

# Program Development for Online Art Classes

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**Abstract:-** With the continuous advancement of technology, taking courses online has gradually attracted attention as an emerging mode of providing education. This study aimed to explore the offering of online art classes based on the analysis of children's creativity, aesthetic awareness, interactivity, and feedback mechanisms. It explored whether family environment, self-motivation, and self-engagement affect child art performance using quantitative and qualitative methods through observation, evaluation, and questionnaires. Research results showed that online art courses play a positive role in promoting children's drawing skills and these criteria have significant differences based on their age, gender, and grade level. The role of teachers, teaching strategies, educational technology, and technology applications impact their drawing skills, artistic expression, and creativity. All of these were used as a basis for the development of a program to offer art classes online.

**Keywords:-** Online Art Courses, Children's Painting Skills, Creativity, Educational Technology.

## I. INTRODUCTION

Albert Einstein once said, "In the middle of difficulty lies opportunity" (Riker & Fraser, 2018, p. 1881). The COVID-19 crisis, despite its associated hardships, generated ample opportunities for language educators to experiment with online learning technologies and gain valuable experience for future integration into art education. The current research arises from the global crisis in early 2020 when the coronavirus outbreak during the Spring Festival severely impacted various industries, including education. As traditional offline art courses were suspended due to the pandemic, online teaching became a crucial alternative [67]. This study aims to investigate the impact of online art courses on children's painting skills, creativity, and aesthetic awareness during this period of transition [69].

The pandemic acted as a catalyst for the rapid development of online teaching platforms, addressing the uneven distribution of educational resources and catering to the diverse needs of teachers and students [32]. [75], the founder of New Oriental, highlighted the future potential of combining online and offline education to enhance the overall educational experience. This study examines the performance of children in online art courses, considering various factors and demographic profiles. The concept of online courses is not new, tracing back to Buckminster

Fuller's ideas in the 1960s and gaining popularity in the 2000s with the advent of the Internet [36]. China's Ministry of Education has supported this trend, emphasizing the integration of online and traditional education [76] [70] [71].

With the rapid development of information technology, online education has become a significant innovation in the field of art education [25]. Online art courses offer children flexible and convenient learning opportunities, breaking through geographical and temporal constraints and providing access to high-quality resources [19]. These courses incorporate multimedia and interactive elements, enriching the learning experience with video tutorials, virtual practices, and online communities. Despite their advantages, challenges such as teaching quality, technology accessibility, and student engagement remain. This study aims to explore the practical impact of online art courses on children's painting skills and provide insights and recommendations for future art education programs. Based on the study's results, the researcher proposed the developed program for online art classes.

### ➤ Importance of the Study

The primary purpose of this study is to assess whether online art courses can significantly enhance children's painting skills by determining their impact on creativity, aesthetic awareness, interactivity, and feedback mechanisms. The study aimed to understand the factors that contributed to the improvement of children's painting abilities and evaluated how these factors vary across different demographic groups. By achieving these objectives, the research sought to provide recommendations on optimizing online art courses to better develop children's painting skills, creativity, and aesthetic consciousness, thereby offering valuable information for the development of online art classes.

## II. STATEMENT OF THE PROBLEM

### A. How did the Respondents Assess the Impact of Online Art Courses to Children in Terms of

- Creativity;
- Aesthetic awareness;
- Interactivity; and
- Feedback mechanism?

*B. How did the Respondents Assess the Factors that Influence Children's Performance in Online Art Classes in Terms of;*

- Family Environment;
- Self-Motivation; and
- Self-Engagement?

*C. Is there a Significant Difference in the Impact Level of Online Art Courses and the Level of Influence of Various Factors on Children When Grouped According to Age, Sex, and Grade Level?*

*D. What is the Impact of Art Classes on the Children as Assessed by Parents?*

*E. How did the Respondents Assess the Different Factors in Teaching in Improving Online Art Classes in Terms of;*

- Role of Teachers;
- Teaching Strategies;
- Educational Technology; and
- Technology Application?

*F. Based on the Findings of the Study, what Recommendations and Strategies may be Proposed to Develop an Online Art Classes Program?*

➤ *Research Hypothesis*

- Ho1: There is a significant difference between the impact of online art courses and the influence of various factors to children when grouped according to age, sex, and grade level
- Ho2: There is no significant difference between the impact of online art courses and the influence of various factors to children when grouped according to age, sex, and grade level

➤ *Scope and Limitations of the Study*

This study drew on constructivist theory and Lev Vygotsky's socio-cultural theory of the zone of proximal development, which underscores the significance of childhood imagination in development [39]. Vygotsky's theory suggests that painting activities can significantly influence children's psychological growth by nurturing their imagination [15]. However, not all art education activities effectively develop this imagination [79]. The study focused on evaluating the efficacy of online art courses in enhancing children's painting skills. A total of 250 students aged 6-10 from major cities across China who installed and downloaded the Meibao participated. Meibao application is the largest online art education platform in China. The findings were used for the development of a program for online art classes.

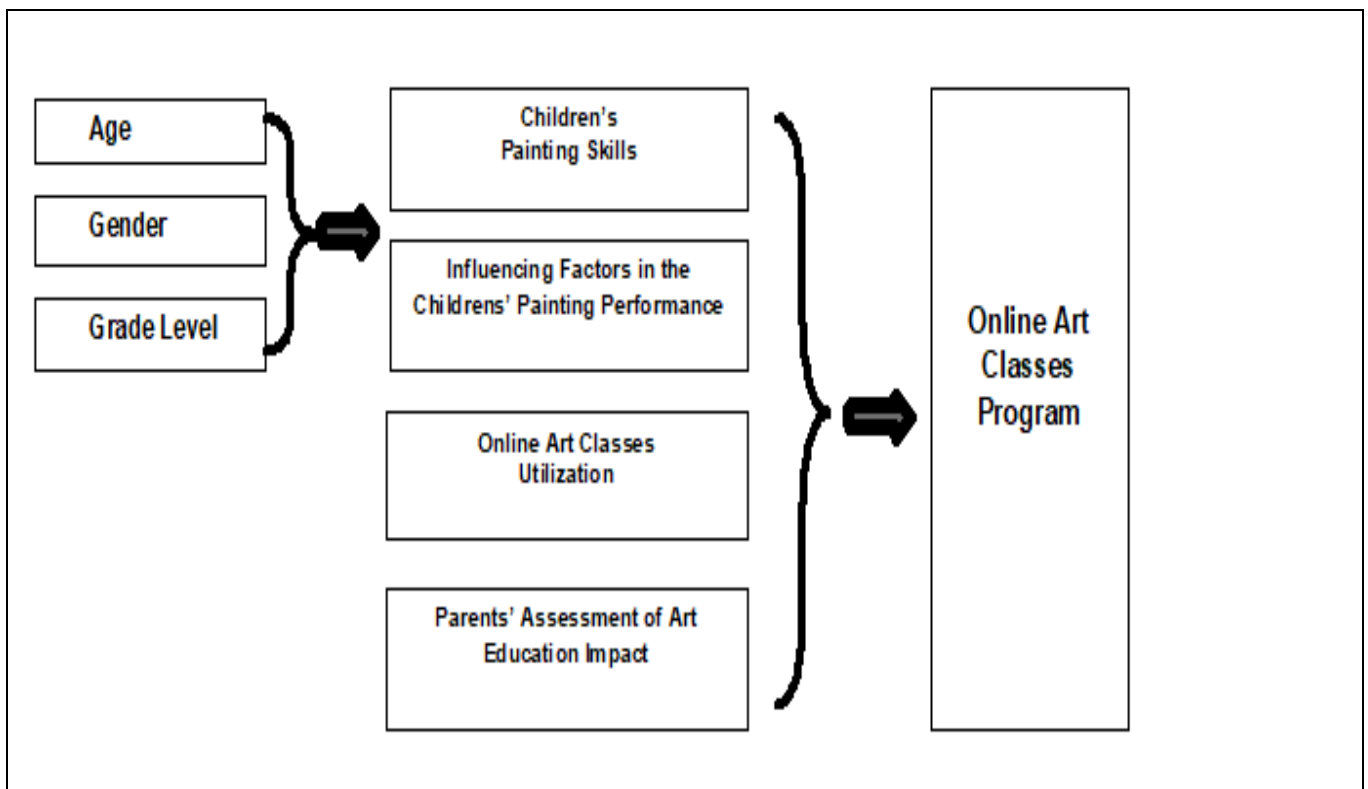


Fig 1: Conceptual Frameworks

### III. RESEARCH DESIGN AND METHODOLOGY

The study utilized a descriptive-developmental design to provide in-depth insight for teachers, school administrators, and parents on maximizing the use of online art courses to improve children's painting skills. Both qualitative and quantitative descriptions of the general characteristics of respondents were presented through a researcher-made questionnaire. The questionnaire consists of demographic information, the impact of online art courses on painting skills, influencing factors on painting performance, the utilization of online courses, suggested improvements for the retooling of the painting program, and structured interviews for parents, children, and art teachers. To ensure the quality and reliability of the questionnaire, three experts in Management, Business Administration, and Education evaluated and validated it. It was designed using a Likert scale, and its validity and reliability were tested through pilot testing and Cronbach's alpha test resulting in a high level of internal consistency.

The key tools included frequency analysis to count occurrences, percentages to express ratios, and the mean to

➤ *The Impact of Online Art Courses on Children in Terms of Creativity, Aesthetic Awareness, Interactivity and Feedback Mechanism.*

calculate the average while Z-test and ANOVA determined significant differences between students' perceptions of various variables. The interview gathers deeper insights into the positive impact of art courses on children's development, parents' satisfaction with the courses, and the perceived influence on children's painting performance. The interviews were conducted in Chinese, transcribed verbatim, and analyzed through thematic analysis to extract meaningful themes and insights.

Aside from administering survey questionnaires, the study also employed interviews and observation of 250 students from five regions in mainland China—Eastern, Central, Western, Northern, and Southern—and 10 online art teachers from each district, ensuring a geographically diverse population using Slovin's to determine the sample size. The study focused on children aged 6 to 10 years, as starting art classes at a young age provides various developmental benefits. The frequency and percentage distribution of respondents' demographic profiles showed 37% of children were six years old or younger, 41% were aged seven to eight, and 22% were nine to ten years old.

