Unreal Engine offers high efficiency as a programme where characters, environments, object design and animations are brought together and the rendering process is carried out. Therefore,

Unreal Engine and Maya programmes can be used interchangeably and it is also possible to provide efficiency in hybrid use.

According to the findings of sub-problem 2, character creation using the MetaHuman Creator platform in the character animation processes of three-dimensional animation projects created with Unreal Engine programs accelerates the workflow and enables projects to be completed in a short time. Characters created with MetaHuman Creator can be used without the need for lengthy Unreal Engine process steps. MetaHuman characters can be animated in Unreal Engine using mobile applications or professional equipment. The fact that all these production processes are practical and fast shows that CGI artists can prefer Unreal Engine for character animation in three-dimensional animation projects. The Maya programme can produce more detailed and realistic character designs than the Unreal Engine game engine over a long period of time. However, Maya for character animation does not have real-time character animation technology with mobile devices such as mobile phones like Unreal Engine.

According to the findings of sub-problem 3, CGI professionals in the industry prefer the technologies offered by the Unreal Engine game engine, in particular real-time rendering, MetaHuman and real-time motion capture technologies, because they are practical and speed up the workflow on projects. At the same time, the Marketplace and Bridge applications offer a large object and animation library that is not available in applications such as Maya. The Unreal Engine game engine, on the other hand, in its current version, does not have Maya's wide range of modelling tools. Users prefer Maya for detailed and realistic modelling and production.

According to the findings of sub-problem 4, the rendering quality of Unreal Engine is superior to Maya in terms of speed, but lags behind in terms of detail control. The fact that Maya offers an alternative in rendering technology shows that it may be preferred by users. While Unreal Engine offers real-time rendering at a certain standard, Maya offers detailed and realistic rendering output suitable for the user's project with built-in rendering engines such as Redshift and Octane.

According to the findings obtained within the scope of Sub-Problem 5, the user experiences of CGI employees about the Unreal Engine game engine differ. Although there are users who adapt easily and users who adapt difficultly in terms of user interface, the number of users who have a prejudice that users will have difficulty in using Unreal Engine because it is a game engine is high. Since game engines are basically software development programmes, software knowledge may be required at certain points of animation and design production. As a general structure, a user who does not know software can produce animation within the Unreal Engine game engine.

According to the findings obtained within the scope of Sub-Problem 6, in the production of three-dimensional character animation, Unreal Engine provides fast results with practical use of real-time character animation with mobile devices such as mobile phones. In Maya programme, on the other hand, professional equipment or traditional methods are required to apply long-lasting process steps. In projects with limited time, if character detail and realism can be limited to certain standards, Unreal Engine game engine can be used instead of Maya programme. In projects with limited time, if the characters are designed as MetaHumans, the Unreal Engine game engine can be used instead of Maya due to the solutions offered by real-time motion capture technologies.

According to the findings of Sub-Problem 7, character production using the MetaHuman Creator platform in 3D character design accelerates the workflow and enables projects to be completed in a short time. Characters created with MetaHuman Creator can be used in Unreal Engine without long process steps. For time-sensitive projects where character detail and realism can be limited to certain standards, the Unreal Engine game engine can be used instead of Maya.

As a result, the projects where the Unreal Engine alone can replace Maya are generally projects with limited production time. For industrial projects, we have seen a preference for workflows where the final scenes are designed in Unreal Engine using other traditional 3D animation tools, including Maya. Combining the design and animation elements of the project in Unreal Engine and rendering will be a preferred workflow to achieve high quality in a shorter time.

Recommendations

Recommendations for Researchers

Academics working in the fields of graphic design, animation, new media, game design, information technologies, lecturers teaching courses in related fields and researchers planning dissertations or courses should ensure the integration of new software into course content. Students should be encouraged to use real-time rendering technologies in their projects. Standardised theoretical and practical knowledge of digital animation should be updated in courses on three-dimensional animation production. The use of game engines in animation production and virtual production should be encouraged to be analysed with Master's/doctoral level research. Scholarly projects that reinforce and update theoretical literature with industry information are encouraged. The transformative effect of Unreal Engine in animation production processes can be included as a case study in graduate level technical animation courses. The mixed method and MAXQDA supported content analysis used in this study can be integrated into the research methodology of similar qualitative projects.

Recommendations for Applicants

Those working in the creative industries, particularly game designers, visual effects specialists, educational technology companies and Unreal Engine / Maya users, will be most affected by the change in 3D animation technologies. Companies in the industry can develop workflows in which the Unreal Engine game engine is integrated into the workflow according to time and cost criteria for animation projects produced in the digital environment. Unreal Engine training for employees of companies involved in computer animation will ensure efficiency in the adaptation process. Animation companies that will work with Unreal Engine should strengthen their teams by giving preference to those who have a software development background or who work in the digital games industry.

Limitations of Study

This research was conducted with a total of 13 employees of the CGI department of 1000 Volt Postproduction in Istanbul, who were trained on Unreal Engine and were users of Maya software. Between September 2024 and January 2025, the application material representing traditional production with Autodesk Maya and Unreal Engine was completed within 4 months. It is limited to the computers, mobile devices and software owned by the participants.

Biodata of Authors

Lecturer, Dr. **Murat Fırat** was born in Istanbul in 1989, he is an artist and academic who works in new media disciplines. With a lifelong interest in computers and electronic technologies, he studied in the computer department at a technical high school and continued his academic education in computer technologies and graphic design. He was awarded a full scholarship to study Computer Technologies Teaching at Maltepe University and completed his master's degree in graphic design. After working at IT companies like Bilge Adam, he pursued a career as a designer at advertising agencies such as İstanbul'74. Currently, he teaches at Yıldız Technical University's Faculty of Art and Design and is working on his Ph.D. focused on 3D animation and game engines. In 2023, he participated in over 10 exhibitions with his works created using 3D animation and augmented reality technologies. He has also been working part-time at 1000 Volt Postproduction for a year and teaches part-time (Lecturer) at Kültür University's Department of Cartoon and Animation.

Academiaedu: https://independent.academia.edu/muratfirat

Researchgate: https://www.researchgate.net/profile/Murat-Firat-3?ev=hdr_xprf

Prof.Dr. **Mehmet Emin Kahraman,** is an art expert-consultant and painter, graduated from Anatolian Fine Arts High School. He completed his undergraduate education at Hacettepe University, Faculty of Fine Arts, Department of Painting, where he graduated with honours, and then completed his master's and doctorate education at Gazi University, Institute of Educational Sciences, Department of Graphics. He took courses in 'Educational Management' and 'Child Development' at Marmara University Institute of Educational Sciences. The artist, who is interested in graffiti, prepared a thesis on 'The Place and Importance of Graffiti Technique in Education and Improvement Institutions' in his master's research

and conducted research on the rehabilitation of street children. In his doctoral thesis, he conducted research in the field of Art Management and developed an exemplary programme to train successful staff in this field. He participated in many groups and personal painting and design exhibitions, bianelles, symposiums and congresses in Türkiye and abroad. He also organised exhibitions and symposiums. Carried out scientific research projects. His works were selected in collections such as Ziraat Bank and Ministry of Foreign Affairs collection. He participated in social organisations and associations; he was the president of the Cartoonists and Humourists Association for 3 years. In 2017, he founded SATPARK (Art and Design Application and Research Centre), which is the first in our country, and continues to serve as its director. In 2018, he published the first scientific book in the field of art and culture management, 'Art-Culture Management and Business Management'. In 2013, he organised the International Symposium on Managing Art and conducted scientific projects in this field. In 2018, he published the book of interviews entitled 'Managing Art', which includes some of the series of interviews entitled 'Managing Art' that he started in 2013 and is still continuing. He has published a series of books entitled 'Museum and Art', 'Advertising and Art', 'Democracy and Art' and 'Disaster and Art'. For the first time in our country, he conducted the 'Art and Culture Management Training and Conscious Manager Development Programme' with the support of the Ministry of Culture and Tourism. Since 2012 he has been an expert in the field of art, design and graphology, registered with the Supreme Board of Expert Witnesses of the Ministry of Justice. He carries out the process of 'Certificate of Authenticity', 'Certificate of Originality', 'Value Appraisal' and 'Transfer Agreement' for works of art and design. He is currently working as a lecturer at Yıldız Technical University, Faculty of Art and Design, Art Department.

Web site: https://avesis.yildiz.edu.tr/mek
Web of Science ResearcherID: AAG-4553-2019
Academiaedu: https://yildiz.academia.edu/mehmeteminkahraman
Researchgate: https://www.researchgate.net/profile/Mehmet-Kahraman-9

References

Baran, H. (2023). Sanal gerçeklik ve animasyon kurgusuna dair yeni bir perspektif (*A new perspective on virtual reality and animation editing*). *TRT Akademi, 8*(17), 368–386. https://doi.org/10.37679/trta.1206586

Biricik, Z., & Atik, A. (2021). Gelenekselden dijitale değişen oyun kavramı ve çocuklarda oluşan dijital oyun kültürü (*The changing concept of games from traditional to digital and the emerging digital game culture among children*). *Gümüşhane Üniversitesi İletişim Fakültesi Elektronik Dergisi, 9*(1), 445–469. https://doi.org/10.19145/e-gifder.818532

Petrukhina, O. V. (2020). Motion design in 1990–2010 and its entertainment function: Social and technological aspects. *IOP Conference Series: Materials Science and Engineering, 944*(1), 012027. https://doi.org/10.1088/1757-899X/944/1/012027

Unreal Engine. (2024, February 1). *FAQ.* Unreal Engine. https://www.unrealengine.com/en-US/faq

Unreal Engine. (2024, December 15). *Academy award-winning animated short "War is over!" makes Unreal Engine history.* Unreal Engine. https://unrealengine.com/en-US/spotlights/academy-award-winning-animated-short-war-is-over-makes-unreal-engine-history

Yengin, D. (2012). Oyun, eğlence ve günümüzdeki yansımaları: Dijital oyunun sihirli çemberi (*Game, entertainment and their reflections today: The magic circle of digital games*). İstanbul Kültür Üniversitesi. http://www.iku.edu.tr/userfiles/file/sanattasarim/doc/Deniz_Yengin.doc

Journal for the Interdisciplinary Art and Education, 6(3), 251-266, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd.
(Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Embedding cultural heritage and values in modern art learning: a case study on pedagogical approach in high schools

Rida Safuan Selian[1]* and Samsuri Suri[2]

Art, Drama, Dance, and Music Education Department, Faculty of Teacher Training and Education, Syiah Kuala University, Banda Aceh, Indonesia

Article Info

Received: 21 March 2025
Accepted: 25 August 2025
Available online: 30 Sept 2025

Keywords
Art education
High school
Modern art
Value education

Abstract

This study aims to determine how implement modern art learning through traditional values to develop their students' competencies with a local wisdom approach and skills containing traditional values in their art learning activities. The research was carried out for 6 months, namely in the odd semester starting from July 2024 to January 2025 at Senior High Schools in two Cities in Aceh Province, namely Langsa City, East Aceh and Banda Aceh City, Indonesia. The subjects of this study were students, art and culture teachers and artists involved in the Artists Enter School Movement program. While the object of research is modern art education in Senior High Schools. In this study, the main sources are art and culture teachers, artists and students. The data collection procedures used are interviews, observation and documentation. Modern art learning through traditional values at Senior High Schools in Langsa City, East Aceh and also Banda Aceh City in Aceh Province by involving artists in the Artists Enter School Movement program. High School teachers in Langsa City, East Aceh teach the Cut Nyak Dhien creative dance which depicts the heroism of an Acehnese woman. Meanwhile, modern art learning through traditional values at a high school in Banda Aceh City, teachers collaborate with artists to teach the fine arts of making sange or food covers which are usually used in traditional ceremonies of the Acehnese people. Modern art learning through traditional values at high schools in Aceh Province by involving artists in the Artists Enter School Movement program has made a significant contribution to the development of students' abilities in cognitive, affective and psychomotor aspects. Art creation activities at school begin with providing various stimuli that motivate students to be more creative through auditory, visual, idea and touch or kinetic stimuli, thus developing students' cognitive abilities with the process of thinking in realizing movement and form. In the affective aspect, students can be observed from their courage, initiative, group work and responsibility. While in the psychomotor aspect, students are seen from their movement skills in dance, making a good form in fine arts or crafts according to the composition they want.

To cite this article

Selian, R.S., and Suri, S. (2025). Embedding cultural heritage and values in modern art learning: a case study pedagogical approach in high schools. *Journal for the Interdisciplinary Art and Education, 6*(3), 251-266. DOI: https://doi.org/10.5281/zenodo.1

Introduction

Art is an expression of a sense of beauty which is one of the universal human needs. "Art and artistic activities are phenomena exclusive to the rich and the poor do not have all of this". Wherever art is done, the person who does the art is called an "artist". Art is done not only for the sake of art, but also to contribute to educational goals". It is true what R.

1 Corresponding Author: Dr., Lecturer, Art, Drama, Dance, and Music Education Department, Faculty of Teacher Training and Education, Syiah Kuala University, Banda Aceh, Indonesia. E-mail: safuanselian@usk.ac.id ORCID: 0000-0001-6218-7163
2 Dr., Lecturer, Art, Drama, Dance, and Music Education Department, Faculty of Teacher Training and Education, Syiah Kuala University, Banda Aceh, Indonesia. E-mail: samsuri@usk.ac.id ORCID: 0009-0007-8597-5606

Firth (1954) said, in a contextual theory that is more inclined to the Situational Context that when compared to economics, art can be considered a luxury. The fact that art is a field of endeavor that is considered a luxury in today's world, especially in economically less developed societies, is due to the priority of fulfilling the primary needs of individuals such as eating, drinking, shelter, and clothing. Currently, artistic endeavors, which are considered a luxury in addition to primary needs, are intended to be used as a means for primitive people to fulfill their primary needs. For example, the origin of theater is believed to come from ceremonies carried out by primitive humans to expel the spirits of their prey so that they can eat them in peace. It should not be forgotten that the birth and nature of art lie in the primary needs of primitive humans, which are not in accordance with current economic logic. Art exists in every human society whenever and wherever they live (Huda, 2020).

Rapid social development and the advancement of communication facilities that reach the whole world have broken the exclusive monopoly in the field of art. In addition to the values of beauty that are universal and easily accepted by the wider community, everyone needs to cultivate an artistic soul in their lives. Therefore, art education is one of the needs in the framework of developing a whole person. Thus, the more rapid science and technology in a society, the greater the need for art.

Meanwhile, considering that school education prioritizes the development of reason and prioritizes standard and generally applicable science, society begins to feel the shortcomings that have so far been part of traditional education outside of school. Local knowledge and skills that are loaded with traditional or regional values are very important in equipping members of society in adapting to their environment, it is impossible to obtain them only from family and the community environment. Therefore, schools in Aceh Province need to develop the competence of students with local knowledge and skills that are loaded with traditional or regional values in their learning activities, including art activities. In relation to personality development, art education is actually important if not absolutely necessary.

With the development of science, technology, information and art, cultural and artistic values have also shifted in terms of both value and treatment. Modern art that tends to be more contemporary or momentary has penetrated people's lives. Special educational institutions are also not left behind in offering modern art education programs. Then local wisdom that contains traditional values still needs to be maintained and preserved as cultural wealth and identity. But what about general educational institutions or public schools? What is the role of local government in packaging arts and culture activities so that local wisdom values or traditional values remain? This question sometimes occurs to the minds of the public, including the author.

Basically, modern art cannot be separated from traditional art or traditional values. Traditional values in Acehnese society are values that are based on Islamic culture and religion. As the Acehnese proverb states, culture and religion are like substances and properties. The two are closely related and support each other. Modern art education activities can be developed through the traditional values of the Acehnese people with their Islamic culture.

