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Effect of Components of the Field of Artistic Aesthetics on Online Education

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Purpose: Today, the use of online education significantly has grown in compared to the past. Therefore, the aim of this study was to determine the effect of components of the field of artistic aesthetics on online education.

Methodology: The present study in terms of purpose was practical and in terms of implementation method was interventional with a pretest, posttest and one-month follow-up design. The research population was the fourth grade students of district 2 of Tehran city in the 2021-22 academic years. The number of 50 people of them were selected by cluster sampling method and randomly replaced into two experimental and control groups. The experimental group was trained for one month from Saturday to Wednesday in the field of artistic aesthetics in Skyroom, and the control group was trained with the usual method in Skyroom. The research tool was a researcher-made online education questionnaire with 13 items, which the face validity by the opinion of experts was confirmed, and its reliability with the test-retest method was obtained above 0.80. The data were analyzed by methods of variance analysis with repeated measurements and Bonferroni post hoc test in SPSS version 19 software.

Findings: The findings of the present research showed that teaching the components of the field of artistic aesthetics led to increase all variables of online education including music and sound, dramatic movements, imagery, visual arts, digital media and film, animation, storytelling and narrative, recognition of colors and lines, poetry and text, pantomime, rhythmic story writing, humor and puppet shows were improved in students and these results remained in the one-month follow-up phase ($P<0.05$).

Conclusion: The results showed the effect of the intervention based on the components of the field of artistic aesthetics on all variables of online education. Therefore, can be used the method of teaching the components of the field of artistic aesthetics along with other educational methods to improve online education.

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1. Introduction

The history of using technology in education and learning is not very long, and in the not-so-distant past, distance learning was limited to correspondence lessons and radio and television lectures, and this continued until the emergence and spread of the Internet, providing opportunities for education at any time and place (Kyomar et al., 2019). Advances in information and communication technology have created facilities and opportunities for professional education that require learning how to effectively use these technologies in the process of education and learning (Ranjbar, Kamyabi, and Hazrakhani, 2022). Additionally, the transformation in new approaches to education and learning and the shift from behaviorism to constructivism with an emphasis on the use of innovative student-centered methods is one of the prominent features of education in recent years (Zhiyu, Lio, and Hong, 2022). The emergence of digital tools and two-dimensional and three-dimensional computer graphics, as well as the proliferation of Internet technologies in daily life, has gradually provided a platform for delivering educational content through virtual and online spaces and the possibility of education and learning at any time and place (Li, Chen, Fang, and Zhang, 2016). Nowadays, most education systems' policymakers and executives are aware of the importance and value of using information technology in planning and implementing educational courses, especially online education (Alvadi and Alnaniyah, 2022). Online education is a subset of virtual and distance education, and this educational method gained popularity with the emergence of the Internet and the widespread use of personal computers (Schewitz et al., 2018). Online education refers to a formal educational course that uses the Internet and web facilities to create a learning environment, and coaches and learners benefit from accessing information, providing content, and creating knowledge from synchronous and asynchronous interactions and communications (Petrischio, Anachi, and Diutza, 2022). Online education can be a new and effective area in the education system that can always be reviewed and improved, identify its strengths and weaknesses, and always moves towards strengthening its strengths and improving its weaknesses (Atarabin, Grisham-Dolby, and Broodzel-ziog, 2021). The first wave of online education from 1994 to 1999 with the emergence of email and web browsers caused a significant change in the face of multimedia-based education, and education in the first wave based on computers and the web was performed at a low quality and intermittently. The second wave of online education from 2000 to 2005, with the development of technologies such as Java, the widespread application of various networks, wide bandwidth telecommunications lines, advanced website design, and so on, brought about a revolution in education and brought online education closer to in-person education (Li, 2017). Nowadays, online education is recognized as one of the methods of education, and its five quality determining components include effective learning, cost appropriateness, coaches' satisfaction, learners' satisfaction, and accessibility (Minoun, Chiobatti, Klizy, Siwe, Pozzi, Jansen, et al., 2020).