Table 1: Childrens' Creativity

Indicators	M	SD	VI
1. They acquire a special ability to think creatively as sounds, movements, colors, and sizes exercise and strengthen their brain.	4.31	0.78	High Level
2. They understand how to communicate through drawings and painting and produce new ideas naturally through creative thinking.	4.29	0.57	High Level
3. They tell their impression about art and develop self-confidence	4.34	0.49	High Level
4. They discover, innovate, and create intellectual property of their art creations.	4.14	0.54	High Level
5. They express their ideas through drawings which boosts their confidence level.	4.32	0.56	High Level
6. They generate ideas and develop their communication skills, social skills, and decision-making.	4.20	0.54	High Level
7. They exhibit their creativity by working with any of the materials they choose	4.19	0.52	High Level
8. They develop their power of imagination to form an image of what they see "outside" as well as what they see "inside"	4.16	0.49	High Level
9. They develop interpersonal skills, and critical divergent thinking across all of their learning.	4.05	0.42	High Level
10. They engage in creative arts to explore their feelings and emotions and emotions.	4.16	0.64	High Level
<b>OVERALL MEAN</b>	<b>4.22</b>	<b>0.22</b>	<b>High Level</b>

The impact level of online art courses on children's painting skills improvement, particularly in terms of creativity, was found to be high, with an overall result mean of 4.22. The indicators such as expressing ideas through drawings (x=4.29), communicating through art (x=4.20), and developing self-confidence(x=4.32) received particularly high mean scores, ranking among the top indicators. Conversely, while all indicators received high mean scores, those related to developing interpersonal skills (x=4.05) and critical divergent thinking (x=4.14), received slightly lower scores, yet still remained in the high-level category.

This table suggests a strong endorsement of the positive impact of creative arts on children's development, emphasizing the importance of fostering creative expression and confidence-building activities in childhood education. Their findings categorized creative techniques into individual, group, and group-individual categories, emphasizing the significance of art activities in fostering creativity [28]. The importance of promoting painting activities among children aged 6 to 10 years old to enhance their creativity was the highlight of this data.

Table 2: Childrens’ aesthetic Awareness

Indicators	M	SD	VI
11. They participate in visual arts experiences, such as drawing and painting, modeling, printing, construction, and collage	4.35	0.73	High Level
12. They are exposed to music and sound experiences, such as: listening to music and singing, participating in music making and singing, listening to sounds of nature	4.34	0.50	High Level
13. They are provided an aesthetically pleasing environment like a display of quality adult visual art,	4.36	0.48	High Level
14. They watch and imitate a model of aesthetic awareness and creativity	4.18	0.57	High Level
15. They watch an aesthetically pleasing environment and then participate in visual arts experience by drawing and painting guided by parents or members of the family.	4.33	0.56	High Level
16. They are encouraged to do aesthetic activities like crafting a mature tree, painting activities on varied materials,	4.24	0.52	High Level
17. They look at and analyze created aesthetically pleasing displays of children's work,	4.21	0.54	High Level
18. They are encouraged to have visual representation and expression with children to record aspects of a musical program or art exhibit visit.	4.27	0.49	High Level
19. They develop interpersonal skills, and critical divergent thinking across all of their learning.	4.38	0.51	High Level
20. They engage in creative arts to explore their feelings and emotions and emotions.	4.36	0.63	High Level
<b>OVERALL MEAN</b>	<b>4.30</b>	<b>0.21</b>	<b>High Level</b>

Table 2 shows the impact level of online art Courses on the improvement of painting skills of children in terms of aesthetic awareness. The indicators include participation in visual arts activities (x=4.35), exposure to music and sound experiences(x=4.34), provision of an aesthetically pleasing environment(x=4.36), imitation of models of aesthetic awareness and creativity(x=4.18), guided participation in visual arts by family members(x=4.33), encouragement to engage in aesthetic activities, analysis of aesthetically pleasing displays, encouragement of visual representation and expression(x=4.24), development of interpersonal skills and critical thinking(x=4.21), and engagement in creative arts to explore emotions(x=4.27). The mean score across all indicators is 4.30, indicating a high level of engagement in these activities among the participants while The standard deviation is relatively low at 0.21, suggesting a narrow spread of responses around the mean. The verbal interpretation labels all indicators as "High Level," indicating a consistent perception of active

involvement in artistic and aesthetic experiences among the respondents.

This suggests that the children in the study are actively participating in a variety of activities that foster creativity, aesthetic appreciation, and emotional expression, contributing to their holistic development. These results are consistent with the study on creativity training programs for preschool children, which emphasized the importance of fostering aesthetic awareness and creativity in early childhood education. The research highlighted the positive effects of such programs on children's creativity dimensions, including flexibility, fluency, originality, elaboration, and aesthetic awareness [22]. These findings emphasized the significance of incorporating developmentally appropriate art activities into preschool education to support holistic development and enrich children's creativity.

Table 3: Childrens’ Interactivity

Indicators	M	SD	VI
21. They are immersed in the digital art experience for kids and they are eager to express themselves on a virtual canvas.	4.26	0.58	High Level
22. They explore how to create digital works of art with apps and enjoy a collaborative experience where everyone experiences and shares a range of work while having fun.	4.31	0.49	High Level
23. They enjoy master's work like the Mona Lisa and enhance painting appreciation skills.	4.31	0.46	High Level
24. They have interactive learning experiences by creating cooperation and communication among classmates.	4.14	0.50	High Level
25. They participate in art classes via mobile phones, computers, or televisions at home.	4.36	0.57	High Level
26. They readily expressed an interest in art or online/digital platforms and online courses can offer the supportive learning environment they need.	4.22	0.47	High Level
27. They explore their artistic talents in a safe, collaborative space.	4.23	0.54	High Level
28. They participate in interactive class, to learn the basics of art and to explore the use of different materials to create artwork at their own pace.	4.25	0.48	High Level
29. They attend interactive classes and develop new skills like painting or	4.45	0.50	High Level

drawing landscapes, animals, pop art, and magical creatures.			
30. They efficiently use digital technologies as a tool to create and conduct art activities to help improve children's learning in a creative process	4.38	0.64	High Level
<b>OVERALL MEAN</b>	<b>4.29</b>	<b>0.20</b>	<b>High Level</b>

Table 3 suggest a high level of engagement with digital art experiences among the participants, with an overall mean score of 4.29 indicating a high level of impact. Indicators such as immersing in digital art experiences for kids (x=4.26), exploring digital works of art with apps(x=4.31), enjoying master's works like Mona Lisa(x=4.31), and participating in art classes via digital devices(x=4.22) received particularly high mean scores. These findings indicate a strong interest and involvement in digital art activities among the children. Moreover, specific items such as attending interactive classes to develop new skills(x=4.45), efficiently using digital technologies for art activities(x=4.38). The data highlighted the importance of interactive learning experiences, as indicated by indicators such as attending interactive classes to develop new skills and efficiently using digital technologies for art activities, which both received high mean scores. However, the indicator related to creating cooperation and

communication among classmates in interactive learning experiences received a slightly lower mean score of 4.14.

These findings align with the study on the role of video art in early visual arts education, which emphasized the importance of digital play in fostering children's creativity and aesthetic expression. It emphasized the potential of integrating digital arts into early childhood education, which resonates with the current study's utilization of online teaching platforms to enhance children's painting skills [33]. Thus, both studies advocate for the incorporation of digital arts experiences to enrich early childhood curriculum and promote children's creative development. The results suggested that children are highly engaged and interested in various digital art experiences, demonstrating the potential for integrating digital technologies into art education to enhance children's learning and creativity.

Table 4: Feedback Mechanism

Indicator	M	SD	VI
31. It offers encouragement and motivation for children to improve self-esteem and self-respect due to the feeling of success and satisfaction.	4.08	0.73	High Level
32. It helps the children understand their work and inspires them to express themselves truthfully.	4.10	0.68	High Level
33. It is constructive and sensitive to the children's work. and children develop their social skills, self-respect, and self-esteem.	4.02	0.67	High Level
34. It builds trust when children are praised positively and have the feeling of succeeding in a task and becoming beneficial to others.	3.95	0.62	High Level
35. It approaches the children with love, attention, and understanding, paying attention and respect to their personal and intragroup features, and develops emotional trust in them.	4.16	0.72	High Level
36. It improves motivation and morale, the children learn to finish a work they start and the taste of working together and feeling respected for the ideas and works of others	3.95	0.65	High Level
37. It develops relationships and trust, the children participate in group work, and allows them to learn to help and social concepts.	3.99	0.68	High Level
38. It encourages imagination, the children attain the ability to approach their surroundings with an objective and critical behavior to know historical relations, improve their ideas, and tolerate the ideas of others.	3.99	0.67	High Level
39. It promotes participation, children participate in any art activity in a way that children can look at each other's works, understand it, and talk to each other.	4.12	0.76	High Level
40. It provides a method of facilitating independence on how the children carry out their activities, what they feel while doing them, not in what way they do it, and activities based on this idea	4.03	0.80	High Level
<b>OVERALL MEAN</b>	<b>4.04</b>	<b>0.39</b>	<b>High Level</b>

Table 4 evaluated the impact of online art courses on children's painting skills improvement concerning feedback mechanisms, yielding an overall mean score of 4.04 with "High Level" indicating significant effectiveness. Notably, emphasizing approaching children with love and understanding, received the highest mean score of 4.16, followed by promoting participation and mutual understanding among children (x=4.12). Other aspects such as helping children understand their own work (x=4.02),

providing encouragement (x=3.95), facilitating independence (x=4.03), and constructive criticism (x=3.99) also scored high, indicating the effectiveness of feedback mechanisms in enhancing children's painting skills. Indicators related to building trust (x=3.95) improving motivation and morale (x=3.95) and encouraging imagination (x=3.99) received slightly lower mean scores but remained in the "High Level" category, reflecting their positive influence on children's creativity and collaboration.

This finding aligns with [34] study, which emphasized the importance of listening to young children's voices and incorporating arts-based activities like drawing and puppetry to facilitate their expression. Additionally, [52] highlighted the significance of maintaining eye contact and respecting children's freedom during artistic expression, reinforcing the need for sensitive feedback approaches. Furthermore, [20] emphasized that providing constructive feedback is essential for nurturing artistic abilities and fostering self-esteem in students. Constructive critique creates a supportive learning environment where students

feel encouraged to explore new techniques and express themselves authentically. This approach empowers young artists to unleash their creativity and achieve artistic excellence. Art educators play a vital role in communicating feedback to children about their artwork in a way that encourages creativity, aesthetic awareness, interactivity, and feedback mechanisms. By embracing sensitive and constructive feedback practices, educators can effectively support children's artistic development and foster a culture of mutual respect and collaboration in the classroom.