Research Problem

Based on the statement above, the research problem is, How is the implementation of modern art education through traditional values for high school student?

Method

Research Model

This study employed a qualitative research approach with a case study design. A case study is defined as an in-depth exploration of a bounded system (such as an event, activity, or group) based on extensive data collection from multiple sources of information (Creswell, 2014). The research was conducted over six months, from July 7, 2024 to January 9, 2025, at senior high schools in two cities in Aceh Province: Langsa City (East Aceh) and Banda Aceh City.

Participants

The participants of this study included students, arts and culture teachers, and artists involved in the *Artists Enter School Movement* program. Key informants were arts and culture teachers, artists, and selected students who actively engaged in modern art learning through traditional values.

Data Collection and Analysis

Data were collected through interviews, observations, and documentation. Interviews were conducted face-to-face with teachers, artists, and students, and later continued via WhatsApp to obtain further information about the integration of traditional values into modern art education. Observations were carried out during routine extracurricular activities, with field notes and photographs used for documentation. Supporting documents such as activity records, curriculum materials, and student artwork were also collected.

The data were analyzed using the interactive model of Miles and Huberman (1994), which involves continuous cycles of data collection, reduction, presentation, and conclusion drawing. This iterative process allowed findings to be refined progressively. To strengthen validity, the analysis followed Jazuli's (2001) description of field-based qualitative inquiry, emphasizing the natural context of the research setting.

Process

Modern art learning through traditional values was observed in extracurricular contexts. In Langsa City, teachers and artists collaborated to teach the *Cut Nyak Dhien* creative dance, representing Acehnese heroism. In Banda Aceh City, fine arts teachers worked with artists to guide students in making *sange* (traditional food covers used in ceremonies).

Ethical Considerations

During the implementation process, participants' informed consent and approval from the relevant institutions were obtained, ensuring compliance with ethical research standards.

Results

In Senior High Schools in Aceh Province, learning modern creative dance through traditional values is carried out using the Project Based Learning (PjBL) learning model approach to study a work of art. Before teachers teach modern art subject matter, an art teacher at school should first ask "what is art" and "what is modern art". Until now, it seems that many people have the view that teaching art in schools is a practice, as long as you can make something in fine art, as long as you can memorize songs in vocal art or music and as long as you can move gracefully in dance that has a standard form or strict traditional rules without having to understand its meaning and function.

Learning modern art by applying traditional values feels very beneficial for students since the artist enters school program. The artist enters school program carried out by the local government in Aceh Province has started since the year and has had a positive impact on the sustainability of local culture, both creative and traditional.

In Senior High School in Langsa City, East Aceh, learning modern creative dance to improve students' ability to appreciate art and create art taught by teachers is also assisted by artists through the Seniman Masuk Sekolah program, teaching creative dance by instilling local wisdom values such as the Nyak Cut Dhien Dance, a new creative dance created by Isra Fahriati at the Banda Beutari Studio in Langsa City. The *Nyak Cut Dhien* Dance will be taught to female students for three meetings.

In art learning, teachers and artists must collaborate well. In art and culture learning in class in the morning, the teacher explains the creative dance material, then the teacher shows examples of Cut Nyak Dhien's creative dance movements that have been prepared by the teacher and artist through a projector, students pay attention to the presentation of the material well. Students are very enthusiastic in watching the learning videos that are shown. Furthermore, in the afternoon during extracurricular activities, artists train the basic movements of Cut Nyak Dhien's new creative dance to female students, while the teacher supervises and pays attention to female students practicing Cut Nyak Dhien's creative dance in extracurricular activities.

The dance taught tells the story of the struggle of female heroes from Aceh or female heroes of Aceh when fighting for independence. The variety of dance movements is produced from rhythmic body movements that are so heroic and modified so that they become beautiful and harmonious. The naming of the *Nyak Cut Dhien* dance is taken from the name of the Acehnese hero figure, namely "*Cut Nyak Dhien*", an Acehnese female hero who fought to defend the Aceh region from Dutch colonialism.

In relation to the understanding of movement that must be mastered by female students, the teachers who accompany their students and artists as trainers in the artist movement program enter schools teach and demonstrate the Nyak Cut Dhien dance by using movement as the raw material for choreography that is distilled or distorted so as to create pure movements that do not contain a particular meaning and meaningful movements or so-called movements that have certain meanings. Where both movements are commonly found in the creative dance work that is based on the concept of traditional dance work but does not leave the essence where the movement was created. In the Nyak Cut Dhien dance, a variety of meaningful and pure movements are used. The variety of meaningful movements can be seen in the fifth and sixth segments. Where the variety of movements performed are the rencong movement and the slashing movement.

Figure 2. Rencong movement
Source: Video of Sanggar Banda Beutari, Langsa City (2024)

In learning the basics of Cut Nyak Dhien's creative dance movements, the artist teaches the movements one by one and the floor patterns slowly so that they are easy for students to follow. Cut Nyak Dhien's dance movements are mostly followed by female students. Meanwhile, male students observe female students dancing Cut Nyak Dhien's creative dance. Male students prefer the Rapa'ie geriempheng dance movements because they are considered more suitable for men. Male students will take turns learning the Rapa'ie geriempheng dance at the next meeting.

In the application of modern art education through traditional values in schools to students, a methodology is used that prioritizes interaction between teachers and students, students with students and students with artists. The process of experimentation and exploration is an important part because students are required to find their own form according to their abilities. The criteria of good and bad art forms should not be used as a measure for teachers, but what is important is how students are active in experimenting and exploring. In the exploration activity, the teacher guides students by controlling students in each group and directing students on how students discuss group work according to the tasks given by the teacher related to creative dance with traditional values.

Students are asked to try to move their limbs, to find movements that can be displayed and made into creative dances, not a few students imitate the movements in the video. In the learning process, the teacher always controls students so that they are not noisy and guides students in the process of completing the tasks that the teacher has given.
Then the artists in the artist movement program enter the school who collaborate with the teacher to train students to provide directions and examples of creative dance movements that need to be followed by students according to their groups. Each group takes turns demonstrating the movements that have been taught and repeating the movements to make them better and smoother. Furthermore, each group is asked to develop these movements into new movements.

At the second meeting, the teacher continues the material that was studied last week, the teacher briefly explains the creative dance material last week and relates it to the material that will be studied about the movement of slashing the rencong. Furthermore, the teacher again shows the video of Cut Nyak Dhien's creative dance with the movement of slashing the rencong that has been prepared by the teacher.

Figure 3. The movement of slashing the rencong
Source: Video of Sanggar Banda Beutari, Langsa City (2024)

To make it easier for the teacher to explain the creative dance movements, the teacher asked for the help of an artist to demonstrate the movements slowly and repeatedly so that students would pay attention to the movements. Then the students were asked to follow the movements. Each group was given the opportunity to demonstrate by doing the creative dance movements that had been taught. The female students felt enthusiastic and happy in learning the new creative dance of Cut Nyak Dhien.

During the learning and practice activities of the Cut Nyak Dhien creative dance carried out by female students for three meetings, the male students were asked to first study the theory of the Rapa'ie geriempheng dance. Because the practical dance movements of the Rapa'ie geriempheng dance will be taught at the next meeting after the female students have finished studying the Cut Nyak Dhien creative dance.

In the fourth meeting, after the learning and practice of studying the Cut Nyak Dhien creative dance was completed by the female students, it was the male students' turn to study and practice the Rapa'ie geriempheng dance. This second stage is also called the core stage of learning, where the teacher opens the learning to enter the intended material, namely learning the Rapa'ie Geriemfeng dance. Then the teacher explains the learning objectives to students about what they will get after this learning takes place. At this stage the teacher directs students to enter the material in the learning process.

Before the teacher continues the lesson, the teacher first asks how far the students understand the Rapa'ie Gerimpheng dance. Then several students give statements about their understanding of the Rapa'ie Gerimpheng dance. After several students give statements about the Rapa'ie Gerimpheng dance, the teacher concludes the results of several answers and explains again what the Rapa'ie Gerimpheng dance is to the students.

In this core activity, the teacher explains the material on the Concept of Technique and Procedures for Various Rapa'ie Gerimpheng Dance Movements in a basic way so that students can find problems related to Rapa'ie Gerimpheng so that learning outcomes are achieved optimally. After the teacher has finished explaining, the teacher then directs students to form groups and discuss the learning video regarding Rapa'ie Gerimpheng that is being shown.

Learning activities and training male students for the Rapa'ie Gerimpheng dance movements are carried out by the teacher first showing the Rapa'ie Gerimpheng dance movement video through a projector. The teacher guides students by controlling students in each group and directing students to discuss by working in groups according to the tasks given by the teacher.

After completing group work and discussion, the artist directed the students to start trying to move their body parts, to find movements that could be displayed and made into the Rapa'ie Geriemfeng dance, not few students imitate the movements in the video. In the learning process, the teacher always controls the students so that they do not make noise and guides the students in the process of completing the tasks as given by the teacher.

Furthermore, in extracurricular learning during the day which is carried out in 3 meetings for three weeks, artists involved in the artist movement enter the school began to train male students to do the basic movements of the rapa'ie Geurimpeng dance. The artist told the students to form groups, and invited each group to demonstrate the results of

the exercises they had done starting from group one and so on, each group was given 15 minutes to demonstrate, Furthermore, after all groups have finished demonstrating the results of the group, the art teacher and artists re-evaluated the rapa'ie geurimpeng dance movements according to their group by asking questions about the rapa'ie geurimpeng dance movements.

Students as Rapa'i Geurimpheng dancers are an even number consisting of 8-12 players or dancers, with 8 people as aneuk syahi, 4 people as musicians, 1 person called syahi, 3 people syeh, apiet wie, apiet teungoh, and apiet uneun. Syahi acts as the leader of the show or signaler in the Rapa'i Geurimpheng performance.

Rapa'i is one of the traditional arts that has been rooted in the lives of the Acehnese people since ancient times. This art developed rapidly in the coastal communities of East Aceh. This art began with the development of musical instruments that entered Aceh, namely rapa'i which was brought by Syeh Rifa'i from Baghdad and then developed rapidly in Aceh, because of its function as a medium for Islamic religious preaching and entertainment, because of the Acehnese people's fondness for rapa'i musical instruments and as a tribute to their first figure, the musical instrument was named rapa'i which was taken from the name rifa'i. While geurimpheng means "many kinds" which is a description of art that has a variety of compositions ranging from rapa'i strokes, head and body movements, and formations to poetry. Rapa'i Geurimpheng is one of the developments of rapa'i art, where geurimpheng means "many kinds" namely art that contains a variety of compositions ranging from rapa'i strokes, head and body movements, and formations to poetry. Rapa'i Geurimpheng is a traditional art performance that presents traditional music.

The dance movements in the Rapa'i Geurimpheng Performance consist of simple movements and also repetitive movements. The Rapa'i Geurimpheng Performance consists of 3 parts, namely, First, Saleum Aneuk syahi / opening movement, Second, Tingkah or story / core movement and the third, Lani or closing.

The saleum movement variety is the first movement variety in the Rapa'i Geurimpheng performance. The movements in the Saleum variety are respectful movements and shaking hands between one dancer and another, with a floor pattern, namely a straight line floor pattern to the side or horizontal. The movements in this variety are each done with a slow 2x8 count.

The variety of anggok movements is part of the Behavior or Story where there is a nodding movement of the head performed by the dancers or aneuk syahi while hitting the Rapa'i musical instrument, then the Rapa'i musical instrument is directed up and down alternately, and slowly from the straight line floor pattern parallel to the side on the saleum section then forming a zigzag floor pattern. The variety of anggok movements is each performed with a count of 2x8 slow and 2x8 fast.

Figure 4. Variety of Saleum movements
(Photo Source: Sauzan Tahira, 2024)

Variety of Lani movements or variety of closing movements are part of the end of the performance. The movements in this variety are very simple, consisting only of alternating chest beating movements to the left and right while hitting the rapa'i musical instrument and also continuing with a bowing movement as a sign that the performance has ended.

The floor pattern in this section also uses a straight line floor pattern parallel to the side or horizontally. This variety of movements is performed each with a count of 1x8 slowly.

Figure 5. Rapa'i musical instrument
(Photo Source: Sauzan Tahira, 2024)

The property used in the Rapa'i Geurimpheng performance is only the Rapa'i musical instrument, Rapa'i is a musical instrument from Aceh that is played by beating it with bare hands, without using sticks or any tools. The Rapa'i is used by the players while dancing and beating the musical instrument, or what is called hand property.

The male students were very enthusiastic in learning the Rapa'i Geurimpheng dance movements. In this activity, teachers and artists in the artist movement program enter the school asked students what they had gained from learning and training during three meetings of learning and practicing the Rapa'i Geurimpheng dance, before ending the meeting and dance training, the artists and teachers gave time for the students to arrange the chairs to their original positions, then the teacher told the students that there would be a dance test given at the next meeting.

Meanwhile, at State Senior High School 8 of Banda Aceh City in Aceh Province, modern art education activities through traditional values can be seen in fine arts learning activities, namely practicing making sange or desserts for traditional events of the Acehnese people.

State Senior High School 8 Banda Aceh teaches all fields of art including music, fine arts, dance and drama. In learning the field of art and culture studies, especially fine arts learning, teachers determine classroom learning in the form of 40% theory and 60% practice, while for in-depth practice of creating fine arts, the rest is emphasized on student self-development which is carried out outside of class hours or in extracurricular activities. In extracurricular activities, the involvement of artists is very much needed in accordance with the government program, namely the Artists Enter School Movement program.

During the learning of fine arts in class XI ia1 with 29 students, learning fine arts with local fine arts material is making sange or food cover in the form of a typical Acehnese dish cover, the teacher presents material on creating fine arts with the main discussion being the function of sange or food cover in traditional ceremonies of the Acehnese people. The methods used in this learning are lectures, assignments and practical work. When the learning takes place, the first thing the teacher does is explain the characteristics and uniqueness of sange or Acehnese food cover. namely the form and motive used, then relate it to the symbols in Acehnese society, for example the teacher says that each motive has a symbol that is closely related to the life of the Acehnese people, the tools and materials used, and also the technique or method of making sange or food cover. However, considering the availability of meeting time in the classroom which is not sufficient, the teacher continues the activity of making sange or food cover carried out in extracurricular activities in collaboration with artists involved in the artist movement program to enter schools.

Figure 6. The art and culture teacher is practicing how to make *sange* or food cover
Photo Source: Art and Culture Teacher of State Senior High School 8, Banda Aceh City 2025

Sange is a typical Acehnese food cover that is still used and utilized for traditional ceremonies, such as peusijuk or plain flour, and tueng dara baroe or receiving the bride. Sange is used as a cover for a round tray filled with various necessities for the traditional procession. Sange is still made manually at school using traditional tools in the manufacturing process. The materials used include a food cover made from iboeh leaves or nipah leaves, velvet, gold or silver thread, pemedangan wood, sewing needles, sewing thread, scissors, safety pins and pens to make patterns. The motives that will be applied by students to the sange or food cover are *taloe ie* (water rope), *puta taloe* (twist rope), *awan meucanek* (clouds in a row or marching), *bungong meutaloe* (flowers with ropes), *putik, pucok paku* (fern leaves), *awan si oen* (single cloud), *pucok reubong* (shoot of bamboo shoots), *bungong geulima* (pomegranate flowers), *bungong bambang* (butterfly flowers), and *bungong seulanga* (ylang-ylang flowers). While the colors that are often used are generally green, yellow, and red.