One of the potential factors affecting online education is the aesthetics of artistic beauty (Ferguson, Tittler, & White, 2022), and maintaining high educational standards by placing art and aesthetics at the center and core of educational reform (Aghaei Abrenabadi, Mahrouzadeh, & Imani Nayini, 2021). Two fundamental concepts of cultivating the aesthetics of artistic beauty include cultivating aesthetics as art education and cultivating aesthetics as a broad domain of educational activities. Artistic beauty and education are so closely related that some art and aesthetic scholars consider education as the foundation of education, and the goal of aesthetics education is to create aesthetic experiences (Ebrahimi Nia, Zangeneh Motlagh, Jafariyan Yassar, & Mohammadi Nayini, 2020). Aesthetics is a branch of philosophy concerned with art and the experience of beauty, and its objectives have been organized at the cognitive, attitudinal, and skill levels (Yulowik, 2020). The aesthetics of artistic beauty, as part of the official and general education movement, aims to cultivate the growth of imagination, emotional and aesthetic development, and appreciation of artistic value among students. That is, the ability to perceive material and spiritual beauty, the ability to create artistic works, and the ability to appreciate the beauty and artistic values (Jafari Komangar & Zarei, 2021). The perception of beauty is the most prominent spiritual attribute of humans, and humans have always experienced and been fascinated by beauty. Furthermore, the psychological and biological

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foundations of art and aesthetics education emphasize the diverse mental and intellectual abilities and talents of students and provide various channels to utilize these natural abilities (Norouzbakhsh & Kheirabadi, 2019). The central subject of aesthetics is the comprehension of the logic of human emotions and affections and their transferability. In fact, aesthetics is a practical adjective for describing or recording the state of experience through encountering works of art to understand differences, distinctions, and the interpretation of various arts (Javidikalahte Jafarabad & Abdali, 2017). The purpose of artistic aesthetics is to enable students to acquire skills related to artistic expression, design, critical evaluation and appreciation, as well as to gain knowledge of art and its history (Zhang, 2022). In the process of aesthetics, students learn how to establish relationships with nature, themselves, and others and how to live. In this way, they become aware of their existential capacities, develop their abilities, gain self-confidence, and believe in themselves (Schleier, 2015). The eight components extracted from the aesthetics of artistic beauty based on the fundamental transformational document of education include the promotion of creativity and the ability to create artistic works, valuing artistic works, flexibility in art education, attention to vivacity and mental health, revealing nature and understanding the meaning of phenomena, creating motivation, utilizing emotional and aesthetic sensibilities, and stimulating imagination (Norouzbakhsh & Kheirabadi, 2019).

A review of the literature shows that no research has been found on the impact of artistic aesthetics on online education, but there have been studies done in this area, with the most important ones being reported. The results of a study by Han (2022) on the importance of aesthetic ability in art education on 322 students majoring in art education showed that aesthetic ability played an effective role in clarifying teaching goals, academic programs, student guidance, creating the future, reflecting learning, participating in exhibitions, improving art, appreciating artwork and innovative teaching methods. In another study, Islamians, Mirshah Jafary and Nistani (2017) reported on the impact of teaching aesthetic skills on educational performance development in a group of 32 professors (11 in the experimental group and 21 in the control group), stating that this teaching method resulted in an increase of the grade in educational performance development or effective teaching for professors. Girod, Twyman, and Woicikiewicz (2010) suggested through research that experiencing aesthetics leads to the stability of learning scientific concepts. Also, the results of the research of Antezami, Sef-Nraghi, and Naderi (2017) showed that the components of art education in the curriculum elements and its implementation in class created significant positive changes in improving the learning and creativity of elementary school students. In another study, Javidiklatah Jafariabadi and Abdoli (2017) reported that art aesthetics and art according to Maxine Green had an effective role in improving the teaching and learning process.