➤ *Factors that Influence Children’s Painting Performance in Online Art Courses in Terms of Family Environment, Self-Motivation, and Self-Engagement*

Table 5: Family Environment

Indicators	M	SD	VI
41. Family who actively role modelled enjoyment and expertise in the visual arts were a particularly potent influence to their children’s attitudes to art activities.	4.43	0.62	High Level
42. Family provides, indirectly, an education in values when art works are displayed at home.	4.50	0.51	Very High Level
43. Family with positive emotions allows the development of emotional intelligence, depending on how others manage emotions.	4.39	0.49	High Level
44. Family that maintain a flexible and positive attitude, allows all members to experience gratitude and satisfaction with their lives.	4.31	0.59	High Level
45. It offers a space full of opportunities to acquire and improve social skills.	4.46	0.57	High Level
46. By interacting with the family and observing how others relate to each other, the child absorbs this knowledge and practices it.	4.40	0.54	High Level
47. It allows the child to begin to build their identity and self-esteem. Based on the words and treatment received within the family, the child forms a more or less positive self-image.	4.36	0.56	High Level
48. Growing up surrounded by love and laughter, where they can witness respectful relationships between healthy and happy people is the best foundation for their future	4.44	0.52	High Level
49. From every moment spent with their family, they take with them the thoughts, attitudes, and beliefs of those living with them, which they’ll later replicate throughout their life.	4.56	0.50	Very High Level
50. Those homes in which love, respect, empathy, and tolerance are valued have a more pleasant and harmonious environment.	4.57	0.59	Very High Level
<b>OVERALL MEAN</b>	<b>4.44</b>	<b>0.29</b>	<b>High Level</b>

Table 5 presents the assessment of the level of influencing factors on children's painting performance within online art courses, particularly focusing on the family environment. The overall weighted mean is 4.44, indicating a high level of influence. Among the specific items, several factors stand out in terms of their influence level. The importance of love, respect, empathy, and tolerance in the home environment, scored the highest with a mean of 4.57, categorized as a very high influence level and ranked first. Following closely is how children absorb attitudes and beliefs from their family (x=4.56) which ranked second in very high influence level. Other significant factors include the indirect education in values provided by displaying artwork at home (x=4.50), opportunities for social skill development (x=4.46), and witnessing respectful relationships (x=4.44).

These findings confirm that family influences art education for children aged 0-3, which emphasizes the non-utilitarian objectives of families, emotional attitudes, and the influence of parental education, family income, and location on education content and scheduling [35]. The study underscores the critical role of family environment in shaping children's attitudes towards art activities, suggesting that supportive family dynamics contribute significantly to children's painting performance. Therefore, fostering a supportive environment where art is valued and encouraged can positively impact children's engagement and success in art education.

Table 6: Self-Motivation

Indicators	M	SD	VI
51. Children engage one-on-one with an art instructor	4.34	0.61	High Level
52. Children complete artwork with no prodding because they want to learn and succeed.	4.44	0.50	High Level
53. Children like to do artwork on a scheduled time whether or not anyone encourages them to do it,	4.30	0.46	High Level
54. Children get aesthetically enhanced objects and behaviors to super-stimulate perceivers' appreciation	4.18	0.54	High Level
55. Children get pleasure in engaging in aesthetic/artistic activities when they work on their own.	4.39	0.56	High Level
56. Children pursue free art activities like painting, drawing, and coloring.	4.38	0.51	High Level
57. Children join artistic activities as free-time activities and hobbies.	4.29	0.53	High Level
58. Children support art organizations and events through their participation, learn more about other cultures, and experience high-quality art.	4.32	0.51	High Level
59. Children have a personal interest in the artistic material and desire to express themselves artistically,	4.46	0.50	High Level
60. Children have the opportunity for social interaction, interest in learning more about the arts, education, enrichment, and accompanying a friend or a family member in art activities.	4.45	0.60	High Level
<b>OVERALL MEAN</b>	<b>4.35</b>	<b>0.25</b>	<b>High Level</b>

Table 6 presents the findings regarding the influence of various factors on children's painting performance in online art courses, particularly focusing on self-motivation, which received an overall mean of 4.35, indicating a high level of influence. Notably, specific items such as children's interest in artistic materials ( $x=4.46$ ) and their desire for artistic expression ranked highest in influence level ( $x=4.46$ ), followed by opportunities for social interaction

and learning about the arts ( $x=4.45$ ). These results align with the studies on surrounding children with supportive individuals who value their strengths and engage them in learning experiences. these highlight the significant role of self-motivation in children's painting performance and underscore the importance of making painting accessible to children in various learning settings [51][53][55].

Table 7: Self-Engagement

Indicators	M	SD	VI
61. Children are engaged in art activities that are connected to prior knowledge and themes of interest.	4.31	0.60	High Level
62. Children are engaged in ways to take ownership and use their artistic voice.	4.36	0.55	High Level
63. Children are engaged when they create in many ways their artwork using a variety of media throughout the year.	4.29	0.47	High Level
64. Children are engaged in art activities when they spend these activities together with their parents on a regular basis	4.14	0.51	High Level
65. Children are engaged in art activities tend to have higher levels of self-esteem.	4.36	0.56	High Level
66. Children are engaged in art activities when they participate in arts activities most days.	4.34	0.50	High Level
67. Children are engaged in art activities when it enhances self-empowerment and self-worth in children's own abilities.	4.29	0.53	High Level
68. Children are engaged in art activities when they celebrate the experience of discovery and the freedom of choice that they have, and the crafting process is child-directed.	4.32	0.51	High Level
69. Children are engaged in art activities when the craft lessons are topical, age appropriate, cool and relevant for the children.	4.44	0.50	High Level
70. Children are engaged in art activities when the topic triggers curiosity in them, and inquiry-based learning, problem solving and creativity happens.	4.45	0.60	High Level
<b>OVERALL MEAN</b>	<b>4.33</b>	<b>0.24</b>	<b>High Level</b>

Table 7 presents the findings on the influencing factors affecting children's painting performance in online art courses, focusing on self-engagement, with an overall mean of 4.33, indicating a high level of influence. Notably, specific items such as children's engagement triggered by curiosity and inquiry-based learning ( $x=4.45$ ) and craft lessons that are topical and age-appropriate ( $x=4.44$ ) ranked highest in influence level. These results resonate with the findings of [56] which highlight the relationship between

children's arts engagement and self-esteem. The study emphasizes the significant association between arts activities and children's self-esteem, particularly when parents are involved in these activities. Additionally, the research suggests that engagement in arts activities itself offers various benefits that contribute to higher self-esteem, regardless of children's abilities. This underscores the importance of designing and delivering arts programs that promote engagement to support children's self-esteem.

Overall, the findings suggest that art activities play a crucial role in developing children's self-esteem, influenced

by demographic, socioeconomic, and familial factors [56].

➤ *Differences in the Level of Painting Skills of Children in Online Art Courses when they are grouped based on Demographic Profile: Sex, Age, and Grade Level*

Table 8: Age, Sex, Grade Level and Creativity

V	M	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.22	0.05	6.73	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.22	0.05	62.60	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.22	0.05	3.79	1.64	1.96	Reject Ho	S
	3.77	2.06					

The table presents a statistical analysis to determine if there are significant differences in the assessment of children's painting skills in online art courses when grouped by demographic profiles such as age, sex, and grade level. The mean scores for creativity show variations among different demographic groups, with significant differences observed across all profiles. Specifically, the z-scores for age (6.73), sex (62.60), and grade level (3.79) all exceed the critical values for both one-tailed (1.64) and two-tailed (1.96) tests at a 5% significance level. Consequently, the null hypothesis (Ho), which posits no significant difference, is rejected for all demographic groups. This indicates that there are statistically significant differences in the assessment of creativity based on age, sex, and grade level. The findings suggest that these demographic factors play a crucial role in shaping the perceived level of painting skills among children in online art courses.

The findings are consistent with previous research by [47] suggesting that children's artistic development progresses with age, with distinct preferences emerging regarding subject matter and color choices. Preschool-aged children show early recognition of emotions in art, highlighting the importance of providing diverse art activities to support their cognitive and emotional development [48]. The study underscores the significance of fostering children's creativity both at home and in educational settings, emphasizing the role of parents and teachers in providing opportunities for artistic expression and exploration. These findings reaffirm the importance of integrating art activities into early childhood education to nurture children's cognitive, emotional, and creative development [75]. Therefore, it's crucial for parents and educators to actively support and encourage children's engagement in artistic endeavors, regardless of their age or gender.

Table 9: Age, Sex, Grade Level and Aesthetic Awareness

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.30	0.04	7.55	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.30	0.04	65.21	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.30	0.04	4.53	1.64	1.96	Reject Ho	S
	3.77	2.06					

The study investigated the relationship between aesthetic awareness and the level of painting skills among children participating in online art courses, considering factors such as age, sex, and grade level. Statistical analyses revealed significant differences in mean scores across all three sub-variables, indicating a notable impact on the assessment of children's painting skills.

The mean score for aesthetic awareness was 4.30, indicating a high level. The z-test value of 7.55 exceeded both the one-tail (1.64) and two-tail (1.96) critical values, leading to the rejection of the null hypothesis (Ho) and signifying a significant difference in painting skills based on age. Similarly, the mean score for aesthetic awareness was 4.30. The z-test value of 65.21 greatly exceeded both

critical values, resulting in the rejection of the null hypothesis and indicating a significant difference in painting skills based on sex. The mean score for aesthetic awareness remained consistent at 4.30. The z-test value of 4.53 exceeded both critical values, leading to the rejection of the null hypothesis and suggesting a significant difference in painting skills based on grade level. These findings highlight the importance of demographic factors such as age, sex, and grade level in influencing the level of painting skills among children in online art courses.

Supporting this finding, [18] discusses the development of art abilities in children aged 0-3 years, emphasizing the importance of sensory experiences and gross motor skills development through art activities.



McGhee's work, as cited by [80] also highlight the role of art experiences in aesthetic development for both boys and girls, emphasizing the facilitative role of adults in guiding children's exploration of beauty. In kindergarten and early grades, the focus shifts to fostering self-esteem, hand-eye coordination, and art-related skills. These experiences aim to cultivate aesthetic awareness and provide children with

meaningful interactions with artworks. The significance of providing meaningful art experiences for young children to enhance their aesthetic awareness and painting skills is highlighted in these data. Art educators play a crucial role in facilitating these experiences, guiding children's exploration of beauty, and fostering their artistic development from an early age.