In every lesson in the classroom, the teacher always prepares a lesson plan, tools and materials used in the practice of making sange or food covers that are needed according to the material to be presented. In the practical learning of making sange or food covers, new behaviors and skills that students must have to improve their ability to create fine arts and their achievement in learning fine arts at SMA Negeri 8 Banda Aceh City, the activities carried out in the planning are:

- The teacher briefly explains the learning objectives to be achieved, motivates students and explains the material briefly according to the indicators that have been prepared in the Learning Implementation Plan, and gives direction to students on how the teaching and learning process is using several types of materials to create fine art.
- The teacher will apply a group learning strategy where the number of 6 groups consists of 4 or 5 students. Male and female students are separated and each group of students' abilities also vary.
- Next, the teacher explains how students work in groups according to the tasks given by the teacher. When students are working, the teacher guides and asks and answers questions with students, namely to arouse students' learning motivation in creating sange or tudung saji.
- During the group work process, the teacher tries to monitor students who are less active and provide guidance from one group to another, this is done in order to build understanding by the students themselves. Where the deepest understanding will be obtained by students from working together, discussing making sange or tudung saji together, expressing imagination and giving the impression of a meaningful learning experience and being able to remember for a long time. In addition, students in groups are also asked to find the meaning of the symbols of the motives used so that the placement of the motives can be adjusted.
- The teacher asks students to arrange the traditional Acehnese motives according to the examples given when watching the learning video on making sange or food covers.
- After the students have carried out the task, the teacher asks students to present the results of their group work in front of the class by explaining how to make a sange or food cover pattern on cloth, arrange the motives, sew thread and sequins on the motive to decorate the sange or food covers in turns and in groups. Thus, efforts to improve

student learning outcomes will be realized because students try to do the best for their group. In this case, the teacher has tried to develop critical thinking skills, the ability to create and produce works, and create an active learning atmosphere.

- Furthermore, the teacher will reflect on what the teacher and students have done and what they experienced during the learning process. And how the impact of the actions that have been determined by the teacher on the student's learning atmosphere and student learning outcomes. To see the impact of the actions that have been implemented, teacher reflection is needed to be used as a guideline for compiling the next steps until the learning problem is considered resolved.

In extracurricular activities, teachers together with artists involved in the artist movement program enter schools together to accompany students in the process of making sange or food covers in groups. In this extracurricular activity, the role of the artist is greater because the artist trains how to arrange motives and techniques in sewing sequins or beads to be used as motives on the *sange* or food covers. Meanwhile, the teacher is more concerned with supervising and monitoring the students' activities. The motives chosen and used by students in the fine art works of sange or food covers are floral or plant motives that have their own characteristics from the Aceh province.

These motives are stylized or altered by the students in shape and style so that they become more attractive. Meanwhile, motives with the form of living creatures in the form of animals or humans are not allowed considering that the beliefs of the Acehnese people who are Muslim do not allow drawing or forming living creatures such as animals or humans realistically. Sange or food covers in Aceh Province usually use typical Aceh colors, namely red, yellow and green. Usually the use of this sange craft depends on the function and location to be used, be it for circumcision ceremonies, wedding receptions and other traditional events in Acehnese society. In making sange or food cover, teachers and artists guide and accompany students starting from forming the base of the sange or cone-shaped food cover, cutting the cloth covering the base of the sange, making motive patterns on the cloth covering the sange to how to sew sequins or threads on the cloth covering the sange. The teacher guides each group in turn step by step in making sange or food cover.

The motives used by students to decorate the sange or food cover The motives used are very varied, starting from the taloe ie motive, puta taloe, bungong meutaloe, putik, pucok reubong, bungong geulima, awan meucaneuk, awan si oen, bungong bambang and pucok pakue. The taloe ie or puta taloe motive or commonly called Putar Tali is symbolized as a guardian and strength in Acehnese society. This motive is a form of brotherhood that maintains and strengthens the social context of Acehnese society towards its culture. This motive is arranged by students on the top edge, bottom edge, and other edges of the motive. This motive is deliberately made on the edge of the sange because it has the meaning of binding, guarding and strengthening the relationship between families and the surrounding community.

Figure 7. Sange or food cover shape
Photo Source: Arts and Culture Teacher of State Senior High School 8 Banda Aceh City 2025

Then there is the *bungong meutaloe* motive or commonly called the roped flower, the shape of this motive is a flower that is connected in opposite directions. This motive is a symbol of binding or connecting the ties of friendship in Acehnese society.

Figure 8. The shape of the *bungong meutaloe motive*
Photo Source: Art and Culture Teacher of State Senior High School 8, Banda Aceh City 2025

This motive depicts a relationship in strengthening the ties of friendship between the family and the community in their environment so that harmony is established between fellow citizens. This motive is made by students on the lower side horizontally surrounding the *sange* craft or food cover and also made vertically to limit the four main motive areas adjacent to the *taloe ie* and *puta taloe* motives. This motive is deliberately made close to the *taloe ie* and *puta taloe* motives because it has the meaning of a guardian and connector of ties of friendship that can strengthen relationships between fellow communities.

The *putik* motive symbolizes fertility and beauty. This motive depicts the natural beauty of the Aceh region. This motive is found in every part of the flower motive on the sange craft. This motive is made and arranged by students on every part of the flower motive because it has the meaning of fertility and beauty that can complement every meaning in the flower motive applied to the *sange* craft.

Figure 9. The shape of the *bungong meutaloe* motif
Photo Source: Art and Culture Teacher of State Senior High School 8, Banda Aceh City 2025

Pucok reubong motif or commonly called bamboo shoot motif. This motif has three levels in the form of a mosque dome at the top, leaves in the middle and branches at the bottom. This motif has a meaning in every thing, be it in social, cultural, customary or in every other thing must be based on cooperation and mutual assistance between each other. This motif is a complement to the flower motif, because it complements the strength that comes from within. This motif has a triangular shape surrounded by shoots and leaves. At the bottom of the *Pucok Reubong* motif has a meaning as a human relationship with the natural environment, in the middle or leaf-shaped part has the meaning of inner strength to establish relationships or cooperation between fellow communities to maintain existing customs, and the top is in the form of a mosque dome which means the relationship between humans and their God or the Creator.

Figure 10. Bamboo Shoot Motif Shape
Source. Wardiah 2025

Discussion

Based on the results of the research and analysis conducted by the author, school education that successfully provides skills to its students, is not enough to equip students to adapt to the local natural environment, in this case art education is a very important means in fostering student personality. As is known, art, in addition to reflecting the values of beauty, also has a very broad social function.

Based on the study, regardless of its structure and nature, there are around 7 functions of art in education, namely:

*Reform Movemen*t, namely freedom of expression as a way to provide opportunities for students to develop their abilities (cognitive, affective and psychomotor).

Art Education for Appreciation, namely with the idea that students' "perception" of art and beauty needs to be developed through direct appreciation.

Art Education for the Formation of the Conception that "Drawing is a tool for expressing thoughts". Pictures are language, a way to give birth to and develop ideas.

Art education for mental and creative growth, namely art education as a means (processing) for mental and creative growth in students. students are the ideal and art is the means.

Art as beauty, namely the concept of beauty is developed from selected objects. The criteria for the object being imitated is beauty.

Art as imitation of Plato's aesthetics "memisis" which means imitating nature. Art activities are activities that imitate nature, and every work of art is an imitation of natural forms.

Art as a fun entertainment with the idea that the results of art must be able to entertain or please (Rohidi, 2016).

Art as one of the means in education that leads to the formation of personality should be able to provide modern knowledge to students and their community, one of which is knowledge of modern art without having to abandon traditional values or traditional art. Even modern art can be taught through traditional art media. Learning art for education, various media, both movement, visual, and sound media are tools for expressing feelings to develop students' attitudes, mindsets, and skills towards maturity.

Internalization of culture in art learning is a process of instilling and strengthening cultural values. The instillation and development of these values is carried out through various didactic-methodical education and teaching, such as education, indoctrination direction, and so on. Education is considered a preventive alternative because education builds a new generation of a better nation. As a preventive alternative, education is expected to develop the quality of the nation's young generation in various aspects that can minimize and reduce the causes of various cultural problems and national character. It is indeed recognized that the results of education will be seen in a short time, but have strong resilience and impact in society. For example, through a material on the formation of a nation's character which discusses cultural values that are religious, honest, tolerant, disciplined, hard work, creative, and independent can be integrated as learning. One strategy for implementing character education is through integration in extracurricular dance activities. Extracurricular activities are educational activities carried out outside of face-to-face class hours with the aim of expanding knowledge, improving skills, and internalizing values and norms (Wiyani, 2012: 108).

In the introduction of modern art, teachers can teach through traditional values in collaboration with artists in the Gerakan Seniman Masuk Sekolah program which has been running since 2021. The aim of the Gerakan Seniman Masuk Sekolah program for education is expected to have a positive impact in instilling a sense of art, creative attitudes and fostering motivation to appreciate art. Meanwhile, art education aims for students to be able to master art both textually and contextually which has local wisdom values.

Art activities carried out by teachers and artists in guiding and assisting students or pupils both in classroom learning activities and in extracurricular activities at school, then the development of student competencies in the educational realm which includes psychomotor, cognitive, and affective aspects will be achieved well. The psychomotor aspect in modern art learning can be achieved through traditional values in student activities or pupils in an effort to learn something in the form of creative movement in dance, making a craft object in fine arts and producing various sounds both from traditional musical instruments and other objects as an effort to express the creative imagination of students or pupils. The form of a movement, a certain form of fine arts and crafts can initially use movements in dance and forms or forms in traditional arts. Furthermore, if students or pupils have been able to understand the basic forms or movements, students or pupils can develop them into a new form in fine arts or crafts, using new movements in dance. When learners or students have understood and are familiar with the composition of fine arts and dance, students can use any source of form or shape, for example flowers, fruit, animals and other natural forms to create a composition in the form of a motif.

This creative imagination is the result of thinking about a possibility that can be processed into a work of art. Without thought processing, there will be no composition of forms in fine arts or crafts, composition of movements in dance or sound in music that can be accounted for. The mindset and being responsible for a composition of forms, movements or sounds by students is an effort to process from the cognitive aspect. The cognitive aspect is more often viewed only

from a theoretical perspective, whereas the process of thinking in realizing forms, movements and sounds is also a cognitive aspect.

In the affective aspect, students can be seen from, among others, courage, initiative, group cooperation and responsibility. While from psychomotor arts, students must clearly have the skills to create a form in fine arts and crafts, move in dance or sound something according to the composition they want.

Learning modern art in schools through traditional arts can be developed through creative activities in art lessons through initial stimulation. Stimulation is an activity that arouses thought and enthusiasm, especially in motivating students to create art. Various stimuli that motivate creative students are auditory, visual, idea and tactile or kinetic stimuli (Smith, 1976).

Auditory stimuli

Auditory stimuli or hearing stimuli include various sounds and noises, such as human voices, animal sounds, wind sounds, water sounds, instrument sounds, words, poetry, music and so on. These stimuli can be used as material to motivate the creation of a work. atmosphere, character, natural form, movement or sound can appear through these auditory stimuli. In a study at school conducted by Juju Masunah et al. (1988) to examine dance movements using songs in Indonesian and Sundanese. While in other parts, dance movements using creative and modern music were studied.

The results of the study showed that the tendency of the types of movements produced from songs in Indonesian and Sundanese were movements that translated words in the song lyrics, so that the movements were less active and stiff.

While the movements produced with creative and modern music rhythms encouraged students to be more creative in expressing movements compared to using finished songs. However, in using creative and modern music, clarity of ideas and mastery of materials from the instructor or teacher is required. In fine arts, it will also provide better and unique results by giving students the freedom to express themselves using various raw materials so that students understand the nature and character of the materials.

Visual stimulation

Visual stimulation can arise from images, statues, natural objects, masks and so on. This visual image can be seen from its background, function or other interpretations. A chair, for example, can be viewed from its lines, angles, texture, shape, function of completeness or support for body weight. A chair can also be viewed as power, a throne, a trap, an object for hiding, a tool for self-defense and as a weapon.

Traditional masks can stimulate and motivate students to create a new, more modern form in fine arts, or by looking at the mask students can process movements according to their character and symbols. This visual stimulation has more freedom of interpretation.

Stimulation of ideas

Stimulation of ideas can be from stories, fairy tales, short stories, or certain events to create a more modern form of art using media form, movement or sound.

If the idea to be communicated is war, then in dance the movement is limited to movements that give the impression of a fight such as in the *Cut Nyak Dhien dance*, or in fine arts it can depict a picture of war or it can also be in the form of symbols using elements of fine arts such as lines, colors, textures, shapes, and others that are contradictory or opposing. If we observe the results achieved, it turns out that students are very active and feel happy in realizing ideas from stories, fairy tales, short stories and other events that are around students in role-playing practices.

Tactile or kinesthetic stimulation

What is meant by tactile or kinesthetic stimulation is a stimulus that produces a kinesthetic response which then becomes the motivation to create a work. For example, the soft feel of velvet fabric can give the impression of softness in arranging colors or textures in fine arts or the impression of soft movement in dance movement art.

Furthermore, the implementation of modern art learning through traditional arts in schools can be carried out in three stages, namely a) creative activities, b) reproductive activities and c) appreciative activities.

Creative activities

Creative activities generally encourage children's creativity to discover new things. To discover new things will not just appear without any initial stimulus or stimulation given by the teacher.

In this creative activity, it can be through integrated learning activities, namely learning by combining several sub-fields of study in a certain time unit into a unit of action so that it can produce a form of appearance that is colored by the elements that are combined, for example handicrafts with dance, dance with music or others. This integrated learning activity is not only in one art group, but can be implemented in a cross-field manner, for example dance lessons with history lessons such as the Cut Nyak Chien dance which depicts the courage of an Acehnese heroine, or fine arts with biology such as the use of various types of plants as motifs on sange or food covers.

In this integrated learning, moral values can also be instilled. If the teacher wants to instill a love of plants and the natural environment in the field of biology, the teacher can take the concept of motifs about local plants. Then students are directed to draw motifs or create dances according to the theme of the plants. As a final step, the teacher teaches a song that matches the theme of the plants around them while dancing to the rhythm that is sung.

Another example is the implementation of teaching about the history of the struggles of heroes in the past. Students are asked to pay attention to the struggles of national heroes. Then students are asked to create new and modern creative dances with modern movements according to the character of the desired hero. Then students are asked to dance their own creative dances or create a heroic drama accompanied by music performed by the students themselves.

With this kind of learning, students will gain broader experience of art, both traditional and creative and modern. The advantages of learning using this integrated approach for students include:

- The teaching and learning process situation will be more lively because the material varies from traditional to modern or collaborating the two so that boredom does not occur.
- For students who are less interested in one branch of art will be quickly helped because in a relatively short time it will be replaced with other materials.
- A comprehensive understanding of the branches of art will emerge in students.

To be able to achieve optimal benefits in this integrated learning, the following requirements are needed:

- Creative teachers are needed who understand the branches of art. If in a school there are two art teachers with different artistic backgrounds, then both can work together in managing their learning.
- Careful planning is needed before the teaching and learning process is carried out, because if not, the teaching and learning process can be chaotic without a clear direction.
- Sufficient time is needed to carry out this integrated learning.
- Teachers must master various teaching methods, so that an integrated approach does not only mean combining various types of art but also combining various methods so that the teaching and learning process is more lively and more active for students.

Reproductive approach

Reproductive activities are steps that are directed at studying the work of others to enrich students' inner knowledge and skills, and to support students' creative activities. For example, by studying works of art, dance or local or other regional music.