Artistic aesthetics is an interesting and rich phenomenon in philosophical research that covers a wide range of concepts in the field of aesthetics. Therefore, teaching aesthetics is a necessity and can be understood and investigated in various ways, and teaching aesthetics is a general term for teaching methods in various fields of art, music, literature, theater, etc. (Eskari, Nourian and Abbai Koupaei, 2019). In addition, with the growth of new communication technologies, online education has become a frequent topic of discussion in recent years, and more research is needed on it. In other words, today the use of online education has had a significant growth compared to the past. One of the few gaps in previous research is the lack of research on determining the impact of the components of artistic aesthetics and another gap is the lack of research on the impact of artistic aesthetics on online education. The latest point regarding the importance and necessity of this research is that the results of this study can be of significant help to specialists and educational system planners in identifying the impact of artistic aesthetic teaching methods. Therefore, the aim of this study was to determine the impact of the components of artistic aesthetics on online education.

2. Methodology

This study was an applied research in terms of purpose, and a quasi-experimental with a pretest-posttest design and one-month follow-up. The research population consisted of fourth-grade elementary school students in district 2 of Tehran in the academic year 2021-2022. A total of 50 students were selected using

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cluster sampling. In cluster sampling, two classes were randomly selected from all fourth-grade classes and all students in these classes were selected as the sample if they met the entry criteria for the study. The entry criteria for the study included willingness to participate in the research, living with parents, absence of psychological disorders such as anxiety, depression, etc., non-use of psychiatric drugs, non-use of other concurrent educational methods, no history of receiving training in artistic aesthetics, and informed consent from the student's parent/guardian. The exit criteria from the study included declaring withdrawal from further cooperation and absenteeism of more than ten percent of the sessions.

The research process involved constructing an online education questionnaire after approval of the proposal, and initial psychometric indices of the questionnaire were validated. Then, the content of the intervention based on the components of artistic aesthetics was designed and approved by experts and specialists in the field of artistic aesthetics with regard to completeness. In the next stage, necessary coordination was made with the Department of Education in district 2 of Tehran, and two classes were randomly selected, and 25 students from each class were selected as the sample if they met the entry criteria for the study. One of the classes was considered as the experimental group and the other class as the control group, and the experimental group received training on the components of artistic aesthetics for one month from Sunday to Thursday in the Sky Room, whereas the control group received the usual training in the Sky Room.

Training the components of artistic aesthetics was held for one month, five days a week, from 8:00 am to 12:15 pm, with four 45-minute bells and three 25-minute breaks between classes. The mentioned method was used in various lessons such as science, math, social studies, Persian language, and so on. In the experiment group, various documentary and fictional films, animations online, pantomime, music and rhythm, story and narrative, painting and visual arts, and various pictures were used in a participatory way. Professors and speakers used common methods such as question and answer, lecture, and explanation of concepts while recording the sound (voice) and using a virtual board. For example, in the training of the components of artistic aesthetics in the Skype room environment, the teacher played several prerequisite images related to the lesson for motivation before starting the class, alongside an instrumental music to accompany the students better. Then, the class began and the teacher started with a hand puppet named "Wise Rabbit" and started asking questions and answering them. In online teaching in the Skype room environment, the students talked to the puppet and then watched relevant videos (for example, for the science lesson, the mixture film). In the next step, the teacher asks a few students using pantomime to help their classmates name the mixture written on the cards without talking. Another example of this training is the use of animation to demonstrate the speed of mixtures and their effects on solvents and solubilizes. The teacher also asked students to write a story, poem, joke, or narrative for each mixture and perform it in class. In these conditions, the teacher encourages students to use various components of artistic aesthetics to make the learning process active, enjoyable, and effective for them.