Table 10: Age, Sex, Grade Level and Interactivity

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.29	0.04	7.44	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.29	0.04	65.44	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.29	0.04	4.43	1.64	1.96	Reject Ho	S
	3.77	2.06					

The table illustrates a significant disparity in the evaluation of children's painting skills within online art courses when grouped by demographic factors such as age, sex, and grade level. Regarding interactivity, the mean score for each group was consistently high, with a mean score of 4.29. Statistical analysis revealed substantial differences across all demographic categories. For age, the z-test value of 7.44 surpassed the critical value, indicating a noteworthy distinction in painting skills based on age. Similarly, the z-test value for sex was 65.44, leading to the rejection of the null hypothesis and signifying a significant difference in painting skills between genders. Likewise, the z-test value for grade level was 4.43, exceeding the critical value and indicating a notable difference in painting skills across various grade levels. These findings emphasize the influential role of demographic factors in shaping the assessment of painting skills within online art courses, particularly concerning interactivity.

interaction in learning outcomes, with feedback playing a crucial role. Similarly, the study highlights the potential of interactive learning methods and AI-based evaluation to enhance art and design education quality, offering valuable feedback to both students and instructors. [7] art program complements these findings by offering age-appropriate art activities suitable for different ages and grade levels. She emphasizes the importance of allowing elementary-level students to plan and create with intention while encouraging exploratory discovery for younger children. This approach aligns with the varied art programs available in online art classes, catering to children from preschool to secondary levels. These classes aim to make art accessible to all ages and genders, fostering pride in artistic achievements regardless of prior experience.

This finding aligns with the proposal by [78] for interactive teaching methods in art design, utilizing interactive technology to update education and teaching approaches. Their study emphasizes the importance of

The online art classes offer a convenient and accessible platform for children of all ages and grade levels to develop their painting skills. By embracing interactive teaching methods and age-appropriate activities, these classes contribute to the holistic development of young artists, providing opportunities for creative expression and skill enhancement.

Table 11: Age, Sex, Grade Level and Feedback Mechanism

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.04	0.16	4.83	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.04	0.16	50.36	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.04	0.16	2.22	1.64	1.96	Reject Ho	S
	3.77	2.06					

In terms of feedback mechanism, the mean score for all demographic variables is consistent at 4.04. Statistical analysis using the z-test reveals significant differences across all demographic categories. For age, the z-test value of 4.83 exceeds both the critical values for one-tail and two-tail tests, leading to the rejection of the null hypothesis and indicating a significant distinction in painting skills based on age. Similarly, for sex, the z-test value of 50.36

surpasses the critical values, resulting in the rejection of the null hypothesis and signifying a substantial difference in painting skills between genders. Moreover, for grade level, the z-test value of 2.22 exceeds the critical values, indicating a noteworthy difference in painting skills across various grade levels, thus leading to the rejection of the null hypothesis. These findings underscore the significance of feedback mechanisms in influencing the painting skills of

children participating in online art courses across diverse demographic profiles, highlighting the need for tailored feedback strategies to enhance artistic development in young learners.

Positive feedback enhances creativity and self-esteem in children, leading to productive engagement in art

➤ *Differences in the Level of Influence on Children's' Painting Skills of Children in Online Art Courses when they are Grouped based on Demographic Profile: Sex, Age, and Grade Level*

activities [20]. It is crucial to adapt feedback mechanisms to suit children of all ages, genders, and abilities. Therefore, providing constructive feedback in art education is essential for motivating children across diverse demographics to explore and develop their artistic potential.

Table 12: Age, Sex, Grade Level and Family Environment Factors

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.44	0.08	8.80	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.44	0.08	64.36	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.44	0.08	5.67	1.64	1.96	Reject Ho	S
	3.77	2.06					

The results indicate significant differences in the assessment of children's painting skills in online art courses based on both family environment factors and demographic variables. Specifically, the mean score for family environment factors is 4.44, while for age, it is 3.53. These assessments underwent statistical analysis, with a z-test result of 8.80, exceeding the critical value of 1.96. Similarly, the mean score for family environment factors compared to sex yielded 4.44 and 1.45, respectively, with a

z-test result of 64.36, surpassing the critical value. Additionally, comparing family environment factors with grade level, the mean scores were 4.44 and 3.77, respectively, with a z-test result of 5.35, again exceeding the critical value. Consequently, the null hypothesis is rejected, indicating a significant difference in the assessment of children's painting skills concerning age, sex, and grade level, as well as family influencing factors.

Table 13: Age, Sex, Grade Level and Self-Motivation Factors

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.35	0.06	8.00	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.35	0.06	64.42	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.35	0.06	4.95	1.64	1.96	Reject Ho	S
	3.77	2.06					

The results demonstrate significant differences in the assessment of children's painting skills in online art courses regarding self-motivation factors and demographic variables. Specifically, the mean score for self-motivation factors is 4.35, while for age, it is 3.53. These assessments underwent statistical analysis, yielding a z-test result of 8.00, which exceeds the critical value of 1.96. Similarly, comparing self-motivation factors with sex, the mean scores were 4.35 and 1.45, respectively, with a z-test result

of 64.32, surpassing the critical value. Additionally, when comparing self-motivation factors with grade level, the mean scores were 4.35 and 3.77, respectively, resulting in a z-test score of 4.75, again exceeding the critical value. Consequently, the null hypothesis is rejected, indicating a significant difference in the assessment of children's painting skills concerning age, sex, and grade level, as well as self-motivation factors.

Table 14: Age, Sex, Grade Level and Self-Engagement Factors

V	Mean	Known Variance	z	z Critical one-tail	z Critical two-tail	D	I
Age	4.33	0.06	7.78	1.64	1.96	Reject Ho	S
	3.53	1.58					
Sex	4.33	0.06	64.46	1.64	1.96	Reject Ho	S
	1.45	0.25					
Grade Level	4.33	0.06	4.75	1.64	1.96	Reject Ho	S
	3.77	2.06					

The study reveals significant variations in the assessment of children's painting skills in online art courses concerning self-engagement factors and demographic characteristics. Specifically, the mean score for self-engagement factors is 4.33, while for age, it is 1.45. These assessments underwent statistical analysis, resulting in a z-test score of 7.78, surpassing the critical value of 1.96. Similarly, comparing self-engagement factors with sex, the mean scores were 4.33 and 1.45, respectively, with a z-test result of 64.46, exceeding the critical value. Additionally, when comparing self-engagement factors with grade level, the mean scores were 4.33 and 3.77, respectively, resulting in a z-test score of 64.32, again surpassing the critical value. Consequently, the null hypothesis is rejected, indicating a significant difference in the assessment of children's painting skills concerning age, sex, and grade level and self-engagement factors.

These findings align with [77] investigation into kindergarten parents' attitudes toward children's art

education in Taiwan. The study, which collected data from 758 respondents, found that parents' demographics and children's characteristics significantly influenced their perceptions of art education. Moreover, the study highlighted the importance of kindergarten teachers' teaching strategies, with 66% adopting a theme-based approach. It was also revealed that 72% of parents believed art educators should possess basic drawing skills, emphasizing the significance of early exposure to art classes.

These insights underscore the importance of integrating art education into early childhood learning environments [26]. They suggest that the current focus on early childhood programs presents a unique opportunity to integrate arts into education effectively. Consequently, fostering art education in early childhood settings becomes imperative, catering to children of all ages, genders, and grade levels, thereby promoting holistic development and creativity from an early age.

➤ *Thematic Analysis of Parent's View Regarding the Impact of Art Education on their Children*

Table 15: Parents Assessment on the Impact of Art Education on their Children

Theme	Description	Number of Instances
Creativity and Imagination	Parents believe that art education helps cultivate children's creativity, imagination, and unique expression of ideas and emotions through painting.	5
Observation and Attention to Details	Art learning enhances children's ability to observe details, be more attentive, and develop a keen sense of their surroundings.	5
Focus, Patience, and Persistence	According to parents, art activities require children to be focused, patient, and persistent in completing their artworks, fostering these valuable skills.	5
Problem-Solving and Critical Thinking	Some parents feel that art education helps children develop problem-solving abilities, analytical thinking, and the ability to approach problems from different perspectives.	3
Self-Confidence and Self-Esteem	Parents observe that seeing their progress and expressing themselves through art boosts children's self-confidence and self-esteem.	3
Academic Performance	Many parents believe that the skills developed through art learning, such as observation, analysis, and critical thinking, positively impact children's academic performance in other subjects.	5
Time Management and Academic Pressure	While art activities can enhance various skills, some parents acknowledge that they may sometimes add time constraints and academic pressure, particularly when there are painting tasks or assignments.	4
Daily Life Skills	Parents note that art learning helps children develop organizational skills, material management, and spatial awareness, contributing positively to their daily life.	4
Social Interaction	There are mixed views on whether art learning encourages children to work independently or promotes social interaction and teamwork. Some parents encourage finding a balance between individual expression and group activities.	4

Table 15 summarizes the main themes and viewpoints expressed by the parents regarding the impact of art education on their children's development, academic performance, and various aspects of their lives. Parents believe that art education plays a crucial role in the development of various skills in children. It is widely regarded as a means to cultivate creativity, imagination, and unique expression, as well as enhance children's ability to observe details and be attentive to their surroundings. Art activities are seen as fostering focus, patience, and persistence, which are valuable life skills. Additionally,

parents feel that art education helps in developing problem-solving abilities and critical thinking, contributing to children's overall analytical skills. Expressing themselves through art also boosts children's self-confidence and self-esteem. Many parents observe that the skills developed through art, such as observation and critical thinking, positively impact academic performance in other subjects. However, there is an acknowledgment that art activities can sometimes add to time constraints and academic pressure. Beyond academic benefits, art learning aids in developing organizational skills, material management, and spatial

awareness, which are beneficial for daily life. There are mixed views on whether art learning encourages independence or promotes social interaction and teamwork,

with some parents advocating for a balance between individual expression and group activities.