Appreciative activities

Appreciative activities are activities that can broaden the horizons of knowledge and insight that can enrich students' experiences. Soedarso SP (1990) formulated the art appreciation approach as follows:

- Applicative approach, namely activities that are oriented towards practice that develop creative or creative activities.
- Historical approach, namely appreciation activities that are taken through the introduction of art history.

- Problematic approach, namely an approach that highlights problems and the ins and outs of art as a means for education, social, rituals and so on in order to enjoy art as it should be. This method requires assistance in the form of art (fine art, music or dance) either presented directly or through the help of teaching media.

- Evaluation approach, namely assessment of students and also assessment of related learning components such as objectives, teaching materials and implementation of teaching.

Conclusion

Learning modern art through traditional values in Senior High Schools in Aceh Province is carried out using the Project Base Learning (PjBL) learning model approach to study a work of art by involving artists in the Gerakan Seniman Masuk Sekolah program has made a significant contribution to the development of students' abilities in cognitive, affective and psychomotor aspects. In Senior High Schools in Langsa City, East Aceh, learning modern creative dance art through the heroic values of Cut Nyak Dhien, who is one of the Acehnese women who was given the title of national hero because of her struggle in winning the nation's independence. Meanwhile, in Senior High Schools in Banda Aceh City, learning modern fine arts through efforts to make sange or food covers by utilizing local wisdom values in the form of traditional motifs that are full of symbols and meanings for the Acehnese people. The motifs used by students to decorate sange or food covers The motifs used are very varied, starting from the taloe motif, which is symbolized as a guardian and strength in Acehnese society, puta taloe has the meaning of a guardian and connector of ties of friendship that can strengthen relationships between people, bungong meutaloe is a symbol of a binder or connector of ties of friendship in Acehnese society, putik is symbolized as fertility and beauty, pucok reubong at the bottom has the meaning of the relationship between humans and their natural environment, in the middle or leaf-shaped part has the meaning of inner strength to establish relationships or cooperation between people to maintain existing customs, and the top is in the form of a mosque dome which means the relationship between humans and their God or the Creator. bungong geulima, awan meucaneuk, awan si oen, bungong bambang and pucok pakue. Creative art activities in schools begin with providing various stimuli that motivate students to be more creative through auditory, visual, idea and tactile or kinetic stimuli, thus developing students' cognitive abilities with the process of thinking in realizing form, movement and sound. In the affective aspect, students or students can be observed from the courage of students, student initiative, group cooperation and responsibility. While from the psychomotor arts, students or students are seen from the skills of moving in dance, making a good form in fine arts or crafts according to the composition they want.

Recommendations

Based on these conclusions, the following are suggested:

- Art learning in Senior High Schools should maintain traditional values in art and culture learning as an alternative to preserving cultural values. This is because through traditional values it is very effective in instilling students' love for their culture.
- It is expected that further researchers can develop research with traditional topics in education.

Limitations of Study

This research has time and cost limitations so that it has not been able to reach all districts or cities in Aceh province, which are 18 districts and 5 cities.

Acknowledgements

The researcher would like to thank Senior High School in Langsa City, Senior High School 8 in Banda Aceh City, and to the art and culture teachers of Senior High School 8 in Banda Aceh City who have helped provide documentation to the author in the process of implementing the research. During the implementation process, participants' informed consent and the approval of the relevant institutions were obtained, in compliance with ethical standards.

Biodata of Author

Lecturer, Dr. Rida Safuan Selian was born in Aceh Province, precisely in Langsa City, East Aceh Regency on October 7, 1976. In 1995, he continued his Bachelor's Education in the Fine Arts and Crafts Education Study Program at Yogyakarta State University and graduated in December 2000. The author is one of thousands of Acehnese people who felt the terrible earthquake and tsunami on December 26, 2004. In 2005, he continued his Master's (S2) studies with a concentration in Art Education at Semarang State University and graduated in 2007. Then in 2012, he continued his S3 (Ph.D) education in the field of art education concentration at Sultan Idris University of Education Malaysia and graduated in 2015. In addition to teaching, the author is also active in research activities related to traditional arts in the Aceh province and its surroundings, and is also active in providing training and counseling to school teachers.

References

Arpah, S. (2017). Peran dan fungsi guru dalam meningkatkan mutu pembelajaran (*The role and function of teachers in improving learning quality*). *Al-Munawwarah: Jurnal Pendidikan Islam, 9*, 51–63.

Azwardi. (2012). Penelitian dan jenis-jenis penelitian (*Research and types of research*). Jakarta: Balai Pustaka.

Badruzzaman. (2010). Kumpulan motif Aceh (*Collection of Acehnese motifs*). Povinsi Aceh: Majelis Adat Aceh (MAA).

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Dini, T. A. (2020). Paradigma pendidikan seni untuk kehidupan anak (*Paradigm of art education for children's lives*). *Imajinasi: Jurnal Seni, 14*(1), 49–56.

Ediwar. (2016). Rekonstruksi dan revitalisasi kesenian Rapa'i Aceh pasca tsunami (*Reconstruction and revitalization of Rapa'i Aceh art after the tsunami*). *Jurnal Seni Pertunjukan, 17*(1), 30–37.

Gunawan, I. (2013). *Metode penelitian kualitatif teori dan praktik* (*Qualitative research methods: Theory and practice*). Jakarta: Bumi Aksara.

Hermaliza, et al. (2013). Simbol dan makna kasab di Aceh Selatan (*Symbols and meanings of kasab in South Aceh*). Banda Aceh: Balai Pelestarian Nilai Budaya Banda Aceh.

Huda, M. (2020). John Rupert Firth: Penggagas teori pemaknaan kontekstual di madzhab London (*John Rupert Firth: The initiator of contextual meaning theory in the London school*). In *Ensiklopedia Tokoh Linguistik Inggris* (pp. 52–61). Malang: UIN Maliki Press.

Jazuli, M. (2001). *Paradigma penelitian kualitatif seni (Paradigm of qualitative research in arts).* Semarang: UNNES Press.

Jazuli, M. (2008). Pendidikan seni budaya suplemen pembelajaran tari (*Art and culture education: A supplement for dance learning*). Semarang: Universitas Negeri Semarang.

Jazuli, M. (2016). Paradigma pendidikan seni (*Paradigm of art education*). Yogyakarta: Graha Ilmu.

Klein, J. L., et al. (2009). *Project-based learning: Inspiring middle school students to engage in deep and active learning.* New York: NYC Department of Education.

Margaret. (2005). Pedoman dasar komposisi tari (*Basic guidelines of dance composition*) (S. Murgiyanto, Trans.). Jakarta: Lembaga Kesenian Jakarta.

Maulin, S. (2019). Makna motif ragam hias pada rumah tradisional Aceh di Museum Aceh (*The meaning of decorative motifs on traditional Acehnese houses in the Aceh Museum*). *Jurnal Program Studi Drama Tari dan Musik Fakultas Keguruan dan Ilmu Pendidikan Universitas Syiah Kuala.*

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis.* London: SAGE Publications.

Mulyasa. (2015). Menjadi guru profesional menciptakan pembelajaran kreatif dan menyenangkan (*Becoming a professional teacher by creating creative and enjoyable learning*). Bandung: PT Remaja Rosdakarya.

Präffcke, H. (1986). *Der Kunstbegriff Alfred Lichtwarks (Alfred Lichtwark's concept of art).* Hildesheim: Olms.

Redha, R. (2022). Pengaruh penggunaan media pembelajaran Prezi terhadap hasil belajar siswa pada materi ragam hias pada bahan tekstil di SMP Negeri 1 Bakongan (*The effect of using Prezi as a learning medium on student achievement in decorative motifs on textile materials at SMP Negeri 1 Bakongan*) [Unpublished undergraduate thesis]. Universitas Syiah Kuala, Aceh.

Rohidi, T. R. (2016). Pendidikan seni isu dan paradigma (*Art education: Issues and paradigms*). Semarang: Cipta Prima Nusantara.

Rusman. (2012). Model-model pembelajaran: Mengembangkan profesionalisme guru (*Learning models: Developing teacher professionalism*). Bandung: CV Alfabeta.

Smith, P. G. (1976). Knowledge and values. *Sociological Review, 24*(1), 31–54. https://doi.org/10.1111/j.1741-5446.1976.tb00710.x

Sugiyono. (2014). *Metode penelitian kuantitatif kualitatif dan R&D* (*Quantitative, qualitative, and R&D research methods*). Bandung: Alfabeta.

Syahrul, H. (2002). Perempuan Aceh dalam lintas sejarah (*Acehnese women across history*). Jakarta: Pelita Hidup Insani.

Wiyani, N. A. (2012). Manajemen pendidikan karakter: Konsep dan implementasinya di sekolah (*Character education management: Concept and implementation in schools*). *Pedagogia.*

Journal for the Interdisciplinary Art and Education, 6(3), 267-283, Sept 2025
e-ISSN: 2717-8870
dergipark.org.tr/jiae

Genc Bilge Publishing Ltd.
(Young Wise) © 2025
gencbilgeyayincilik.com

Research Article

Examining the effectiveness of anatomy education on the body perception and performance of ballet students

Ayşe Gül Kabakcı[1*] and Seda Ayvazoğlu[2]

Department of Anatomy, Cukurova University, Adana, Türkiye

Article Info

Received: 14 July 2025
Accepted: 2 September 2025
Available online: 30 Sept 2025

Keywords
Anatomy education
Ballet education
Body perception

Abstract

This study aims to examine the effectiveness of an eight-week anatomy course on body perception and performance in ballet students. This study included 28 ballet students from Dokuz Eylül University who voluntarily participated in an eight-week online anatomy course focusing on the musculoskeletal system. The remaining 22 students, who did not participate, formed the control group. Before and after the anatomy education, a body perception survey and a multiple-choice anatomy knowledge test were administered. Additionally, ballet performance scores were collected at the end of the academic year and compared between students who received anatomy education and those who did not. The study included 50 ballet students, of whom 28 participated in an eight-week online musculoskeletal anatomy course, while 22 served as controls. Students who received anatomy education achieved significantly higher ballet performance scores (82.64±1.53) compared to those without anatomy training (74.47±3.49; p=0.000). Additionally, a body perception survey conducted before and after the course revealed significant improvements in movement awareness, coordination, and technical proficiency among the intervention group. Positive attitudes toward anatomy increased significantly ("Strongly Like" responses rose, p=0.008), while strong negative responses decreased ("Strongly Dislike," p=0.000). Physical traits such as endurance, strength, flexibility, and pain tolerance showed marked improvement post-course. Although perceptions of body weight and height remained stable, body posture and body type awareness improved significantly. Most students recognized the importance of anatomy education for ballet, with those trained demonstrating enhanced understanding of injury prevention, correlating with their injury history. These findings highlight the beneficial impact of anatomy education on both ballet performance and body awareness. Anatomy education appears to enhance both body awareness and ballet performance in students. The results support the integration of anatomical knowledge into ballet training to promote better physical execution, increased cognitive engagement with movement, and potentially reduced injury risk.

To cite this article

Kabakcı, A.G., and Ayvazoğlu, S. (2025). Examining the effectiveness of anatomy education on the body perception and performance of ballet students. *Journal for the Interdisciplinary Art and Education, 6*(3), 267-283. DOI: https://doi.org/10.5281/zenodo.17034487

Introduction

Anatomy is a fundamental scientific discipline that examines the structure of the human body and has played a crucial role in the development of modern medicine. Andreas Vesalius' work, *Fabrica*, meticulously defines anatomy as the cornerstone of medical knowledge. The study of anatomy provides crucial insights into the functioning of the human

1 Corresponding author: Dr, Cukurova University Faculty of Medicine Department of Anatomy, Adana, Türkiye. Email: akabakci@cu.edu.tr, ORCID: 0000-0001-7144-8759
2 Prof Dr, Dokuz Eylul University State Conservatory Department of Performing Arts Ballet Department, Izmir, Türkiye. Email: seda.ayvazoglu@deu.edu.tr, ORCID: 0000-0002-6446-8521

body, aiding in the diagnosis, treatment, and surgical planning of diseases. Historical figures such as Hippocrates, Galen, and Leonardo da Vinci made significant contributions to the field through their anatomical studies (Yammine, 2014; Pengelly, 2010; Kotler et al., 2017)

As a broad scientific field, anatomy has evolved into various sub-disciplines, such as gross (macroscopic) anatomy, microscopic anatomy, functional, clinical, radiological, surgical, and artistic anatomy. Artistic anatomy focuses on the organization of bones, muscles, and joints that give shape and aesthetics to the external body, including the contours created beneath the skin and the perspective view of surface organs. Many artists, such as Leonardo da Vinci, Dürer, and Michelangelo, conducted detailed anatomical studies to understand ideal human proportions, which they incorporated into their art. The first scientist to determine human proportions scientifically was the French anatomist Dr. Paul Richer, who combined anthropological data with artistic principles to define body proportions (Kato & Sakai, 2017; Wolach & Wolach, 2021; Tubbs et al., 2018). In summary, anatomy plays a fundamental role not only in the scientific and clinical understanding of human structure and function but also in the fields of art and aesthetics.

Literature Review

Ballet is an academic dance technique with specific rules, presented by integrating various artistic elements to create stage performances. Ballet training typically begins at a young age and involves repetitive movements that embed ballet technique into the body. Ballet technique demands using the body beyond its normal functions (Harrison et al., 2020). In ballet education, it is essential to address the developmental characteristics of children to produce healthy individuals for society and develop skilled ballet dancers with solid foundations. Ballet offers children opportunities to express emotions, gain a sense of security, develop awareness, achieve physical control, and explore the functions and movements of their bodies (Ayvazoğlu & Dündar, 2021).

Academic ballet training consists of barre exercises, center exercises, and jumps. Barre exercises play a significant role in developing balance. Movements progress from both hands on the barre to one hand and eventually to one-legged movements, facilitating balanced development of both sides of the body. However, due to muscle elongation, muscle tightness, and potential pain, some students may consider quitting ballet training. Integrating anatomy lessons into ballet training helps students understand kinesiology principles, allowing them to persist in their training and manage muscle soreness. Ballet training takes place in studios equipped with mirrors, barres, and music systems, often with small class sizes to ensure individual attention. A core goal of the training process is injury prevention. Training sessions cover various exercises, including foot and arm positions, warming up, stretching, strengthening different muscle groups, barre work, center work, jumps, and reverence. Teaching students the anatomical functioning of the body is crucial for proper muscle development and injury prevention. However, focusing on specialized ballet positions and advanced techniques before motor and coordination skills are adequately developed can lead to overuse injuries, developmental disorders, and physical strain. Therefore, ballet training must be planned in harmony with both anatomical and physiological development (Currey, 2020; Li et al., 2022).

Importance of Study

The musculoskeletal demands of ballet training, combined with its artistic and technical requirements, place ballet dancers at high risk for injuries. While many dancers possess a heightened awareness of their bodies, they often lack a solid understanding of human anatomy fundamentals. There is limited literature specifically examining the benefits of anatomy education for dancers (Kotler, 2017). Understanding the anatomical basis of movement is vital for preventing injuries and ensuring safe, effective training. The current literature demonstrates that anatomical knowledge can significantly reduce injury risks by supporting proper execution of technical movements and informed injury prevention strategies (Russell, 2013). For example, lower extremity injuries are common among ballet dancers and often result from weaknesses in muscle and connective tissue, as well as improper techniques (Woods et al., 2007). Anatomy education equips students with strategies to prevent such injuries by enabling a deeper understanding of the musculoskeletal system's function and mechanics.