The present research tool was a researcher-made online education questionnaire with 13 items about music and sound, visual movements, imagery, visual arts, digital media and film, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, rhythmic storytelling, humor, and puppetry, which was completed by students in both the experimental and control groups during the pre-test, post-test, and one-month follow-up stages. A five-point Likert scale ranging from very low (1) to very high (5) was used to respond to each item. The score for each variable of music and sound, visual movements, imagery, visual arts, digital media and film, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, rhythmic storytelling, humor, and puppetry is calculated by summing the scores of individuals in the group, with the range being between 1 and 5, and higher score indicating greater possession of that characteristic. The face validity of the researcher-made online education questionnaire was confirmed by experts and its reliability for variables of music and sound, visual movements, imagery, visual arts, digital media and film, animation, storytelling and narration, color and

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line recognition, poetry and text, pantomime, rhythmic storytelling, humor, and puppetry was obtained using the test-retest method with a higher value than 0.80.
The collected data were analyzed using repeated measures ANOVA and Bonferroni follow-up tests in SPSS version 19 software at a significant level of 0.05 after pre-test, post-test, and one-month follow-up stages.

3. Findings

There was no dropout in the samples of the experimental and control groups, and the analyses were performed for two groups of 25 individuals. The mean and standard deviation of the online education of experimental and control groups in pre-test, post-test, and one-month follow-up stages for all variables of online education were presented in table 1.

Table 1. Descriptive statistics

Variable	Stage	Experimental group		Control group	
		Mean	SD	Mean	SD
Music and Sound	Pre-test	2.36	0.68	2.29	0.59
	Post-test	3.94	0.73	2.25	0.62
	Follow-up	3.92	0.75	2.31	0.60
Performative actions	Pre-test	1.95	0.52	2.02	0.61
	Post-test	3.56	0.83	1.97	0.57
	Follow-up	3.50	0.80	1.96	0.56
Imagery	Pre-test	2.71	0.68	2.67	0.71
	Post-test	3.96	0.72	2.59	0.74
	Follow-up	3.90	0.75	2.63	0.69
Visual arts	Pre-test	2.68	0.58	2.57	0.62
	Post-test	3.68	0.63	2.55	0.67
	Follow-up	3.72	0.64	2.54	0.59
Digital media and film	Pre-test	3.11	0.82	2.97	0.76
	Post-test	4.35	1.02	3.15	0.79
	Follow-up	4.29	1.05	3.12	0.81
Animation	Pre-test	1.98	0.23	2.02	0.28
	Post-test	3.12	0.42	1.97	0.24
	Follow-up	3.09	0.40	2.06	0.31
Storytelling and narration	Pre-test	2.13	0.72	2.18	0.68
	Post-test	3.25	0.79	2.16	0.70
	Follow-up	3.27	0.78	2.21	0.65
Knowing colors and lines	Pre-test	3.24	1.15	2.95	1.11
	Post-test	4.70	1.27	3.11	1.13
	Follow-up	4.65	1.35	3.06	1.09
Poetry and text	Pre-test	2.36	0.83	2.29	0.86
	Post-test	3.48	0.97	2.24	0.84
	Follow-up	3.51	0.95	2.23	0.89
Pantomime	Pre-test	1.68	0.34	1.83	0.36
	Post-test	2.16	0.48	1.84	0.31

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	Follow-up	2.35	0.48	1.79	0.36
Musical storytelling	Pre-test	2.03	0.67	1.96	0.73
	Post-test	3.26	0.92	2.11	0.75
	Follow-up	3.34	0.90	2.06	0.71
Comedy	Pre-test	1.73	0.60	1.68	0.62
	Post-test	2.64	0.82	1.76	0.57
	Follow-up	2.71	0.83	1.79	0.61
Puppetry	Pre-test	2.11	0.83	2.08	0.79
	Post-test	3.67	1.05	2.16	0.85
	Follow-up	3.72	1.11	2.21	0.81

The normality assumption of all variables based on the Kolmogorov-Smirnov test, homogeneity of variances based on Levene's test, and homogeneity of covariances based on Mauchly's sphericity test were not rejected (P>0.05) based on repeated measures ANOVA with measurement repetition. Therefore, the conditions for using repeated measures ANOVA existed. The results of multivariate analysis tests for determining the effect of artistic aesthetics components on online education are presented in table 2.