➤ *5 Level of Utilization of Online Art Courses in Improving Children’s Painting Skills in terms of the Role of Teachers, Teaching Strategies, Educational Technology, and Technology Application*

Table 16: Improvement in Online Art Courses in Terms of Role of Teachers

Indicators	M	SD	VI
71. Teachers provide developmentally appropriate instruction on art techniques	4.31	0.60	High Level
72. Teachers ensure children are familiar with and have confidence in art materials and methods. Show children how to hold tools and manipulate materials to support their fine motor skill development.	4.36	0.55	High Level
73. Teachers organize exhibits of children’s work in the classroom, school, and community.	4.29	0.47	High Level
74. Teachers help children evaluate what they have done, particularly about their ideas and intentions, and to critically reflect on their work in progress	4.14	0.51	High Level
75. Teachers encourage artistic thinking processes in children to observe and to attend to visual details more closely than they ordinarily would, to see things that otherwise might not be seen.	4.36	0.56	High Level
76. Teachers prepare and arrange art materials and art equipment in the classroom for students to use	4.34	0.50	High Level
77. Teachers use scaffolding learning and intentionally targeting specific skills and complex thinking for children art making activities.	4.29	0.53	High Level
78. Teachers promote a social context for art making by providing high-quality, interesting, and well-presented materials in a safe and comfortable space set aside for art making.	4.32	0.51	High Level
79. Teachers encourage children to engage with others socially as they draw or create so that they can exchange ideas about what they are drawing and support each other in using materials and resources in particular ways	4.44	0.50	High Level
80. Teachers put artwork on display in ways that demonstrate children’s divergent thinking on the same topic or inquiry.	4.45	0.60	High Level
<b>OVERALL MEAN</b>	<b>4.33</b>	<b>0.24</b>	<b>High Level</b>

Table 16 presents the level of teaching factors influencing children's painting skills improvement in online art courses, focusing on the role of teachers, with an overall mean score of 4.33, indicating a high level of influence. Notably, item 80, emphasizing teachers' display of artwork to showcase children's divergent thinking on a topic, scored the highest with a mean of 4.45, ranking first. Following closely is item 79, highlighting teachers' encouragement of social engagement during art creation, with a mean of 4.44, ranking second. Other significant factors include teachers' facilitation of children's familiarity and confidence with art materials (x=4.36), encouragement of artistic thinking processes (X=4.36), and preparation of art materials in the classroom (x=4.34), all scoring high mean values.

These findings are congruent with the roles outlined by [81] emphasizing the teacher's role in extending skills

with various media and positioning visual arts as a tool for thinking. Teachers are expected to share their knowledge, offer guidance, and model visual arts skills to enhance children's artistic abilities. Furthermore, this underscores the importance of teachers in fostering divergent thinking through art activities, enabling children to reflect on their ideas effectively.

The diverse roles of teachers in art education imply the necessity for continuous professional development in visual arts courses to cater to young children adequately. For art education to hold its rightful place in children's learning, teachers must learn to appreciate children's art [43]. This highlights the crucial role of teachers in nurturing children's creativity and fostering a positive learning environment in art education.

Table 17: Improvement in Online Art Courses in terms of Teaching Strategies for Painting Art

Indicators	M	SD	VI
81. Teachers use brainstorming and collect pictures about the painting subject.	4.31	0.60	High Level
82. Teachers use the art process of teaching: the subject matter, idea generation, exploring and developing, refining the final piece, and evaluation.	4.36	0.55	High Level
83. Teachers use scaffolded instruction to enable students to build on previous skills to face increasingly difficult learning experiences.	4.29	0.47	High Level
84. Teachers use problem-solving in the fine arts, as in many other areas of life, is a process of developing individual solutions to complex problems.	4.19	0.55	High Level
85. Teachers use cooperative learning as children who regularly participate in cooperative group activities tend to have higher academic test scores, higher self-esteem, stronger	4.40	0.55	High Level

social skills, and greater content knowledge.			
86. Teachers use creative teaching techniques to foster imagination and creative expression.	4.34	0.50	High Level
87. Teachers use individualized instruction so that students progress through the curriculum at their own pace.	4.32	0.54	High Level
88. Teachers use the art curriculum and follow a logical progression and evaluate the effectiveness of the lessons	4.32	0.51	High Level
89. Teachers foster creative thinking and learning and utilize student’s curiosity	4.44	0.50	High Level
90. Teachers use painting techniques : watercolor painting techniques such as drybrush, wet-in-wet, blending, hard & soft and lost & found edges, salt, spatter, etc.	4.52	0.57	Very High Level
<b>OVERALL MEAN</b>	<b>4.35</b>	<b>0.24</b>	<b>High Level</b>

Table 17 presents the level of teaching factors influencing children's painting skills improvement in online art courses, specifically focusing on teaching strategies, with an overall mean score of 4.35, indicating a high level of influence. Notably, item 90 emphasizes the use of painting techniques, such as watercolor painting techniques, scoring the highest with a mean of 4.52 and ranking first. Following closely is the teachers' encouragement of creative thinking and learning (x=4.44), ranking second. Other significant factors include the use of cooperative learning (x=4.40), the art process of teaching (x=4.36), and creative teaching techniques (x=4.34), all scoring high mean values.

These findings align with [19] who outlines adaptive art strategies applicable to teaching online art courses.

Adaptive strategies aim to ensure all students master concepts and create meaningful artworks by adjusting the classroom environment and materials. Collaboration with colleagues and support team members is crucial in planning these strategies. Collaborative art projects and mixed media projects are highlighted as effective teaching strategies to foster teamwork, creativity, and exploration of various materials and techniques.

The emphasis on best practices for teaching art activities underscores the importance of selecting developmentally appropriate teaching methods, approaches, and techniques aligned with the art curriculum for young children. This highlights the critical role of teachers in creating engaging and effective learning experiences in online art courses.

Table 18: Improvement in Online Art Courses in terms of Educational Technology

Indicators	M	SD	VI
91. Teachers use interactive technology to accommodate different learning styles and paces of students.	4.23	0.68	High Level
92. Teachers use interactive technology to enable students to learn at their own pace, making decision about what and how they learn.	4.29	0.64	High Level
93. Teachers use interactive technologies as a rich source of peer coaching and cooperation among students.	4.30	0.46	High Level
94. Teachers use educational technology to create an atmosphere that emphasizes collaboration.	4.13	0.49	High Level
95. Teachers use educational technology to develop activities that incorporate challenging, authentic tasks with technological tools to increase the value of the learning experience.	4.34	0.55	High Level
96. Teachers collaborate with other fine arts teachers; work in teams to design and implement technology-supported projects.	4.31	0.49	High Level
97. Teachers model technology use as a good way to show student positive ways to approach new learning challenges.	4.25	0.44	High Level
98. Teachers use educational technology to develop assessment procedures to monitor and document each student’s progress.	4.27	0.49	High Level
99. Teachers use creative digital tools and modern classroom furniture for allowing more students to access, create and enjoy art	4.38	0.49	High Level
100. Teacher use educational technology tools for hybrid and distance learning models like videoconferencing software, like Zoom and Google Classroom, to supplement in-person art instruction.	4.38	0.58	High Level
<b>OVERALL MEAN</b>	<b>4.29</b>	<b>0.26</b>	<b>High Level</b>

Table 18 illustrates the level of teaching factors impacting children's painting skills improvement in online art courses, specifically focusing on educational technology, with an overall mean score of 4.29, indicating a high level of influence. Notably, the use of creative digital tools and modern classroom furniture to enhance access

and enjoyment of art ranked first with a mean of 4.38. Following closely is the integration of educational technology tools like videoconferencing software for hybrid and distance learning models (x=4.38). Other significant factors include the development of activities incorporating challenging tasks with technological tools

( $x=4.34$ ) collaborative projects among fine arts teachers ( $x=4.31$ ) and the use of interactive technologies for peer coaching and cooperation among students ( $x=4.30$ ).

These findings align with [29] who suggests that with the right software and online resources, teachers of visual art and design classes can redefine creative learning. Technology has become integral in reinventing approaches to art education, as evidenced by a growing value for creativity in modern classrooms. This shift in educational priorities underscores the importance of incorporating

interactive tools into lesson plans to foster creativity from an early age. It revealed that both students and teachers express a desire for greater emphasis on creativity in their classes, with 76 percent of Generation Z students and 75 percent of teachers advocating for a focus on interactive tools over traditional memorization [49]. This emphasizes the need for integrating creative apps and educational resources into art education curricula to equip young learners with the skills to utilize educational tools and create artwork in innovative ways.

Table 19: Improvement in Online Art Courses in terms of Technology

Indicators	M	SD	VI
101. Teachers use Internet’s network of library catalogs, campus information systems, directories, databases, archives, and other interactive media technology for student’s efficient exploration of art topics.	4.36	0.61	High Level
102. Technology application gives students a new way to create art such as Aviary, Paper 53, Doodle Art, Green Screen, KaleidaCam, PicsArt, Procreate	4.36	0.55	High Level
103. Technology App smashing. in which students can use two or more apps to transform their artwork.	4.24	0.44	High Level
104. Technology such as Chromebooks or iPads can be used for flipped learning, if student is late or absent, they can watch video demonstrations	4.10	0.49	High Level
105. Technology apps for digital portfolios include Creatable, SeeSaw, and Artsonia. to see the students are working on as well as a place for them to organize their work—and they don’t take up any space.	4.29	0.54	High Level
106. Technology apps Google Drive, Google Slides, Google Docs, Padlet and Prezi promotes collaboration.	4.34	0.50	High Level
107. Technology apps Google Slide and Plickers, can grab students’ attention easily and promote student engagement.	4.26	0.52	High Level
108. Technology app like tablets and phones to sketch, draw, and paint to fostering students’ 21st-century learning skills	4.18	0.43	High Level
109. New-tech drawing tools are helping to teach a host of art fundamentals, like depth and space, perspective, color value and 3D form	4.26	0.44	High Level
110. Smartphones and tablets offer HD cameras that are suitable in quality for art classrooms. Incorporating tripods can also help ensure better visual quality for instruction. PEPMIBA / GETTY IMAGES	4.27	0.54	High Level
<b>OVERALL MEAN</b>	<b>4.27</b>	<b>0.23</b>	<b>High Level</b>

Table 19 presents the level of teaching factors impacting children's painting skills improvement in online art courses, focusing on technology application, with an overall mean score of 4.27, indicating a high level of influence. The use of creative digital tools such as Aviary and Procreate, ranking first with a mean of 4.36. The utilization of internet resources for efficient exploration of art topics, scoring a mean of 4.36 and ranking second. Other significant factors include the promotion of collaboration through technology apps like Google Drive and Padlet ( $x=4.34$ ), the use of digital portfolios for organizing student work ( $x=4.29$ ), and the integration of smartphones and tablets with HD cameras into art classrooms ( $x=4.27$ ).

These findings align with [44], which advocates for the integration of technology into art education as a means of transcending traditional learning methods and empowering students to express their creativity. With the shift to hybrid and distance learning models, digital tools like video conferencing software have become increasingly

prevalent throughout art education, supplementing in-person instruction.