Moreover, anatomy education helps students learn proper warm-up and stretching techniques, thereby reducing the risk of injury (Ullman et al., 2021). An education enriched with anatomical knowledge promotes a more conscious

approach to pre- and post-injury care, enhancing both performance and safety (Markatos et al., 2019) Given the scarcity of research on this topic, our study addresses a critical gap by exploring how anatomy education influences ballet students' physical and emotional awareness, performance, and injury prevention.

Problem of the Study

In this study, it is aimed to determine the effectiveness of the anatomy education program prepared for ballet students on body perception and performance. In line with this purpose, the research problem is stated as follows:

- What is the effectiveness of the anatomy education program, which includes body perception and performance, prepared for ballet students?

The sub-problems of the research are:

- What is the effect of the anatomy education program, which includes body perception and performance, on the body perception of ballet students?
- What is the effect of the anatomy education program, which includes body perception and performance, on the ballet performance of ballet students?

Method

Research Model

This study, designed as both a case study and a quasi-experimental design with a control group, aimed to evaluate the impact of online musculoskeletal system anatomy education on ballet students' body perception and performance. The intervention consisted of an eight-week online anatomy course delivered by a certified anatomist, while the control group received no such training. The effects of the intervention were assessed through pre- and post-training surveys and final performance evaluations.

Participants

The study population consisted of 50 ballet students enrolled in the Ballet Main Art Branch of Dokuz Eylül University. Inclusion criteria were: (1) at least six years of ballet training and (2) voluntary participation, documented via signed informed consent forms (or parental consent for minors). Students who failed to attend the anatomy training regularly, did not complete the survey assessments, or did not sign the consent form were excluded. A total of 28 students met the inclusion criteria and were assigned to the intervention group, having voluntarily chosen to participate in the anatomy training. The remaining 22 students formed the control group, opting not to take part in the anatomy classes. Final performance scores for all students were collected from the department faculty based on standardized evaluation criteria.

Analysis

Quantitative data were analyzed using SPSS version 21.0. Descriptive statistics (mean ± standard deviation) were calculated for all variables. The Kolmogorov–Smirnov test was applied to examine the normality of the data distribution. The Likert-type survey data were found to be normally distributed (e.g., Strongly Like: $p = 0.004$; Like: $p = 0.019$; Undecided: $p = 0.002$; Dislike: $p = 0.000$; Strongly Dislike: $p = 0.000$), justifying the use of parametric tests. Ballet performance scores were also found to follow a normal distribution ($p = 0.000$). Based on these findings, the Independent Samples t-test was used to compare both survey outcomes and performance scores between the intervention and control groups. A significance level of $p < 0.05$ was adopted for all analyses.

Process

The study began with the recruitment and consent of 50 eligible students. Among them, 28 students voluntarily enrolled in the intervention program, receiving eight weeks of musculoskeletal anatomy education via the Zoom platform (Table 1 and Photo 1). Classes were held once a week for 45 minutes and scheduled to avoid conflict with academic or practice routines. Each session was recorded, and attendance was monitored.

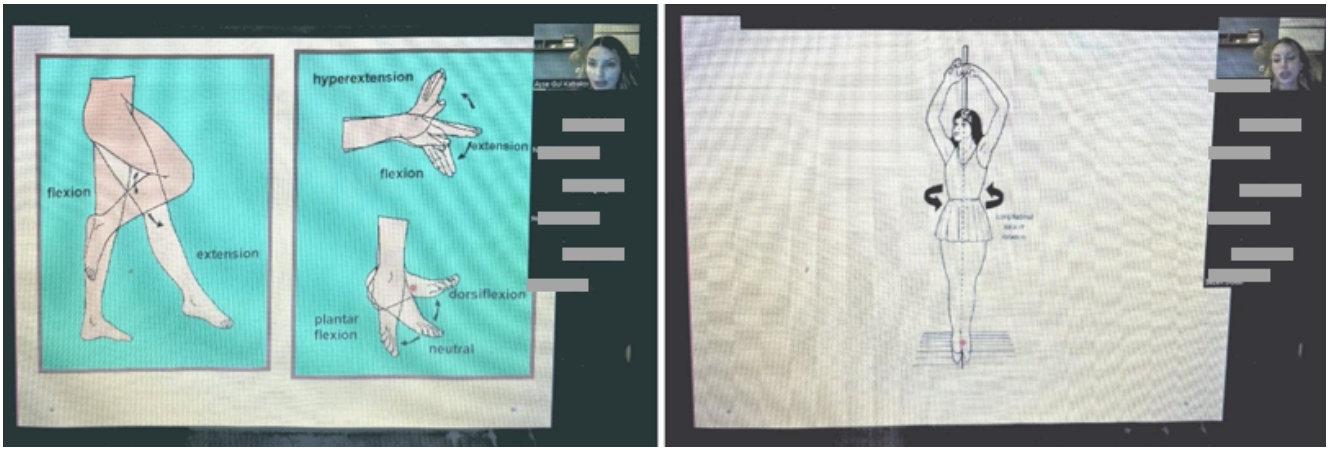


Photo 1. Scenes from online anatomy courses

Table 1. Musculoskeletal anatomy lessons plan

Subject of Anatomy Lessons	Lesson duration
Locomotor System Anatomy and Terminology	1 hour
Upper Extremity Bones, Joints, and Muscles	1 hour
Lower Extremity Bones, Joints, and Muscles	1 hour
Trunk Bones, Joints, and Muscles	1 hour
Head Bones, Joints, and Muscles	1 hour
Neck Bones, Joints, and Muscles	1 hour
Musculoskeletal Anatomy in Basic Ballet Positions	1 hour
Anatomical Factors in Potential Ballet Injuries	1 hour

The anatomy course was designed to improve students' understanding of body mechanics, posture, injury prevention, and performance optimization. Instruction included interactive visuals and focused on the musculoskeletal system relevant to ballet movements. Pre- and post-intervention assessments included a structured body perception survey delivered via Google Forms, using a 5-point Likert scale (Table 3). The survey also included open-ended questions (Table 2). Data from these surveys were visualized using pie charts, bar graphs, and response distributions.

Table 2. Open-ended questions

No	Questions
1	How many years have you been doing ballet?
2	Have you ever taken an anatomy class?
3	What comes to mind when you think of anatomy?
4	Have you ever had an injury during your ballet training?
5	If yes, please specify the area or areas where you were injured.

At the end of the academic year, ballet performance scores were obtained for all participants. These scores, evaluated by faculty members using standardized criteria technical execution, artistic expression, posture, and stage presence served as the primary outcome for performance-based comparison between the intervention and control groups.

Ethics

The study adhered to ethical research principles and obtained approval from the Non-Interventional Clinical Research Ethics Committee of Cukurova University (Approval No: 143/15, date; April 5, 2024).

Results

The study included a total of 50 ballet students from the Ballet Main Art Branch of Dokuz Eylül University. Twenty-eight of these students participated in eight weeks online anatomy course focused on the musculoskeletal system, while twenty-two students did not receive any anatomy education and served as the control group.

Ballet Performance Score

A total of 50 students participated in the study, including 28 who had received anatomy education and 22 who had not. The mean ballet performance score of students who took the anatomy course was 82.64 ± 1.53, whereas the mean score

of students without anatomy education was 74.47 ± 3.49. An independent samples t-test revealed that this difference was statistically significant (p = 0.000). These findings indicate that students who received anatomy instruction demonstrated significantly higher ballet performance scores compared to those who did not. The statistically significant difference suggests that anatomy education may contribute positively to ballet performance, potentially by enhancing body awareness, movement efficiency, and injury prevention.

Body Perception

A body perception survey was administered to all participants before and after the anatomy course. The results indicated that students who took the anatomy course showed notable improvement in body perception, especially in terms of movement awareness, coordination, and technical proficiency (Table 4). Moreover, Table 3 summarizes the average number of respondents for each category ("Strongly Like," "Like," "Undecided," "Dislike," and "Strongly Dislike") before and after the anatomy course, along with the mean ± standard deviation (Mean ± SD) and the statistical significance (p-value) of the differences. Strongly Like: There was a statistically significant increase in the average number of respondents selecting "Strongly Like" after the anatomy course (from 8.96 to 10.64, p = 0.008). This indicates that students showed a stronger positive response to the subject after the course. Like: The average number of respondents selecting "Like" remained almost unchanged (11.82 before and 11.81 after), with no significant difference (p = 0.989). This suggests stability in this group's responses. Undecided: The average number decreased slightly (from 4.56 to 3.96), but this change was not statistically significant (p = 0.283), indicating no meaningful shift in indecisiveness. Dislike: Although there was a decrease in the average number of respondents selecting "Dislike" (from 1.76 to 1.28), this was not statistically significant (p = 0.116). Strongly Dislike: There was a significant decrease in respondents choosing "Strongly Dislike" (from 1.32 to 0.44, p = 0.000), showing a substantial reduction in strong negative reactions after the anatomy course.

Table 3. Statistical significance values of the body perception scale and findings of the before and after of anatomy education

Response Category	$\overline{X}_{Before}$	SD	$\overline{X}_{After}$	SD	p
Strongly Like	8.96	1.99	10.64	2.54	0.008
Like	11.82	2.59	11.81	2.84	0.989
Undecided	4.56	2.28	3.96	1.84	0.283
Dislike	1.76	1.27	1.28	0.95	0.116
Strongly Dislike	1.32	1.01	0.44	0.63	0.000

After the anatomy education, students demonstrated a significant increase in positive responses ("Strongly Like") and a significant decrease in strong negative responses ("Strongly Dislike"). The other categories showed no significant changes. These results suggest that the anatomy course had a positive impact on students' attitudes, increasing their appreciation and reducing negative perceptions toward the subject.

Table 4. Body perception scale and findings of before-after of anatomy education

Response Category	**Strongly Like**		**Like**		**Undecided**		**Dislike**		**Strongly Dislike**	
Perception Period	**Before**	**After**	**Before**	**After**	**Before**	**After**	**Before**	**After**	**Before**	**After**
Body Perception Domains	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
My hair	28	36	60	48	8	16	4	0	0	0
My face color	44	44	48	44	8	12	0	0	0	0
My appetite	16	16	44	60	32	8	8	12	4	4
My hands	40	44	48	52	8	4	4	0	0	0
My nose	24	24	44	40	12	24	12	4	12	8
My endurance	44	52	24	28	20	16	12	4	0	0
My muscle strength	28	40	36	32	32	28	4	0	0	0
My waist	24	28	44	48	24	16	4	8	4	0
My energy level	40	52	32	36	20	8	4	4	4	0
My back	32	24	32	48	24	24	4	0	8	4
My ears	36	40	48	40	8	8	8	8	8	4
My chin	32	40	48	40	8	8	8	8	4	4
My body type	28	40	48	36	8	16	8	4	8	4
My height	36	36	44	40	16	20	4	4	4	0
My pain tolerance	28	48	44	36	24	12	4	4	8	0
The width of my shoulders	32	40	48	56	20	4	0	0	4	0
My arms	32	40	48	56	16	4	0	0	4	0
The shape of my eyes	44	40	52	40	4	8	4-	8	4	4
My body resilience	24	52	48	28	4	16	12	4	12	0
My legs	28	40	44	40	16	12	8	4	4	4
The shape of my teeth	24	36	40	40	24	16	12	8	8	0
My feet	24	40	48	40	12	8	12	8	4	4
My sleep pattern	32	36	52	44	12	16	0	4	4	0
My body weight	32	32	36	40	24	20	8	8	0	0
My body flexibility	32	36	20	32	24	24	12	4	12	4
The shape of my knees	40	44	32	28	8	20	16	8	4	0
My posture	40	44	36	36	16	16	4	4	4	0
The shape of my face	32	20	44	64	24	12	0	4	4	0

Physical Attributes

The survey evaluated key ballet-related physical traits such as endurance, physical strength, energy levels, and flexibility. Post-course assessments showed an increase in positive responses ("strongly like" and "like") for these parameters (Figures 1, 2, 3, and 4). In addition, improvements were also noted in students' perceptions of pain tolerance and body resilience following the course.

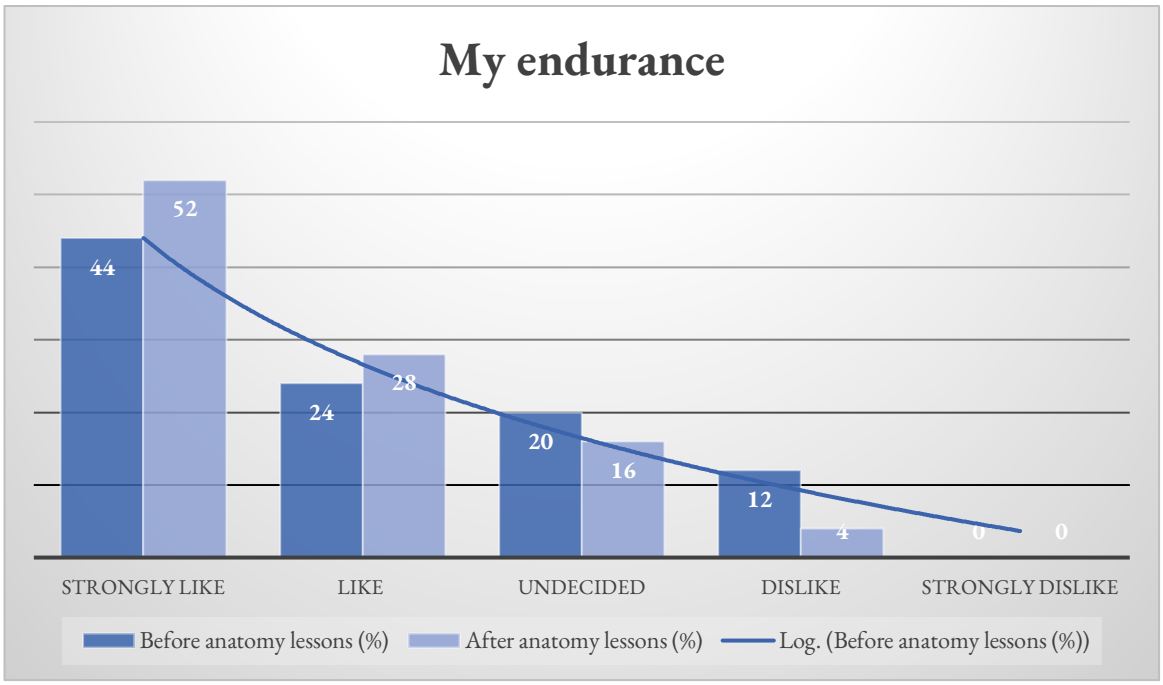


Figure 1. Change in perception of endurance before and after anatomy education

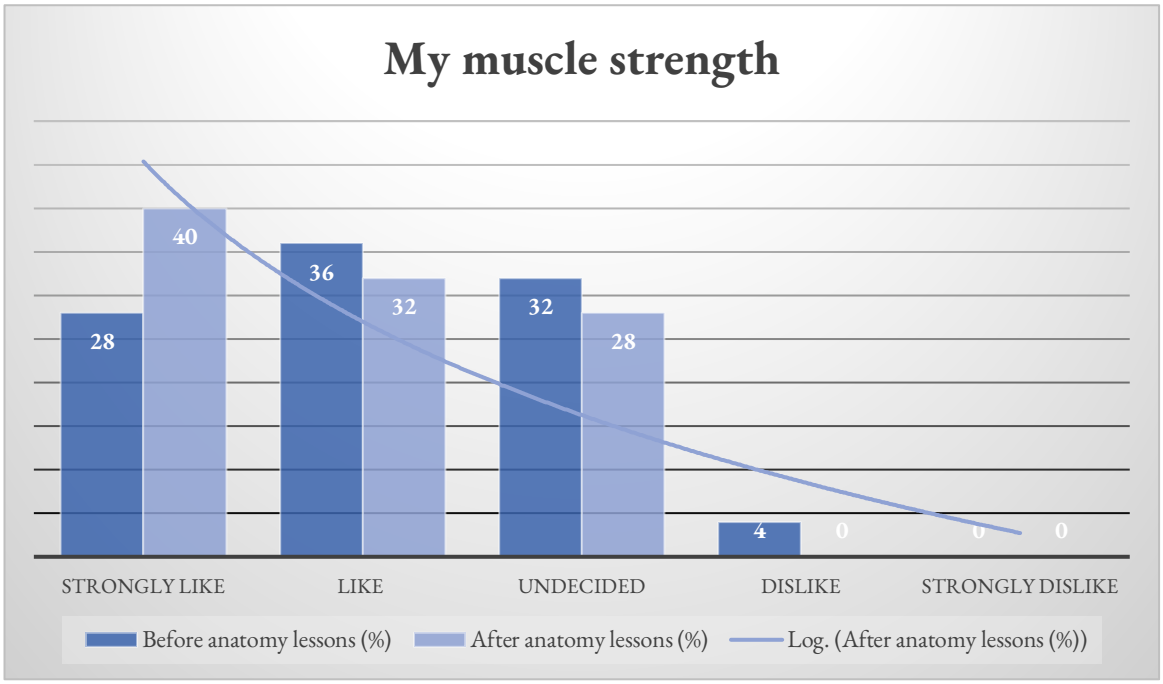


Figure 2. Change in perception of muscle strength before and after anatomy education