Table 2. The results of multivariate tests to determine the effects of artistic aesthetics components on online education

Test	Value	F	p	Effect size
Pillai's trace	0.85	37.59	0<.001	0.73
Wilks' Lambda	0.26	37.59	0<.001	0.73
Hotelling's trace	2.44	37.59	0<.001	0.73
Roy's largest root	2.44	37.59	0<.001	0.73

As shown in Table 2, training in the components of artistic aesthetics has led to a significant change in at least one of the online education variables, including music and voice, performing arts, visualization, visual arts, digital and film media, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, musical storytelling, comedy and puppetry (p<0.001). The results of the repeated measures analysis of variance to determine the effect of artistic aesthetics components on each of the online education variables are presented in Table 3.

Table 3. The results of analysis of variance with repeated measurements to determine the effects of artistic aesthetics components on online education

Variable	Source	MS	F	p	Eta^2
Music and Sound	Group	45.73	15.68	0<.001	0.53
	Time	25.46	22.49	0<.001	0.59
	Time*Group	28.50	24.11	0<.001	0.65
Performative actions	Group	53.69	23.67	0<.001	0.60
	Time	29.72	28.31	0<.001	0.68
	Time*Group	34.55	27.61	0<.001	0.67
Imagery	Group	35.80	12.68	0.004	0.47
	Time	29/62	13/28	0/005	0/49
	Time*Group	31/03	13/96	0/005	0/51

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Visual arts	Group	19/68	9/73	0/010	0/35
	Time	15/30	8/50	0/010	0/34
	Time*Group	17/61	9/11	0/010	0/34
Digital media and film	Group	27/91	23/94	0</001	0/64
	Time	25/53	19/68	0</001	0/56
	Time*Group	26/17	21/11	0</001	0/57
Animation	Group	27/39	17/30	0</001	0/53
	Time	19/46	20/11	0</001	0/57
	Time*Group	17/58	19/83	0</001	0/56
Storytelling and narration	Group	12/36	8/36	0/011	0/33
	Time	8/75	7/20	0/015	0/29
	Time*Group	8/64	7/18	0/014	0/29
Knowing colors and lines	Group	25/91	19/38	0</001	0/55
	Time	21/60	25/68	0</001	0/66
	Time*Group	22/58	25/76	0</001	0/66
Poetry and text	Group	12/23	15/63	0</001	0/51
	Time	9/83	9/34	0/010	0/35
	Time*Group	8/75	9/30	0/010	0/35
Pantomime	Group	7/38	6/92	0/023	0/27
	Time	11/95	8/35	0/011	0/32
	Time*Group	10/68	7/41	0/013	0/30
Musical storytelling	Group	45/68	25/36	0</001	0/65
	Time	52/69	36/19	0</001	0/72
	Time*Group	56/18	37/08	0</001	0/73
Comedy	Group	15/67	19/63	0</001	0/56
	Time	18/92	17/56	0</001	0/54
	Time*Group	20/06	18/11	0</001	0/55
Puppetry	Group	17/80	9/83	0/010	0/37
	Time	21/61	12/59	0</001	0/46
	Time*Group	23/38	12/88	0</001	0/47

As seen in Table 3, the effect of group, time, and interaction of time and group on online education variables including music and voice, performing arts, visualization, visual arts, digital and film media, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, musical storytelling, comedy and puppetry is significant ($p<0.05$). Therefore, it can be said that the difference in means of all variables in pre-test, post-test and one-month follow-up stages is significant.

The results of the Bonferroni test for pairwise comparison of means of online education variables in pre-test, post-test, and follow-up stages are presented in Table 4.