Additionally, the study of [23] explores how the use of art software shapes new ways for children to improve their visual literacy and social skills. The results indicate a positive influence on students' creative engagement and aesthetic perception, emphasizing the importance of efficiently integrating technology into visual arts education to support children in becoming informed citizens and creative producers in the digital age. It is crucial to ensure the art classroom is well-equipped for using technological tools, as many smartphones and tablets offer suitable HD cameras. By incorporating technology into art education, children gain access to a vast canvas where imagination knows no bounds, motivating them to attend art classes and fostering creative learning processes.

#### IV. FINDINGS

- Online art courses significantly enhance children's creative and expressive abilities. The high impact of online art courses on children's creativity and expressive skills is evident in the different indicators including expressing ideas through drawings, communicating through art, and developing self-confidence.
- Although scores for developing interpersonal skills and critical divergent thinking remain high, they are slightly lower, indicating room for improvement in these areas within online art courses.
- Online art courses significantly enhance aesthetic awareness, indicators like participation in visual arts activities, exposure to music and sound experiences, and provision of an aesthetically pleasing environment highlight the positive impact of these courses on fostering aesthetic awareness and participation.
- The findings indicate that children are highly engaged with their online art courses, as evidenced by their active participation in digital art experiences. Key indicators such as exploring digital works of art with apps and participating in art classes via digital devices highlight the significant potential of digital platforms in enhancing art education.
- The feedback mechanisms within online art courses are highly effective. Key indicators such as approaching children with love and understanding and promoting participation and mutual understanding emphasize the critical role of sensitive and constructive feedback in improving children's painting skills.
- Significant differences in creativity assessment are observed across age, sex, and grade level. This rejects the null hypothesis, indicating statistically significant variations.
- Similarly, significant differences are found in aesthetic awareness assessment based on age, sex, and grade level, highlighting demographic influences on painting skills perception.
- Interactivity assessment also reveals substantial differences across demographic categories, emphasizing the role of demographics in shaping painting skills evaluation within online art courses.
- Feedback mechanisms consistently receive high mean scores across demographics, yet significant differences persist, indicating the importance of tailored feedback strategies for enhancing children's painting skills in online art courses.
- The study reveals significant differences in children's painting skills assessment within online art courses based on family environment factors and demographic variables.
- Family environment factors, such as familial dynamics, significantly influence painting skills assessment, with higher mean scores compared to demographic variables like age, sex, and grade level.
- Statistical analyses, including z-test results exceeding critical values, emphasize the substantial variations in assessment concerning age, sex, and grade level, as well as family influencing factors.

- Similarly, significant differences are found in painting skills assessment concerning self-motivation and self-engagement factors alongside demographic variables.
- The higher mean scores for self-motivation and self-engagement factors compared to demographic variables underscore their significant influence on painting skills assessment.
- The rejection of the null hypothesis for all demographic categories demonstrates the diverse influences shaping children's painting skills within online art courses, highlighting the importance of considering both internal and external factors in designing effective art education programs.
- Parents widely believe that art education is crucial for cultivating creativity, imagination, and unique expression in children. They perceive art activities as fostering skills such as attention to detail, focus, patience, and persistence, which are valuable for life.
- Parents highlighted the role of art education in developing problem-solving abilities, critical thinking, and overall analytical skills in children.
- Parents acknowledge that expressing themselves through art boosts children's self-confidence and self-esteem.
- Parents observed that skills learned through art positively impact academic performance in other subjects.
- There are mixed views on whether art learning encourages independence or promotes social interaction and teamwork, with some parents advocating for a balance between individual expression and group activities.
- Teaching factors play a significant role in enhancing children's painting skills within online art courses, where teachers' display of artwork and encouragement of social engagement emerge as the most influential factors.
- Teaching strategies contribute to the improvement of children's painting skills, with particular emphasis on the use of painting techniques and encouragement of creative thinking.
- The integration of educational technology into online art courses influences children's painting skills, with the utilization of creative digital tools and technology for collaborative projects being the most impactful.
- Technology application significantly enhances children's painting skills, notably through the utilization of creative digital tools and internet resources for exploration.

#### V. CONCLUSION

Online art courses play a crucial role in enhancing various aspects of children's creative and expressive abilities, including their aesthetic awareness, interactivity, and engagement with digital art experiences. The courses significantly impact creativity, idea expression, communication through art, and self-confidence development. However, there is room for improvement in fostering interpersonal skills and critical divergent thinking.

The study findings reject the null hypothesis, revealing significant differences in children's painting skills assessment within online art courses based on demographic factors such as age, sex, grade level, and family environment factors. Notably, family environment factors and self-motivation, and self-engagement factors have a more substantial influence on painting skills assessment compared to demographic variables.

Parents widely recognize the importance of art education in cultivating creativity, imagination, unique expression, problem-solving abilities, critical thinking, analytical skills, self-confidence, and self-esteem in children. They also acknowledge the positive impact of art learning on academic performance in other subjects. Teaching factors, including teachers' display of artwork, encouragement of social engagement, use of painting techniques, and promotion of creative thinking, play a significant role in enhancing children's painting skills within online art courses. Additionally, the integration of educational technology, such as creative digital tools, internet resources, and collaborative projects, positively influences children's painting skills development. Online art courses have a significant positive impact on various aspects of children's creative and expressive abilities, with painting skills assessment being influenced by a combination of demographic, family environment, self-motivation, and teaching factors. The effective integration of educational technology further enhances the learning experience and skill development in these courses.

## VI. PROPOSED ONLINE ART PROGRAM FOR CHILDREN

This curriculum covers a wide range of artistic skills, techniques, and mediums, catering to different age groups and interests. It emphasizes foundational skills, creative expression, digital art exploration, advanced skill development, and continuous evaluation. The curriculum aims to foster creativity, innovation, artistic abilities, and an appreciation for art while addressing areas for improvement identified in the study, such as interpersonal skills, critical thinking, and demographic considerations.

### A. Foundational Skills

#### ➤ Basic Painting Courses

- ✓ Sketching techniques
- ✓ Watercolor painting
- ✓ Oil painting
- ✓ Color theory
- ✓ Understanding lines, shapes, and forms

#### ➤ Handicrafts and Crafts

- ✓ Paper crafts (origami, paper cutting, greeting cards)
- ✓ Working with scissors, glue, colored paper
- ✓ Developing manual skills and creativity

### B. Creative Expression

#### ➤ Creative Painting and Crafts

- ✓ Using imagination to create unique artworks
- ✓ Encouraging originality and innovation
- ✓ Mixed media projects

#### ➤ Story Picture Book Production

- ✓ Character design and development
- ✓ Storytelling through illustrations
- ✓ Improving drawing skills and creative thinking

#### ➤ Music and Painting

- ✓ Creating art inspired by music and rhythms
- ✓ Exploring sensory experiences
- ✓ Enhancing expressive abilities

### C. Digital Art Exploration

#### ➤ Digital Art with Apps and Devices

- Exploring digital art tools and software
- Creating digital artworks and animations
- Participating in virtual art classes

#### ➤ Online Collaboration and Social Sharing

- ✓ Using online platforms for group projects
- ✓ Developing communication and teamwork skills
- ✓ Creating class blogs/social media for sharing art

### D. Advanced Skills Development

#### ➤ Observational Drawing and Sketching

- ✓ Improving observation and rendering skills
- ✓ Drawing from life (still life, portraiture, etc.)
- ✓ Character and animal sketching

#### ➤ Sculpture and 3D Art

- ✓ Working with materials like clay, cardboard, wood
- ✓ Developing spatial awareness and tactile skills
- ✓ Exploring form and volume in art

#### ➤ Art History and Appreciation

- ✓ Studying artworks and artists from various periods
- ✓ Understanding art movements and cultural contexts
- ✓ Developing aesthetic awareness and critical thinking

#### ➤ Large-Scale Group Painting Projects

- ✓ Collaborating on murals or installations
- ✓ Fostering teamwork, communication, and creativity
- ✓ Community engagement through public art



➤ *Continuous Evaluation and Feedback*

- ✓ Regular assessments and progress tracking
- ✓ Sensitive and constructive feedback mechanisms
- ✓ Tailored strategies based on age, skill level, and needs
- ✓ Involving parents and fostering a supportive environment

## VII. PROPOSED ONLINE ART CLASSES SYLLABUS

➤ *Course Description:*

This course is designed to provide a comprehensive and engaging online art education experience for children. Through a variety of digital and interactive activities, students will develop their creative and expressive abilities, aesthetic awareness, and digital art skills. The course incorporates various art forms, techniques, and mediums to foster a well-rounded artistic development.

➤ *Course Objectives:*

Upon successful completion of this course, students will be able to:

- Demonstrate improved creative and expressive abilities through drawing, painting, and other art forms.
- Enhance their aesthetic awareness and appreciation for visual arts.
- Actively engage in digital art experiences using apps, software, and online platforms.
- Develop interpersonal skills, critical thinking, and divergent thinking through collaborative art projects and discussions.
- Apply feedback mechanisms to enhance their painting skills and artistic growth.
- Understand and appreciate the influence of demographic factors, family environment, and personal motivation on their artistic development.

➤ *Course Content:*

• *Module 1: Foundational Skills*

- ✓ Basic painting techniques (sketching, watercolor, oil painting)
- ✓ Color theory, lines, shapes, and forms
- ✓ Handicrafts and crafts (origami, paper cutting, greeting cards)

• *Module 2: Creative Expression*

- ✓ Creative painting and mixed media projects
- ✓ Story picture book production (character design, illustrations, storytelling)
- ✓ Music and painting (creating art inspired by rhythms and sounds)

• *Module 3: Digital Art Exploration*

- ✓ Digital art tools and software (apps, drawing programs)
- ✓ Virtual art classes and online collaboration
- ✓ Class blogs/social media for sharing and discussing artwork

• *Module 4: Advanced Skills Development*

- ✓ Observational drawing and sketching (still life, portraiture, animals)
- ✓ Sculpture and 3D art (clay, cardboard, wood)
- ✓ Art history and appreciation (studying various art movements and artists)
- ✓ Large-scale group painting projects (murals, installations)

➤ *Teaching Methodologies:*

The course will employ a variety of teaching strategies and methodologies, including:

- Live online sessions with instructors
- Pre-recorded video tutorials and demonstrations
- Interactive discussions and feedback sessions
- Collaborative online workspaces and platforms
- Virtual art exhibitions and showcases

➤ *Assessment and Evaluation:*

Student progress and learning will be evaluated through various means, including:

- Portfolio submissions of artwork and projects
- Class participation and engagement in discussions
- Peer and instructor feedback
- Self-reflection and goal-setting activities
- Summative assessments (quizzes, assignments, presentations)

➤ *Course Materials and Resources:*

Students will need access to the following materials and resources:

- Basic art supplies (e.g., paints, brushes, paper, pencils, markers)
- Digital devices (computer, tablet, or smartphone) with internet access
- Recommended art software or apps (may vary depending on course module)
- Access to online collaboration platforms and course management system

➤ *Course Schedule:*

The course will be divided into modules or units, with specific deadlines and due dates for assignments and projects. A detailed schedule will be provided at the beginning of the course.