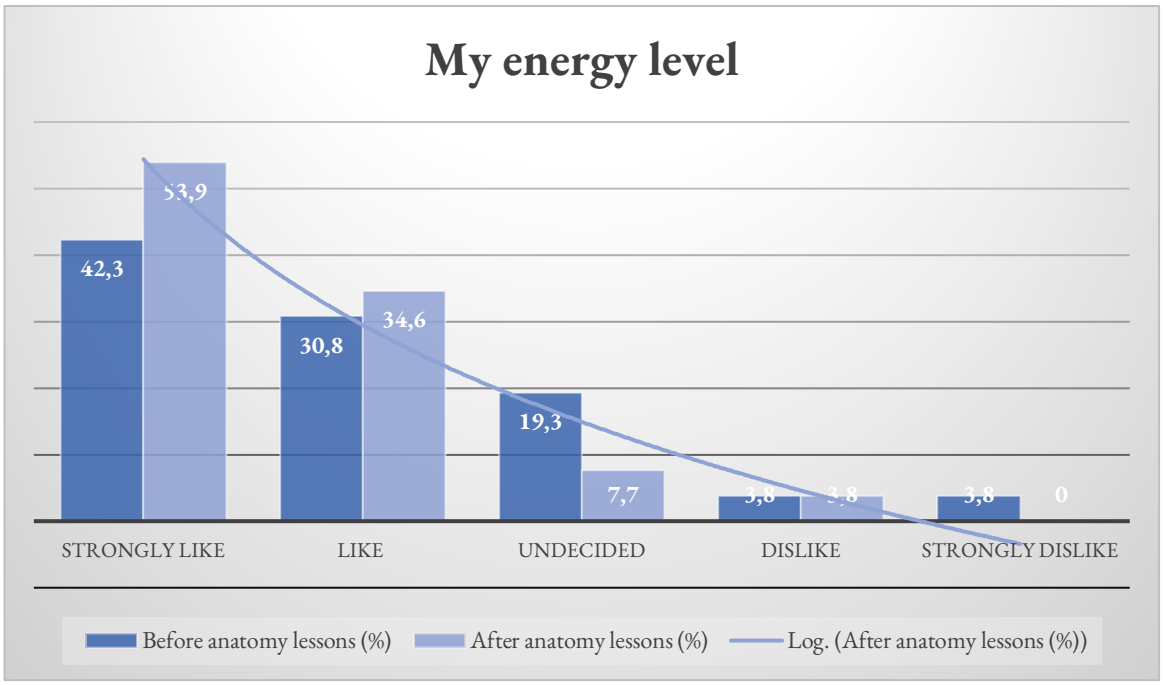


Figure 3. Change in perception of energy level before and after anatomy education

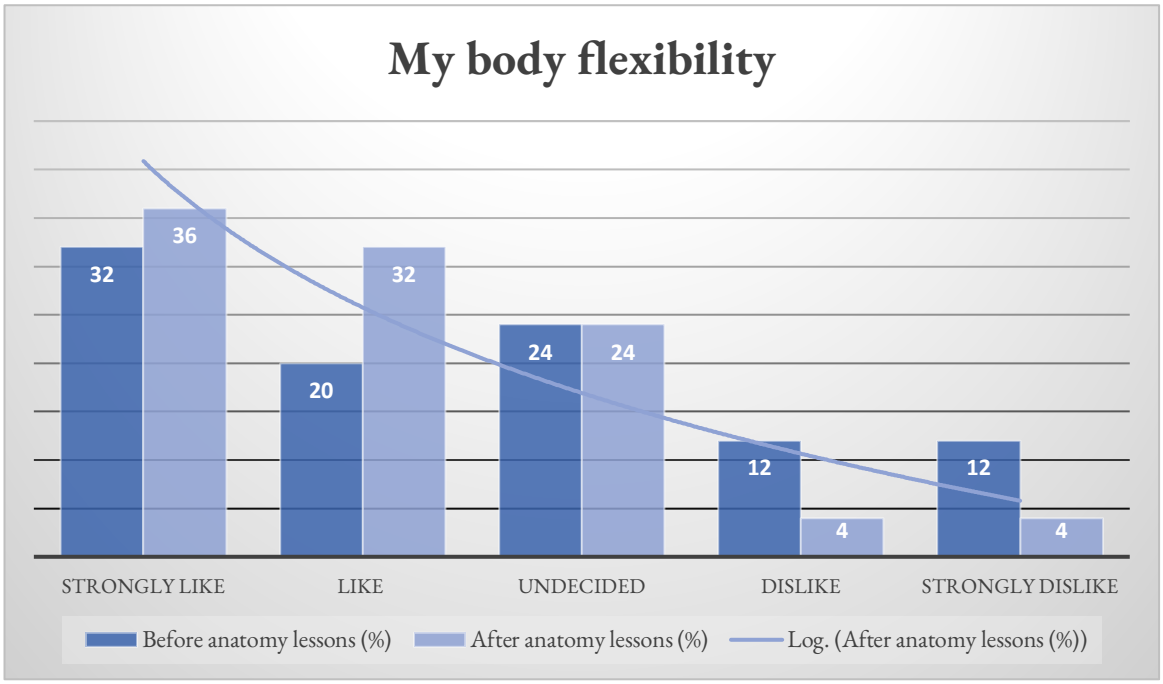


Figure 4. Change in perception of flexibility before and after anatomy education

Body Image Parameters

The study also examined how anatomy education influenced students' perceptions of their physical characteristics. While perceptions of body weight and height showed limited changes (Figures 5 and 6), significant improvements were observed in perceptions of body type and posture (Figures 7 and 8). Additionally, positive changes were seen in the evaluation of individual body parts (e.g., shoulders, back, legs, face) following the course (Table 2).