Table 4. The results of Bonferroni's post-hoc test to compare the means of the variables in pre-test, post-test and follow-up stages

Variable	Stage		Mean diff.	SE	p
Music and Sound	Pre-test	Post-test	1/58	0/32	0</001

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	Pre-test	Follow-up	1/56	0/32	0</001
	Post-test	Follow-up	0/02	0/31	1/000
Performative actions	Pre-test	Post-test	1/54	0/27	0</001
	Pre-test	Follow-up	1/48	0/27	0</001
	Post-test	Follow-up	0/06	0/27	0/856
Imagery	Pre-test	Post-test	1/23	0/42	0</001
	Pre-test	Follow-up	1/17	0/42	0</001
	Post-test	Follow-up	0/06	0/42	0/856
Visual arts	Pre-test	Post-test	1/11	0/33	0</001
	Pre-test	Follow-up	1/15	0/35	0</001
	Post-test	Follow-up	–0/04	0/34	0/940
Digital media and film	Pre-test	Post-test	1/36	0/23	0</001
	Pre-test	Follow-up	1/40	0/23	0</001
	Post-test	Follow-up	–0/04	0/23	0/940
Animation	Pre-test	Post-test	1/17	0/39	0</001
	Pre-test	Follow-up	1/14	0/37	0</001
	Post-test	Follow-up	0/03	0/32	0/968
Storytelling and narration	Pre-test	Post-test	1/09	0/40	0</001
	Pre-test	Follow-up	1/11	0/38	0</001
	Post-test	Follow-up	–0/02	0/42	1/000
Knowing colors and lines	Pre-test	Post-test	1/83	0/44	0</001
	Pre-test	Follow-up	1/78	0/42	0</001
	Post-test	Follow-up	0/05	0/31	0/891
Poetry and text	Pre-test	Post-test	1/22	0/24	0</001
	Pre-test	Follow-up	1/34	0/26	0</001
	Post-test	Follow-up	–0/12	0/23	0/089
Pantomime	Pre-test	Post-test	0/39	0/33	0</001
	Pre-test	Follow-up	0/58	0/29	0</001
	Post-test	Follow-up	–0/19	0/35	0/056
Musical storytelling	Pre-test	Post-test	1/34	0/35	0</001
	Pre-test	Follow-up	1/42	0/35	0</001
	Post-test	Follow-up	–0/08	0/35	0/760
Comedy	Pre-test	Post-test	0/95	0/29	0/008
	Pre-test	Follow-up	0/102	0/30	0/007
	Post-test	Follow-up	–0/07	0/28	0/711
Puppetry	Pre-test	Post-test	1/51	0/31	0</001
	Pre-test	Follow-up	1/56	0/28	0</001
	Post-test	Follow-up	–0/05	0/29	0/891

As shown in Table 4, the difference between the mean scores of pre-test and post-test and follow-up for all variables is significant ($p<0.05$), but the difference between the mean scores of post-test and follow-up for none of the variables is significant ($p>0.05$). In other words, training in the components of artistic

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aesthetics has led to a significant increase in all online education variables in post-test and follow-up stages, but there was no significant difference between post-test and follow-up for any of the variables. The significant difference in post-test compared to pre-test indicates the effect of the intervention method of training in the components of artistic aesthetics, and the significant difference in follow-up compared to pre-test indicates the maintenance of the effect of the mentioned intervention method.

4. Conclusion

Today, online education is a hot topic due to the growth of information and communication technology and the benefits of this method of education, and important goals of education can be professional skills and artistic aesthetics. The early childhood period is the most important and best period for using artistic activities for education and training of children. Because the child is most prepared for artistic growth at this time, and the content provided to them must have the elements of aesthetic principles of art. Another important matter is that in the fundamental transformation document of education in the country, the emphasis on aesthetic principles of art as one of the six pillars is significant and can improve the quality of education, especially online education. Therefore, the aim of this study was to determine the effect of the components of artistic aesthetics on online education.

The findings of this study showed that training in the components of artistic aesthetics led to an increase in all online education variables, including music and voice, performing arts, visualization, visual arts, digital and film media, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, musical storytelling, comedy and puppetry in students, and these results persisted in the one-month follow-up stage. Although no research was found on the effect of artistic aesthetics on online education, the findings of the present study were consistent with the findings of Han (2022), Eslamian et al. (2017), Girod, Twyman, and Woicikiewicz (2010), Entezami et al. (2017), and Javidikolatah and Abdoli (2017) in some respects.