## REFERENCES

- [1]. Art92. (2023). What is Art Education: Exploring its Purpose and Impact. <https://www.art592.com/what-is-art-education/#the-role-of-art-educators>
- [2]. Azerbaijan, B, Ozlem, K., and Romanescu, L. (2020). ON THE DEVELOPMENT OF ART EDUCATION. Conference: International Asian Congress on Contemporary Sciences – IVAt: Baku / AZERBAIJAN. [https://www.researchgate.net/publication/347963591\\_ON\\_THE\\_DEVELOPMENT\\_OF\\_ART\\_EDUCATION](https://www.researchgate.net/publication/347963591_ON_THE_DEVELOPMENT_OF_ART_EDUCATION)
- [3]. Basak, D. and Derya A. (2021). ART EDUCATION An Overview. [https://www.researchgate.net/publication/357340094\\_ART\\_EDUCATION\\_An\\_Overview](https://www.researchgate.net/publication/357340094_ART_EDUCATION_An_Overview)
- [4]. Berg, T. (2019). 7 Great Children’s Books About Art That Just May Inspire the Next Generation of Wee Warhols. <https://news.artnet.com/art-world/best-art-books-for-kids-1612528>
- [5]. Bjelica, B. and Lalović, M. (2022). Parental Attitudes and Their Impact on Child Development, [https://www.researchgate.net/publication/359628941\\_Parental\\_Attitudes\\_and\\_Their\\_Impact\\_on\\_Child\\_Development](https://www.researchgate.net/publication/359628941_Parental_Attitudes_and_Their_Impact_on_Child_Development)
- [6]. Cao, J., and Xian, X. (2018). Curriculum and Teaching Theory[M]. Xi’an: Xi’an Jiaotong University Press, 2018:300.) <https://www.bing.com/search?FORM=U523DF&PC=U523&q=Cao+Junjun.+Curriculum+and+Teaching+Theory%5BM%5D.+Xi%27an%3A+Xi%27an+Jiaotong+University+Press%2C+2018%3A300.%29&s howconv=1>
- [7]. Chatterjee, A. (2022). Art in an age of artificial intelligence. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1024449>.
- [8]. Chang, H. and Han, H. (2020). Teaching online: foundational concepts of online learning and practical guidelines. *Korean J Med Educ*. 2020 Sep; 32(3): 175–183. doi: 10.3946/kjme.2020.171. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7481046/>
- [9]. Chen, H. and Khairun, N. (2023). Cultivating of Emotional Teaching Value to Art Design Undergraduate Students' Aesthetic Ability in China, *Journal of Academic Research in Progressive Education and Development* 12(1):2226-6348 [https://www.researchgate.net/publication/368922266\\_Cultivating\\_of\\_Emotional\\_Teaching\\_Value\\_to\\_Art\\_Design\\_Undergraduate\\_Students%27\\_Aesthetic\\_Ability\\_in\\_China](https://www.researchgate.net/publication/368922266_Cultivating_of_Emotional_Teaching_Value_to_Art_Design_Undergraduate_Students%27_Aesthetic_Ability_in_China)
- [10]. Chen, J. (2019). Asian–Chinese Visual Arts Curriculum. <https://onlinelibrary.wiley.com/doi/full/10.1002/9781118978061.ead110>
- [11]. Chen L. (2022). Research on countermeasures for the development of primary school art education management under the Internet environment. <https://www.bing.com/search?FORM=U523DF&PC=U523&q=Chen+L.+2022.+Research+on+counter+measures+for+the+development+of+primary+school+art+education+management+under+the+Internet+environment>.
- [12]. Chen, H. and Khairun, N. (2023). Cultivating of Emotional Teaching Value to Art Design Undergraduate Students' Aesthetic Ability in China, *Journal of Academic Research in Progressive Education and Development* 12(1):2226-6348 [https://www.researchgate.net/publication/368922266\\_Cultivating\\_of\\_Emotional\\_Teaching\\_Value\\_to\\_Art\\_Design\\_Undergraduate\\_Students%27\\_Aesthetic\\_Ability\\_in\\_China](https://www.researchgate.net/publication/368922266_Cultivating_of_Emotional_Teaching_Value_to_Art_Design_Undergraduate_Students%27_Aesthetic_Ability_in_China)
- [13]. Chen, S., Lin, P. and Chien, W. (2022). Children’s Digital Art Ability Training System Based on AI-Assisted Learning: A Case Study of Drawing Color Perception
- [14]. Cherry, K. (2023). Lev Vygotsky’s Life and Theories. <https://www.verywellmind.com/lev-vygotsky-biography-2795533>
- [15]. Cherry, K. (2022). What Is Sociocultural Theory? <https://www.verywellmind.com/what-is-sociocultural-theory-2795088>
- [16]. Cherry, K. (2023). How Vygotsky Defined the Zone of Proximal Development. <https://www.verywellmind.com/what-is-the-zone-of-proximal-development-2796034>
- [17]. Chi, H. (2020). Online teaching triggers new thinking on primary school education . *Scientific Consulting(Technology Management)*, 2020. [https://www.bing.com/images/search?q=chi%2c+h.+2020+.+online+teaching+triggers+new+thinking+on+primary+school+education+.&qpv=Chi%2c+H.+\(2020\).+Online+teaching+triggers+new+thinking+on+primary+school+education+.&form=IGRE&first=1](https://www.bing.com/images/search?q=chi%2c+h.+2020+.+online+teaching+triggers+new+thinking+on+primary+school+education+.&qpv=Chi%2c+H.+(2020).+Online+teaching+triggers+new+thinking+on+primary+school+education+.&form=IGRE&first=1)
- [18]. Cetl, S., & Herzog, J. (2021). The role of gender in monitoring fine arts creative skills of elementary school students. *Odgojno-obrazovne teme*. <https://doi.org/10.53577/oot.4.2.3>.
- [19]. Collins, T. (2021). Art is Key to a Culturally Relevant Education. <https://achievethecore.org/peersandpedagogy/art-is-key-to-a-culturally-relevant-education/>
- [20]. Fong, C., Schallert, D., Williams, K., Williamson, Z., Warner, J., Lin, S., & Kim, Y. (2018). When feedback signals failure but offers hope for improvement: A process model of constructive criticism. *Thinking Skills and Creativity*. <https://doi.org/10.1016/J.TSC.2018.02.014>.
- [21]. Dravenstadt, D. W. (2018). Learning to let go: Motivating students through fluid teaching in a choice-based found object assemblage unit. *Art Education*, 71(5), 8-13. Retrieved from <https://www.proquest.com>

- [22]. Griniuk, M. (2021). ARTS-BASED ACTION RESEARCH ON ENHANCING CHILDREN'S CREATIVITY THROUGH AFFECT WITHIN PARTICIPATORY PERFORMANCE ART AND PERFORMANCE PEDAGOGY. *Creativity Studies*. <https://doi.org/10.3846/cs.2021.13775>.
- [23]. Harmon, W. (2019). 10 Ways Technology Can Enhance the Art Room. <https://theartofeducation.edu/2019/03/10-ways-technology-can-enhance-the-art-room/>
- [24]. Heck, T.(2024). What Are Examples of Learning Technology? <https://www.teachthought.com/technology/examples-of-education-technology/>
- [25]. Holeem, A., Javaid, M., Qadri, M. and Suman, R. (2022). Understanding the role of digital technologies in education: A review. <https://www.sciencedirect.com/science/article>
- [26]. Havrylkevych, V., Podkorytova, L., Danylchuk, L., Romanovska, L., Kravchyna, T., & Chovgan, O. (2021). Psychological Correction of Parents' Attitude to Their Children with Special Educational Needs by Means of Art Therapy. *Brain*, 12, 156-171. <https://doi.org/10.18662/BRAIN/12.1/176>.
- [27]. Hutton, S. (2023). What Are the Studio Habits of Mind and How Can They Be Used By Artists and Educators? *Art Immersion*. <https://www.artimmersion.ca/what-are-the-studio-habits-of-mind-and-how-can-they-be-used-by-artists-and-educators/>
- [28]. Jindal-Snape, D., Davies, D., Scott, R., Robb, A., Murray, C., & Harkins, C. (2018). Impact of arts participation on children's achievement: A systematic literature review. *Thinking Skills and Creativity*. <https://doi.org/10.1016/J.TSC.2018.06.003>.
- [29]. Kalamatianou, M. and Hatzigianni, M. (2018). Teaching Visual Arts with Digital Technologies. *International Perspectives on Early Childhood Education and Development book series (CHILD, volume 22)*. [https://link.springer.com/chapter/10.1007/978-981-10-6484-5\\_132487](https://link.springer.com/chapter/10.1007/978-981-10-6484-5_132487) Accesses
- [30]. Kang, H. (2020). Experience and Enlightenment of Online Teaching in the Post-Epidemic Era - Taking "Economic System Reform" Teaching as an Example Digital Teaching in Primary and Secondary Schools, 2020.
- [31]. Ketan, P. (2024). 92 INSPIRING COMMENTS FOR PAINTING AND DRAWING SKILLS. <https://www.trendingus.com/comments-for-painting-and-drawing/>
- [32]. Lee, K., Mik Fanguy, Brett Bligh & Xuefei Sophie Lu (2022) Adoption of online teaching during the COVID-19 Pandemic: a systematic analysis of changes in university teaching activity, *Educational Review*, 74:3, 460-483, DOI: 10.1080/00131911.2021.1978401
- [33]. Leung, S., Choi, K., & Yuen, M. (2019). Video art as digital play for young children. *British Journal of Educational Technology*. <https://doi.org/10.1111/bjet.12877>.
- [34]. Lancaster, Y., Broadbent, V., & Family, C. (2003). Listening to Young Children. <https://doi.org/10.12968/nuwa.2010.30.11.1105289>.
- [35]. Liu J. (2021). "The Impact and Guidance of Online Art Education Activity Design on Children's Physical and Physical Health under the 5G Background"). <https://www.bing.com/search?FORM=U523DF&PC=U523&q=Liu+Jiayun+2021+%22The+Impact+and+Guidance+of+Online+Art+Education+Activity+Design+on+Children%27s+Physical+and+Physical+Health+under+the+5G+Background%22%29&showconv=1>
- [36]. Locke, B. (2021). Online education in the post-COVID era. <https://www.nature.com/articles/s41928-020-00534-0>
- [37]. Loeb, S., Dynarski, S., McFarland, D., Morries, P., Reardon, S. and Reber, S. (2017). Descriptive Analysis in Education: A Guide for Researchers. NCEE 2017-4023 <https://eric.ed.gov/?id=ED573325>
- [38]. Lutfi, D. (2020). Art and Aesthetic Education. *Journal of Research in Philosophy and History*. <http://www.scholink.org/ojs/index.php/jrph/article/view/2694>
- [39]. Mcleod, S. (2024). Vygotsky's Theory Of Cognitive Development <https://www.simplypsychology.org/vygotsky.html>
- [40]. McKinsey & Company. (2022). What is 5G? <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-5g>
- [41]. Mathison, C. (2019). Choice-Based Learning in the Art Room Choice-Based Learning in the Art Room. [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nwcommons.nwciowa.edu/cgi/viewcontent.cgi?article=1167&context=education\\_masters](chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nwcommons.nwciowa.edu/cgi/viewcontent.cgi?article=1167&context=education_masters)
- [42]. Meng, C. and Lu, J. (2020). Elements of the Teaching. *Journal of Kaifeng Culture and Art Vocational College*, 2020
- [43]. Nikolić, I., BandurMANDIĆ, V., & Martinovic, D. (2019). TEACHERS' TRAINING FOR THE NEW ROLES IN TEACHING:. *Journal Plus Education*, 25, 7-10.
- [44]. Pennsylvania State University. (2024). Painting with young children: There's more to the picture. *Better Kid Care*. <https://extension.psu.edu/programs/betterkidcare/early-care/tip-pages/all/painting-with-young-children>
- [45]. Purtee, M. & Sands, I. (2018). *The open art room*. Worcester, Massachusetts: Davis.
- [46]. Qu, T. (2021). China tech crackdown: Yu Minhong, founder of the nation's largest private education services firm, makes debut as live-streaming host. <https://www.scmp.com/tech/article/3161456/china-tech-crackdown-yu-minhong-founder-nations-largest-private-education>