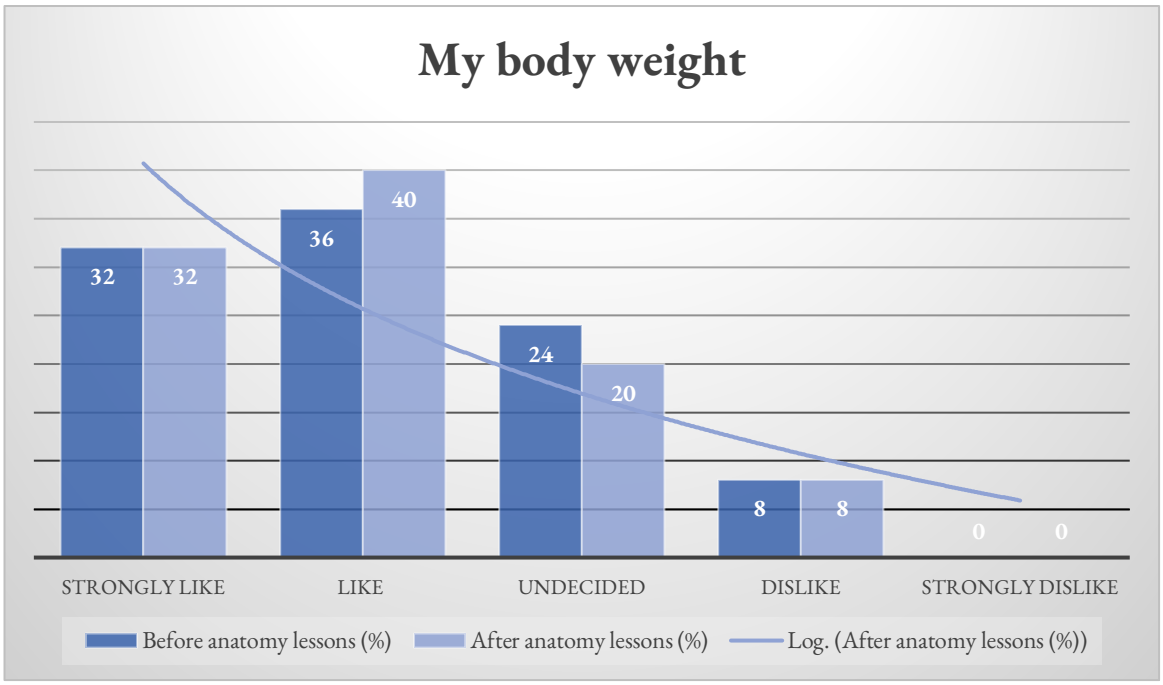


Figure 5. Change in perception of body weight before and after anatomy education

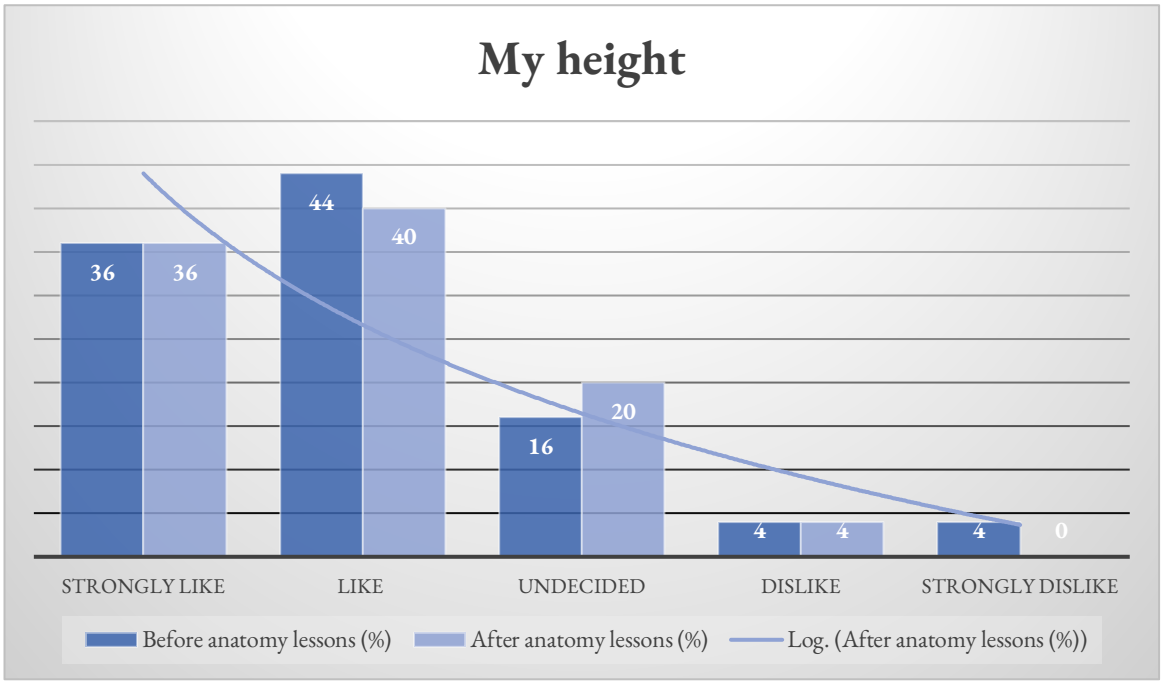


Figure 6. Change in perception of height before and after anatomy education

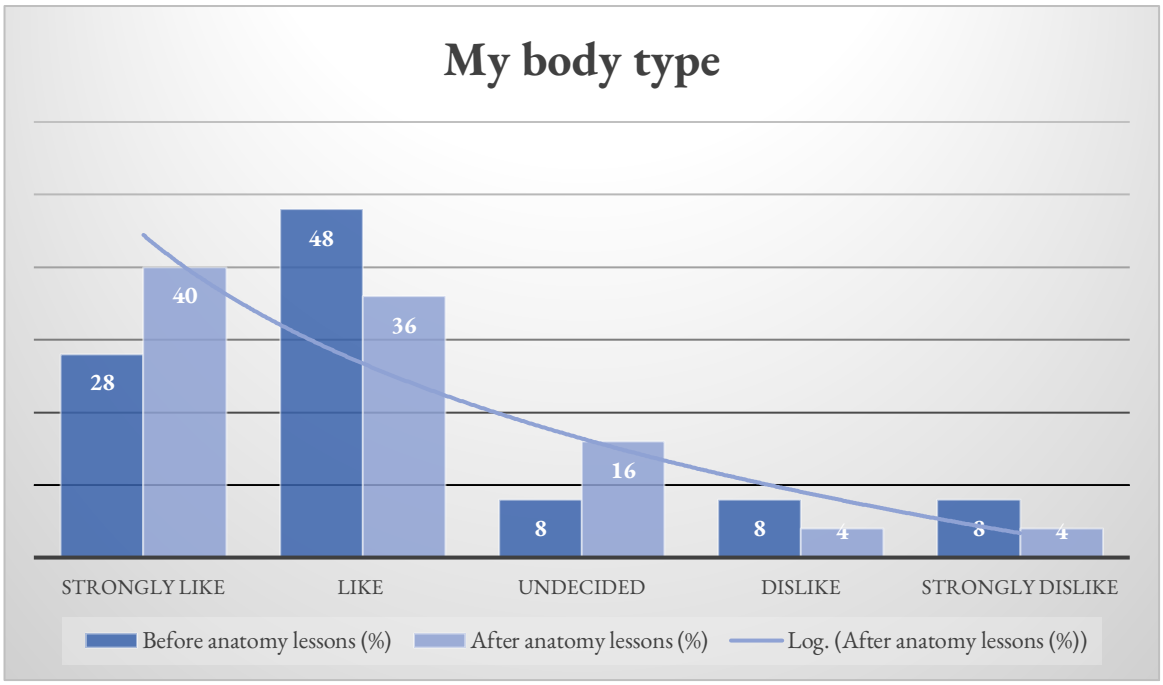


Figure 7. Change in perception of body type before and after anatomy education

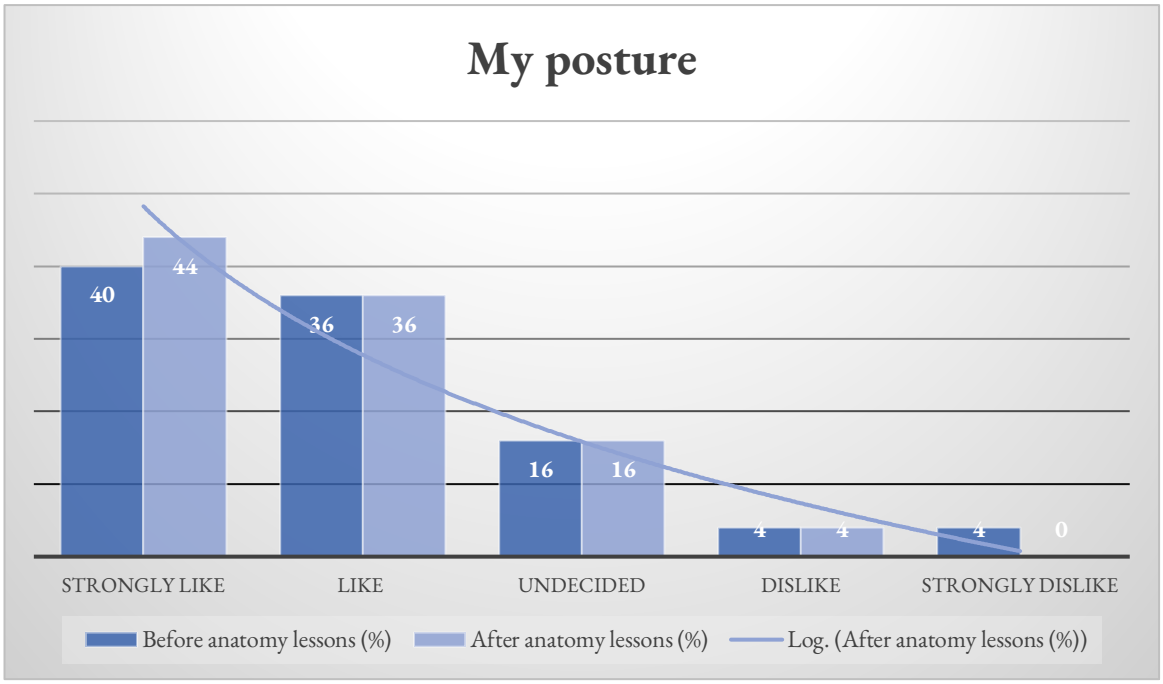


Figure 8. Change in perception of posture before and after anatomy education

Health and Lifestyle Factors

The survey included items related to appetite and sleep patterns. The majority of students reported satisfaction in these areas both before and after the course, with no significant changes observed post-intervention (Figures 9 and 10), suggesting that professional ballet students already maintain a high level of behavioral discipline.

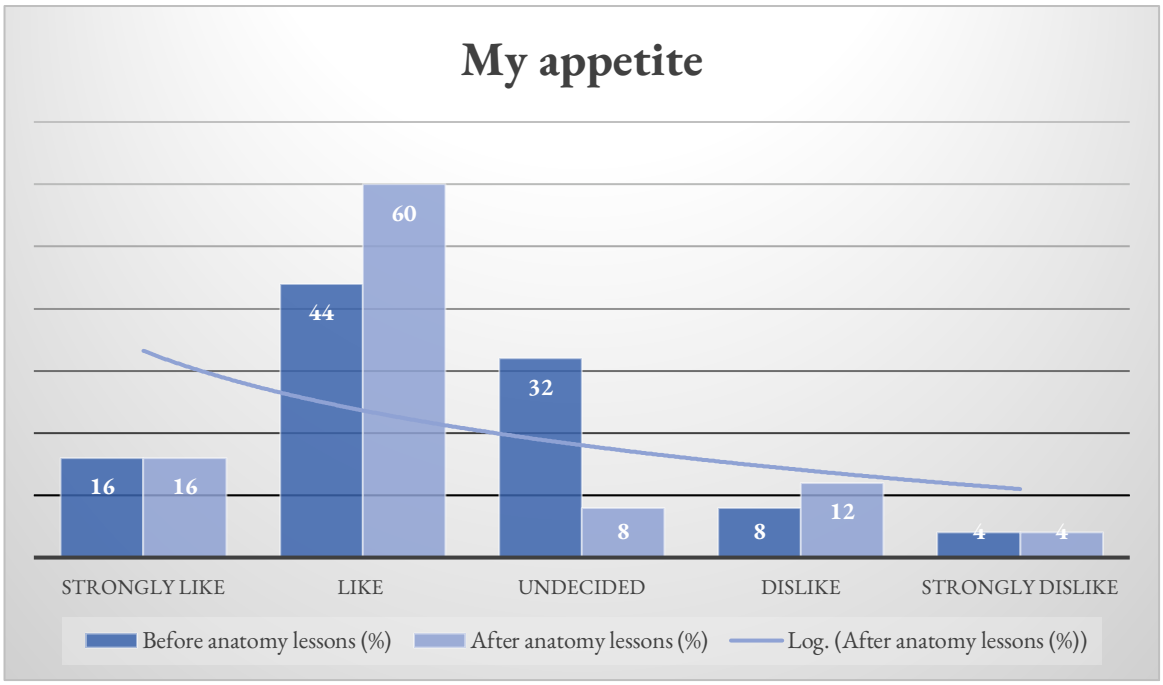


Figure 9. Change in perception of appetite before and after anatomy education

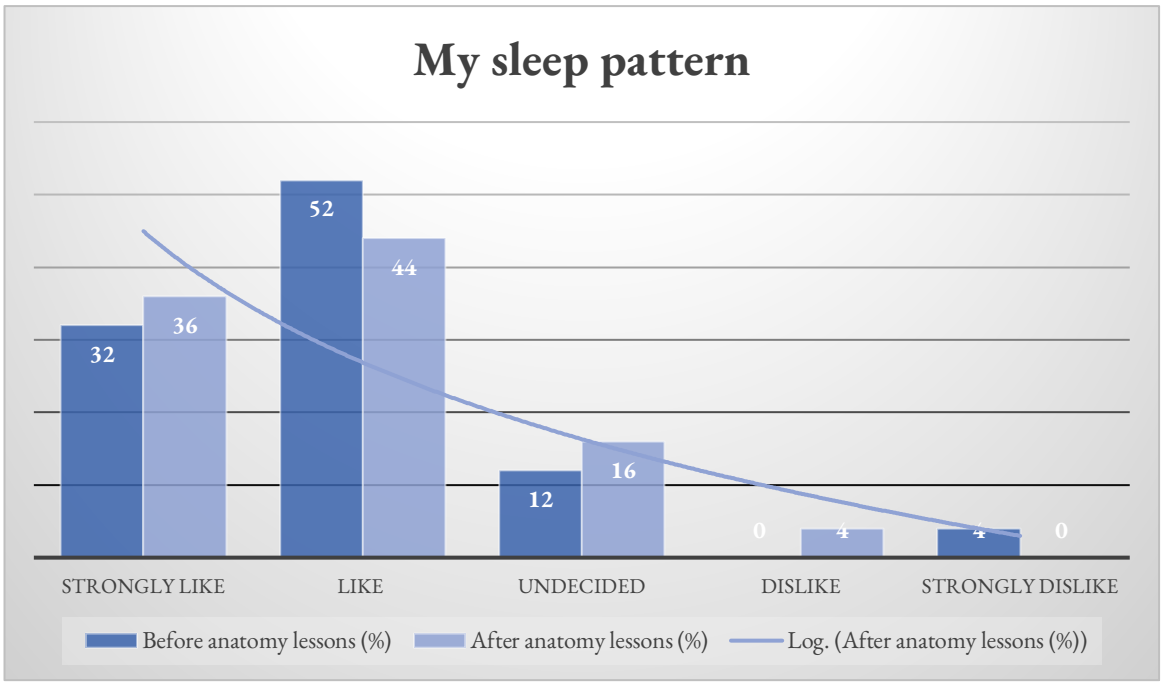


Figure 10. Change in perception of sleep pattern before and after anatomy education

Experience and Prior Knowledge

Among the participants, 53.8% had 6–10 years of ballet experience, and 46.2% had 11–15 years. Only 17.86% had previously taken an anatomy course. Despite this, all students agreed that anatomy education is essential for ballet training and professional development.

Injury History and Relevance

Approximately 76% of students reported having experienced at least one injury, most commonly affecting the lower extremities (e.g., foot bones, ankle ligaments, knees, hips). Students who participated in the anatomy education demonstrated a better understanding of the musculoskeletal system and showed improved awareness regarding injury prevention.

Conclusion and Discussion

All movements in the ballet curriculum are learned in a planned sequence. To perform these movements anatomically, technically, and aesthetically correctly, proper posture is essential. Achieving correct posture is crucial not only for aesthetic appearance but also for anatomical accuracy and movement safety. Therefore, before focusing on basic foot and arm positions, attention should be given to correct posture based on anatomical knowledge. Understanding anatomy supports the learning of proper posture, which in turn facilitates coordination and balance (Ayvazoğlu & Dündar, 2021). By integrating anatomical education into ballet training, students may achieve improved physical awareness and technical proficiency, ultimately fostering a more effective and sustainable dance practice.

The improved ballet scores among students who took the anatomy course underscore the contribution of anatomical education to physical performance. In our study, the mean year-end ballet performance score of students who received anatomy training was 82.64, significantly higher than the score of 74.47 among those who did not receive such training ($p = 0.000$). This statistically significant result provides compelling evidence that anatomy education may positively impact not only dancers' understanding of the body but also their ability to apply this understanding in real-world performance contexts. These students showed enhanced awareness of body mechanics, which likely translated into better execution of movements and improved evaluative outcomes in practical exams. Supporting this finding, Kotler et al. investigated dancers' perceived and actual knowledge of musculoskeletal anatomy and its relationship to functional application. Their study, which surveyed 475 adult dancers, demonstrated a strong correlation between perceived and actual anatomical knowledge ($p < 0.001$). Importantly, factors such as age, professional dancer status, and prior anatomy training were found to significantly increase both perceived and actual knowledge levels. This reinforces the notion that structured anatomical education can meaningfully enhance both cognitive and performance dimensions in dance practice (Kotler et al., 2017).

To further evaluate the benefits of anatomy training for ballet students, a "body perception" survey was conducted. This survey was designed to assess how students perceive their own bodies, including their awareness of bodily sensations, movement coordination, and overall technical proficiency. The results revealed that students who participated in anatomy education demonstrated a significant improvement in their body perception compared to those who did not. Specifically, these students showed a heightened awareness of their bodily movements and better coordination, which contributed to notable advancements in their technical abilities.

This evidence strongly supports the value of anatomy education, indicating that it not only enhances performance scores but also significantly improves students' body perception. The enhanced understanding of anatomy enables students to better comprehend their body's limits and potentials, leading to more effective execution of technical movements and higher overall performance. In our body perception survey, we assessed key attributes such as endurance, physical strength, energy levels, and flexibility, which are critical for suitability in ballet training. These attributes are fundamental for successful ballet performance and overall training effectiveness. Endurance is essential for ballet dancers as it allows them to sustain physical activity and perform demanding routines without excessive fatigue. Research has shown that enhanced endurance contributes significantly to a dancer's ability to maintain high performance levels throughout their training and performances (Dang et al., 2024). Also, physical strength is crucial for executing various ballet movements with precision and stability. Strength training improves a dancer's ability to handle the physical demands of ballet, including jumps and lifts. Evidence supports that strength training enhances performance and reduces injury risk among dancers (Ávila-Carvalho et al., 2022).

Energy levels are another important factor, as ballet requires sustained high energy to perform intricate routines and maintain focus. Studies have highlighted the correlation between energy expenditure and the physical demands of ballet, emphasizing the need for adequate energy management (Kim et al., 2019). Moreover, flexibility plays a vital role in ballet, enabling dancers to achieve the wide range of motion required for many ballet positions and movements. Flexibility training is known to improve performance and reduce the risk of injuries by enhancing a dancer's range of motion (Yin et al., 2029).

By evaluating these aspects through our survey, we aimed to better understand how well-prepared students are for the rigors of ballet training. Evaluations conducted after the anatomy training revealed a notable increase in the number of students who responded with "strongly like" and "like" regarding these parameters (Figures 1, 2, 3, and 4). This finding indicates that the anatomy training has been effective in enhancing students' awareness of these aspects. Additionally, another supporting finding is the change in perceptions of pain tolerance and body resilience. Post-training, there was also an increase in the number of students selecting "strongly like" and "like" for these aspects (Table 3). These increases suggest that the anatomy training has strengthened students' overall body awareness and perceptions of resilience, leading to a more positive outlook in these areas.

Among the physical attributes required for ballet training, having a long and slim body type plays a significant role. According to McCormack et al., this body type allows dancers to perform movements that are aesthetically more harmonious and fluid (McCormack et al., 2018). Additionally, Leonkiewicz et al. states that long legs and a slim body structure not only facilitate the execution of ballet movements more easily and effectively but also enhance the visual impact of these movements (Leonkiewicz et al., 2022). Also, Marschin and Herbert highlights that long legs provide an advantage, particularly in jumping and turning movements. Furthermore, a slim body type helps ballet dancers develop important physical attributes such as balance and flexibility (Marschin & Herbert, 2021). Karpodini et al. emphasize that body perception plays a crucial role during ballet training and that the long, slim body type is often idealized within the ballet community. This can affect both performance and individual self-esteem. For individuals with the ideal body type for ballet training, focus is often placed on leg length, waist-to-hip ratio, and overall body proportions. Long legs and a slim waist provide advantages in executing technical movements more effectively and appearing more aesthetically pleasing (Karpodini et al., 2017). Therefore, our study also examined how anatomy education influences ballet students' perceptions of their physical attributes. For this reason, perceptions of body weight, height, body type, and posture before and after anatomy education were evaluated among students in the survey. After the anatomy education, there was no change in the proportion of "strongly like" responses regarding body weight. However, there was an increase in the proportion of "like" responses (Figure 5). Similarly, in terms of height perception, while there was no change in the proportion of "strongly like" responses after the education, a decrease was observed in the proportion of "like" responses (Figure 6). In contrast, the effects of anatomy education on body type and posture were more clearly evident. After the education, a significant increase was observed in students' perceptions of these parameters (Figures 7 and 8). This finding shows that anatomy education leads to various changes in students' perceptions of physical appearance and provides notable improvements in some areas. Additionally, the increase observed in the perception of physical characteristics assessed in the survey (shoulder width, hands, waist, back, arms, legs, feet, knees, hair, face shape and color, nose, ears, chin, eye shape, tooth shape) after the education supports the improvements in perceptions of body posture and type (Table 2).

Ballet is an art form that demands a high degree of dedication and discipline both physically and mentally. In the training of ballet dancers, not only technical skills but also lifestyle and overall health play a significant role. Physical fitness is one of the cornerstones of this art form and requires constant attention for long-term success. However, in addition to physical fitness, a disciplined lifestyle is also crucial for ballet dancers to maintain their performance (Dang et al., 2020; Cardinal et al., 2020). Particularly, nutrition, physical fitness, and energy management are crucial for ballet dancers. Adequate and balanced nutrition helps dancers maintain their performance and optimize their bodies. Nutritionists recommend that ballet dancers consume sufficient protein, vitamins, minerals, and healthy fats, as these nutrients are essential for muscle repair, energy production, and overall health. Additionally, proper hydration enhances performance and reduces fatigue. Inadequate nutrition or irregular eating habits can lead to decreased energy levels and, consequently, performance loss (de Medeiros Eufrásio et al., 2021). Also, adequate sleep is critical for the physical and mental well-being of ballet dancers. Sleep supports the body's recovery and muscle repair, as well as enhancing mental concentration and learning ability. Regular and quality sleep helps dancers optimize their performance and maintain their daily training routines. Sleep deprivation can lead to fatigue, attention lapses, and coordination problems, negatively impacting performance (Harrison et al., 2021).