In the explaining of findings, it can be stated that the early period is one of the most important and vital stages in the growth of children, and neglecting it can have irreparable damages for the person in the future. Early childhood children have a strong inclination towards beauty and aesthetics and respond to beautiful objects around them. They are attracted to anything that is beautiful and rhythmic in nature. Therefore, artistic beauty and aesthetics make children's lives go beyond dryness and freeze and turn their lives into a life full of excitement and hope. Combining different arts in a teaching method called Artistic Aesthetics improves the learning process. For this purpose, this method emphasizes people's use of multisensory perception and draws all their attention to learning, and in this way, the materials and skills are better understood and transferred from one situation to another. All of these factors can play an effective role in improving learning-related performances. In addition, the use of different color combinations in a pleasant educational space in the classroom plays an effective role in this teaching method. Color is one of the most important and effective visual elements that speaks to humans and affects their emotions and feelings. Another element used in this teaching method is the use of body language, which has always been emphasized by educational experts. Therefore, efforts were made to combine the teaching processes of teachers with interesting body movements that sometimes had a theatrical or humorous aspect, and this increased their impact on improving learning. Another important point is that artistic aesthetics is not just a means of happiness, recreation, and entertainment and should not be reduced to this level. Instead, meaningful efforts should be made for spiritual and mental creativity of society, which each of the goals of this approach can be realized in the development and formation of a better strategic plan for the educational system of the country, especially in the field of effective learning and education processes. In fact, artistic programs at the highest level lead the audience to recognize, grow and nurture learning and teaching, and take the learner into a lived experience, making the potential person a real person. Therefore, artistic aesthetics guides the learner within to get to know oneself and others better and reach self-improvement and creativity. The use of Artistic Aesthetics in the experimental group showed that, compared to the

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conventional teaching method used in the control group, the classroom became more dynamic and lively, and students were active and always received appropriate and positive feedback from parents. Unlike the conventional method, the Artistic Aesthetics method did not make the classroom boring and dull after a while; learners learned concepts and materials actively and indirectly, had more interaction in the classroom, and had a lively and participatory role in the teaching and learning process. Given the above, it seems logical that the Artistic Aesthetics teaching method can increase online education in primary school students.

The most important advantages and strengths of the present research include following up the results in the long term and examining the sustainability of the effect of artistic aesthetics on online education and using the components of artistic aesthetics to improve online education, which previous studies did not pay attention to. Additionally, the main weaknesses or limitations of the present research include using self-reporting tools to collect information about online education and limiting the research community to fourth-grade elementary students in region 2 of Tehran. Therefore, it is suggested that the present research be conducted on students in other grades and even in other educational levels or other cities and the results be compared with the results of this study. Moreover, considering the gender differences in most characteristics and potentially the existence of gender differences in understanding artistic aesthetics, it is suggested to investigate the effect of artistic aesthetics on online education or other variables separately for each gender and compare their results. Finally, it is proposed to compare the effect of teaching the components of artistic aesthetics on online education or other variables with teaching methods such as creative presentation, art therapy, music therapy, etc.

In general, the findings of the present study showed that teaching the components of artistic aesthetics leads to an increase in all variables of online education, including music and sound, movement, visualization, visual arts, digital media and film, animation, storytelling and narration, color and line recognition, poetry and text, pantomime, musical composition, comedy, and puppet shows in students which remained after a one-month follow-up. Therefore, teaching the components of artistic aesthetics can be used in addition to other teaching methods to improve online education. These findings can have practical implications for educational experts and planners. Therefore, it is suggested that during their service period, teachers be trained in teaching the components of artistic aesthetics so they can use them in their classrooms. Another practical suggestion is to include the topic of teaching artistic aesthetics in the curriculum of all students, especially students of education sciences and students of teacher education universities.

Ethical Considerations

All ethical considerations in terms of trust-building and respecting the privacy of participants have been observed.

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Authors' Contributions

All authors have an equal share in the article.

Conflict of Interest

There was no conflict of interest in this study.

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