- [47]. Runco, M., Alabbasi, A., Acar, S., & Ayoub, A. (2021). Creative Potential is Differentially Expressed in School, at Home, and the Natural Environment. *Creativity Research Journal*, 35, 15 - 22. <https://doi.org/10.1080/10400419.2022.2031437>.
- [48]. Mansfield, L., Daykin, N., Golding, A., & Ewbank, N. (2022). Understanding everyday creativity: a framework drawn from a qualitative evidence review of home-based arts. *Annals of Leisure Research*. <https://doi.org/10.1080/11745398.2022.2089183>.
- [49]. Dickey, M. (2005). Brave new (interactive) worlds: A review of the design affordances and constraints of two 3D virtual worlds as interactive learning environments. *Interactive Learning Environments*, 13, 121 - 137. <https://doi.org/10.1080/10494820500173714>.
- [50]. Stavridi, S. (2017). Interactive Art Applications (I-Apps) in the Development of Younger Learners' Creative Thinking. [https://www.researchgate.net/publication/315908108\\_Interactive\\_Art\\_Applications\\_I-Apps\\_in\\_the\\_Development\\_of\\_Younger\\_Learners'\\_Creative\\_Thinking](https://www.researchgate.net/publication/315908108_Interactive_Art_Applications_I-Apps_in_the_Development_of_Younger_Learners'_Creative_Thinking)
- [51]. Kohányi, A. (2011). Families and Creativity. , 503-508. <https://doi.org/10.1016/B978-0-12-375038-9.00096-0>.
- [52]. Tate. (2018). Why study art? <https://www.tate.org.uk/art/talking-point/why-study-art>
- [53]. Lee, W., & Wright, S. (2017). Interlocutor-child Interactions: Supporting Children's Creativity in Graphic-narrative-embodied Play. *Australasian Journal of Early Childhood*, 42, 73 - 81. <https://doi.org/10.23965/AJEC.42.3.09>.
- [54]. Urbina-Garcia, A., Jindal-Snape, D., Lindsay, A., Boath, L., Hannah, E., Barrable, A., & Touloumakos, A. (2021). Voices of young children aged 3–7 years in educational research: an international systematic literature review. *European Early Childhood Education Research Journal*, 30, 8 - 31. <https://doi.org/10.1080/1350293X.2021.1992466>.
- [55]. Muhammad, A., Mayers, G., & Wooldridge, D. (2019). Using Theory-Based Research in Supporting Creative Learning Environment for Young Children. *Early Childhood Development*. <https://doi.org/10.4018/978-1-5225-7507-8.ch014>.
- [56]. Mak, H., & Fancourt, D. (2019). Arts engagement and self-esteem in children: results from a propensity score matching analysis. *Annals of the New York Academy of Sciences*, 1449, 36 - 45. <https://doi.org/10.1111/nyas.14056>.
- [57]. The Professor. (2022). ART (Grade 1 to Grade 10) K to 12 Curriculum Guide. <https://classmate.ph/art-grade-1-to-grade-10-k-to-12-curriculum-guide/>
- [58]. Travel Guide China. (2023).China Geography” Location, Regional Divisions <https://www.travelchinaguide.com/intro/geography/>
- [59]. UNESCO.(2021). unesco\_annual\_report\_2021.pdf. <https://en.unesco.org/file/unesco-annual-report-2021pdf>
- [60]. University of Florida. (2023). The Importance of Art Education in the Classroom. <https://arteducationmasters.arts.ufl.edu/articles/importance-of-art-education/>
- [61]. Urban Sketch. (n.d). How to Give Constructive Feedback. <https://www.urbansketchcourse.com/blog/how-to-give-feedback-on-artwork>
- [62]. Wu Y. (2020). Optimization strategy for online teaching in primary schools in urban-rural junction areas - Taking Dongsha Primary School in Liwan District, Guangzhou as an example [J]. *Modern Education*, 2020(7): 35-38.
- [63]. Wang J. (2020). Construction and application analysis of online and offline hybrid art major teaching model [J]. *Beauty and Times*. 2020(3).77-78)
- [64]. ang S, and Wang, Y. (2020). 5G+ education: connotation, key characteristics and communication model [J]. *Chongqing Higher Education Research*, 2020, 8(02): 35-47.)
- [65]. Wang, X. (2020). Analysis of online teaching survey results during the new coronavirus epidemic in primary schools in Hangzhou [J]. *Zhejiang Educational Science*, 2020).
- [66]. Whitebread, R. (2016). Cultural and arts education policies in Hong Kong: Two wings of Hong Kong: The Education University of Hong Kong, 2016 - lib.eduhk.hk
- [67]. World Health Organization. (2023). Coronavirus disease (COVID-19). <https://www.who.int/news-room/fact-sheets/detail/coronavirus-disease-%28covid-19%29>
- [68]. Xie Y., Qiu Y., Huang Y. and Wang Q. (2020). Characteristics, problems and innovations of the "school suspension without suspension of learning" online teaching method during epidemic prevention and control [J]. *Audio-visual Education Research*, 2020, 41(3):20-28.)
- [69]. Xue, E,m Jian Li, Tingzhou Li & Weiwei Shang (2021) [1] China’s education response to COVID-19: A perspective of policy analysis, *Educational Philosophy*
- [70]. Xigo, J. Chen, D., Tang, q., Suo, L., Zhou, X., Wang, W., Zheng, W., and Zhou, M. 2020 Report on the development of Chinese Internet literature. <https://www.sciencedirect.com/science/article/pii/S2664329422000024>
- [71]. Xiong, Y., Ling, Q., and Li, X. (2021), Ubiquitous e-Teaching and e-Learning: China’s Massive Adoption of Online Education and Launching MOOCs Internationally during the COVID-19 Outbreak. <https://www.hindawi.com/journals/wcmc/2021/6358976/>

- [72]. Yang, S. (2020). Investigation and research on online teaching in primary schools during the epidemic - Taking H Primary School in Harbin. Atlantis Press. <https://www.atlantispress.com/article/125945811>
- [73]. Yang, J. (2023). Art Promoting the Personal Development of Children Through Art Education. April 2023 *Journal of Contemporary Educational Research* 7(4):97-102 DOI: 10.26689/jcer.v7i4.4857. [https://www.researchgate.net/publication/370324527\\_Promoting\\_the\\_Personal\\_Development\\_of\\_Children\\_Through\\_Art\\_Education](https://www.researchgate.net/publication/370324527_Promoting_the_Personal_Development_of_Children_Through_Art_Education)
- [74]. Yao, L. and Yang, N. (2021). The Theory and Practice of Online and Offline Integrated Teaching Mode in Colleges and Universities under the Background of "Internet +". <https://dl.acm.org/doi/10.1145/3482632.3483141>
- [75]. Yu, L. and Nagai, Y. (2020). An Analysis of Characteristics of Children's Growth through Practical Art. *Healthcare (Basel)*. 2020 Jun; 8(2): 109. Published online 2020 Apr 24. doi: 10.3390/healthcare8020109 PMID: 32344641. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7349711/>
- [76]. Yu, J., Shang, J., and Jiao, L. (2022). Review of China's Online Education Policy, 1999–2022. <https://journals.sagepub.com/doi/full/10.1177/20965311221099581>
- [77]. Zeevi, L., Regev, D., & Guttman, J. (2018). The Efficiency of Art-Based Interventions in Parental Training. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01495>. <https://pubmed.ncbi.nlm.nih.gov/28613107/>
- [78]. Zhang, J. (2022). Feasibility Analysis of Visual Interaction Mode in Digital Art Design Teaching. *Int. J. Emerg. Technol. Learn.*, 17, 160-173. <https://doi.org/10.3991/ijet.v17i11.32033>.
- [79]. Zheng, X. (2020). Optimization strategies to improve the quality of online art teaching in primary schools Cultural Industry, <https://www.igi-global.com/gateway/chapter/288181>
- [80]. Zheng, Y. (2023). Promoting the Personal Development of Children Through Art Education. *Journal of Contemporary Educational Research* 7(4):97-102 DOI: 10.26689/jcer.v7i4.4857
- [81]. Zlatić, L., & Luković, S. (2020). THE ROLE OF TEACHERS IN THE DEVELOPMENT OF STUDENTS' SOCIOEMOTIONAL SKILLS. *NAUKA I NASTAVA U VASPITNO-OBRAZOVNOM KONTEKSTU*. <https://doi.org/10.46793/stec20.93z>.