In conclusion, achieving a successful ballet career requires both physical fitness and a disciplined lifestyle. Nutrition, sleep patterns, and overall health play a critical role in this process. According to the survey results, a majority of the students expressed satisfaction with their appetite and sleep patterns (Table 2). Evaluations conducted before and after the anatomy training showed no significant changes in these patterns (Figures 9 and 10). This result indicates that the behavioral discipline of students already engaged in professional ballet training is well-established. Thus, based on our study's findings, it can be said that anatomy education has a more pronounced positive effect on physical awareness rather than on behavioral awareness.

Our survey results provide significant insights into the relationship between ballet training and anatomical knowledge. Among the respondents, 53.8% have been practicing ballet for 6 to 10 years, while 46.2% have between 11 and 15 years of experience. This indicates that while there are experienced ballet practitioners, the majority fall within the intermediate range of experience. Regarding anatomical knowledge, only 17.86% of the students reported having previously taken an anatomy class. However, all participants agreed that anatomical education is essential for ballet training and would contribute significantly to their professional development. This highlights the critical role that anatomical knowledge plays in ballet education and underscores the need for more comprehensive training in this area. Our analysis of the responses to the question "What comes to mind when you think of anatomy?" revealed that students who had received anatomical education provided more specific and ballet-focused answers (Table 5). This underscores the benefits of anatomy education, as it appears to enhance understanding and support the development of ballet education. Another key aim of our study was to increase body awareness and prevent potential injuries through anatomical education. The specific answers given by students who gained anatomical knowledge highlight their improved awareness, particularly concerning the musculoskeletal system. Preventing injuries is a critical aspect of ballet training (Smith et al., 2015). Notably, 76% of the students who participated in our study reported having experienced injuries, which underscores the importance of addressing this issue. Furthermore, our survey results indicate that most of these injuries were related to the lower extremities, including foot bones, ankle joints, ankle ligaments, knees, and hip joints.

The survey question “What comes to mind when you think of anatomy?” was asked to students before and after taking anatomy education. Before the course, students associated anatomy with general terms such as body, human body, body structure, skeleton, human structure, and even the song “Anatomy Jane.” After completing the course, their answers shifted to more specific concepts including anatomy, muscles and bones, the body’s operating system, body, body structure, and the skeletal and muscular systems.

We believe that anatomical education, particularly in musculoskeletal anatomy, will lead to a more informed approach to preventing potential injuries. These findings emphasize the significance and necessity of integrating anatomical training into ballet education to improve students' injury prevention strategies and overall body awareness.

Recommendations

Recommendations for Researchers

Future research should explore the long-term effects of anatomy education on ballet students’ performance, injury prevention, and psychological well-being to determine the sustainability of the benefits observed in this study. Comparative studies investigating face-to-face versus online delivery methods are also recommended to identify the most effective teaching strategies for integrating anatomical knowledge into dance education. Moreover, expanding research to include larger and more diverse cohorts from multiple institutions would enhance the generalizability of findings. Investigating the potential impacts of anatomy education on different dance styles and training levels could further contribute to optimizing educational approaches within performing arts curricula.

Recommendations for Applicants

Ballet educators, curriculum designers, and dance institutions are encouraged to integrate structured anatomy education into regular ballet training programs to enhance students' body awareness, performance quality, and injury prevention strategies. Applicants implementing such programs should consider combining theoretical knowledge with practical exercises to maximize students' understanding of anatomical principles relevant to dance movements. Furthermore, where possible, face-to-face instruction may be prioritized to facilitate interactive learning and immediate feedback. Careful planning regarding time allocation and content adaptation for different student levels will be essential to ensure the effectiveness and sustainability of anatomy education in ballet training.

Limitations of Study

This study has several limitations that should be considered when interpreting the results. Firstly, the anatomy education was delivered online due to physical access constraints, which may have affected the level of interaction, practical engagement, and immediate feedback that could be achieved in a face-to-face setting. Therefore, the positive outcomes observed might differ under in-person instructional conditions. Secondly, the sample size was relatively limited and drawn from a single institution, which may restrict the generalizability of the findings to broader populations of ballet students. Additionally, the study focused on short-term outcomes, and it remains unclear whether the observed improvements in performance and body perception would persist over the long term. Future research should include larger, multicenter cohorts and longer follow-up periods to confirm and expand upon these findings, and to compare the effectiveness of online versus face-to-face anatomy education in dance training contexts.

Author Contributions: Conceptualization, AGK; methodology, AGK and SA; analysis, AGK; investigation, AGK; resources, AGK and SA; data curation, AGK and SA; writing, AGK; review and editing, AGK and SA. All authors have read and agreed to the published version of the manuscript.

Funding: We would like to state that we are not receiving any financial support.

Institutional Review Board Statement: The study was conducted under the Declaration of Helsinki, and Ethical approval (no: 143/15, date: 5 April, 2024) was received from Cukurova University Non-Interventional Ethics Committee.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflict of Interest: No potential conflict of interest was reported by the authors.

Biodata of Authors

Dr. **Ayse Gül Kabakcı** received the the bachelor's degree from Baskent University, Ankara, Türkiye, in 2011. She received PhD degree from Cukurova University, Turkey, in 2022. She currently works as a research assistant doctor in the Department of Anatomy, Faculty of Medicine, University of Cukurova, Türkiye. Her research interests include anatomy, morphometry, medical aesthetic, radiology and artificial intelligence. Affilation: Çukurova University Faculty of Medicine, Department of Anatomy. Email: akabakci@cu.edu.tr ORCID: 0000-0001-7144-8759.

Academiaedu: https://netbim.academia.edu/ayşegülkabakcı

Researchgate: https://www.researchgate.net/profile/Ayse-Gul-Kabakci?ev=hdr_xprf

Prof.Dr. **Seda Ayvazoğlu**, born in Izmir, 1983. She began her ballet training in 1994 at the 9 Eylul University Izmir State Conservatory of Ballet Department. She continued her training at Münich Heinz-Bosl Ballet Stiftung in 2000. In 2004 Ayvazoğlu joined Izmir State Opera and Ballet. Since that time, she has danced with State Ballet and has continued teaching in State Conservatory of Izmir. Her repertory possesses a range of styles from classical ballets to the works of today's contemporary choreographers. Ayvazoğlu is also the founder of the Adana State Conservatory Ballet Department. As a ballet dancer she is the first phd graduate from a Performing Arts Department in Turkey. In 2011, she choreographed "Yan yana" Ballet suite at International Morgenland Festival in Germany. In 2013, she choreographed "Venus and Adonis" (Fazıl Say's music compositions) Modern Ballet with Izmir State Opera and Ballet dancers and ModerndanceLAB dance

company in Izmir as world premiere. Following seasons she choreographed the musical play "The Ballad of Ali of Keshan" and Verdi's Opera "A Masked Ball" for Samsun State Opera and Ballet, Turkey. Seda Ayvazoğlu has instructed ballet courses at St.Petersburg State University's Rinsky-Korsakov Conservatory for three weeks in 2014. She has become a UNESCO International Dance council member in 2015. She has participated in the 2018 International Spoleto Ballet Competition as a jury member. Affilation: Dokuz Eylül University State Conservatory, Performing Arts, Ballet Department. Email: seda.ayvazoglu@deu.edu.tr ORCID ID: 0000-0002-6446-8521.

Academiaedu: https://independent.academia.edu/SedaAyvazoglu

Researchgate: https://www.researchgate.net/profile/Seda-Ayvazoglu

References

Ávila-Carvalho, L., Conceição, F., Escobar-Álvarez, J.A., Gondra, B., Leite, I. & Rama, L. (2022). The effect of 16 weeks of lower-limb strength training in jumping performance of ballet dancers. *Frontiers in Physiology*, 12, 774327. https://doi.org/10.3389/fphys.2021.774327

Ayvazoğlu, S., Dündar, G.F. (2021). The anatomical analysis of basic stance in ballet. *Journal for the Interdisciplinary Art and Education, 2*(2), 169-78. https://www.danceadvantage.net/alignment-refresher

Cardinal, M.K., Rogers, K.A. & Cardinal, B.J. (2020). Inclusion of dancer wellness education programs in u.s. colleges and universities: a 20-year update. *Journal of Dance Medicine Science*, 24(2), 73-87. https://doi.org/10.12678/1089-313X.24.2.73

Currey, J., Sheng, D., Neph, Speciale, A., Cinquini, C., Cuza, J. & Waite, B.L. (2020). Performing arts medicine. *Physical Medicine and Rehabilitation Clinics of North America*, 31(4), 609-632. https://doi.org/10.1016/j.pmr.2020.08.001

Dang, Y., Chen, R., Koutedakis, Y. & Wyon, M.A. (2024). The efficacy of physical fitness training on dance injury: a systematic review. Sportverletz Sportschaden, 38(3), 129-139. https://doi.org/ 10.1055/a-2305-5759

Dang, Y., Koutedakis, Y. & Wyon, M. (2020). Fit to dance survey: elements of lifestyle and ınjury ıncidence in chinese dancers. *Medical Problems of Performing Artists*, 35(1), 10-8. https://doi.org/10.21091/mppa.2020.1002

de Medeiros Eufrásio, R. E., Ferreira, R. L. U., Leal, L. L. A., Avelino, E. B., da Costa Pelonha, R. N., da Cruz Carvalho, M. C., de Medeiros Torres, C. H., de Sousa Praseres, A. L., de Paiva Lima Filho, M., Mota, A. C. C. C., Nunes, A. B., Ferreira, D. Q. C., de Lima Vale, S. H., & Maciel, B. L. L. (2021). Amateur ballet practicing, body image and eating behaviors: a comparative study of classical ballet dancers, gym users and sedentary women. *Journal of Eating Disorders*, 9(1), 106. https://doi.org/10.1186/s40337-021-00459-9

Harrison, C., Ruddock, S., Mayes, S., Cook, J., O'Halloran, P., Ferrar, K., & Ruddock-Hudson, M. (2020). Self-Reported Wellness in Training and Performance: A Comparison of Professional Ballet Dancers and Professional Athletes. *Medical Problems of Performing Artists*, 35(4), 196–201. https://doi.org/10.21091/mppa.2020.4028

Harrison, C., Ruddock, S., O'Halloran, P., Mayes, S., Cook, J. & Ruddock-Hudson, M. (2021). Wellness monitoring for professional ballet dancers a pilot study. *Journal of Dance Medicine Science*, 25(2), 80-5. https://doi.org/10.12678/1089-313X.061521b

Karpodini, C.C., Wyon, M.A., Comoutos, N. & Koutedakis, Y. (2017). Leg-Length in relation to selected ballet performance ındicators. *Medical Problems of Performing Artists*, 32(3), 165-9. https://doi.org/10.21091/mppa.2017.3027

Kato, K. & Sakai, T. (2017). History of western artistic anatomy in the 19th century: prehistory of artistic anatomy in Japan. *Journal of Japanese History of Medicine*, 63(1), 23-42 https://pubmed.ncbi.nlm.nih.gov/30549781/

Kim, S.Y., Cho, J.H., Lee, J.H. & Jung, J.H. (2019). Changes in body composition, energy metabolism, and appetite-regulating hormones in Korean professional female ballet dancers before and after ballet performance. *Journal of Dance Medicine Science*, 23(4), 173-180. https://doi.org/10.12678/1089-313X.23.4.173

Kotler, D.H., Lynch, M., Cushman, D., Hu, J. & Garner, J. (2017). Dancers' perceived and actual knowledge of anatomy. *Journal of Dance Medicine Science*, 21(2), 76-81 https://doi.org/10.12678/1089-313X.21.2.76

Leonkiewicz, M. & Wawrzyniak A. (2022). The relationship between rigorous perception of one's own body and self, unhealthy eating behavior and a high risk of anorexic readiness: a predictor of eating disorders in the group of female ballet dancers and artistic gymnasts at the beginning of their career. *Journal of Eating Disorders*, 10(1), 48. https://doi.org/10.1186/s40337-022-00574-1

Li, F., Adrien, N. & He, Y. (2022). Biomechanical risks associated with foot and ankle injuries in ballet dancers: a systematic review. *International Journal of Environmental Research and Public Health,* 19(8), 4916. https://doi.org/10.3390/ijerph19084916

Markatos, K., Chytas, D., Tsakotos, G., Karamanou, M., Piagkou, M. & Johnson, E. (2019). Vesalius criticism on Galen's musculoskeletal anatomy. *Acta Chirurgica Belgica*, 119(4), 267-271. https://doi.org/10.1080/00015458.2018.1554365

Marschin, V. & Herbert, C. (2021). Yoga, dance, team sports, or ındividual sports: does the type of exercise matter? an online study ınvestigating the relationships between different types of exercise, body ımage, and well-being in regular exercise practitioners. *Frontiers in Psychology*, 12, 621272. https://doi.org/10.3389/fpsyg.2021.621272

McCormack, M.C., Bird, H., de Medici, A., Haddad, F. & Simmonds, J. (2018). The physical attributes most required in professional ballet: a Delphi study. S*ports Medicine International Open*, 3(1), E1-E5. https://doi.org/10.1055/a-0798-3570

Pengelly, F. (2010). Anatomy for dance: an expanded design. *Journal of Dance Education*, 10(3), 77–82. https://doi.org/10.1080/15290824.2010.508696

Russell, J.A. (2013). Preventing dance injuries: current perspectives. *Open Access Journal of Sports Medicine*, 4, 199-210. https://doi.org/10.2147/OAJSM.S36529

Smith, P.J., Gerrie, B.J., Varner, K.E., McCulloch, P.C., Lintner, D.M. & Harris, J.D. (2015). Incidence and prevalence of musculoskeletal injury in ballet: a systematic review. *Orthopaedic Journal of Sports Medicine*, 3(7), 2325967115592621. https://doi.org/10.1177/2325967115592621

Tubbs, R.I., Gonzales, J., Iwanaga, J., Loukas, M., Oskouian, R.J. & Tubbs, R.S. (2018). The influence of ancient Greek thought on fifteenth century anatomy: Galenic influence and Leonardo da Vinci. Childs Nerv Syst, *International Society for Pediatric Neurosurgery,* 34(6), 1095-1101. https://doi.org/10.1007/s00381-017-3462-6

Ullman, Z.J., Fernandez, M.B. & Klein, M. (2021). Effects of ısometric exercises versus static stretching in warm-up regimens for running sport athletes: a systematic review. *International Journal of Exercise Science*, 14(6), 1204-18. https://doi.org/10.70252/FDTW6296

Wolach, B. & Wolach, O. (2021). Science, anatomy, and art: revisiting Leonardo da Vinci, pioneer of modern anatomy. *The Israel Medical Association Journal*, 23(10), 676-80. https://pubmed.ncbi.nlm.nih.gov/34672455/

Woods, K., Bishop, P. & Jones, E. Warm-up and stretching in the prevention of muscular injury. *Sports Medicine*, 37(12), 1089-1099. https://doi.org/10.2165/00007256-200737120-00006

Yammine, K. (2014). Evidence-based anatomy. *Clinical Anatomy*, 27, 847-52. https://doi.org/10.1002/ca.22397

Yin, A. X., Geminiani, E., Quinn, B., Owen, M., Kinney, S., McCrystal, T. & Stracciolini, A. (2019). The Evaluation of Strength, Flexibility, and Functional Performance in the Adolescent Ballet Dancer During Intensive Dance Training. *PM & R: The Journal of Injury, Function, and Rehabilitation*, 11(7), 722–730. https://doi.org/10.1002/pmrj.12011

Journal for the **Interdisciplinary** Art and Education

ISSN 2717-8870

Genç Bilge
yayıncılık