

The Impact of Art Education Teaching Strategy on the Learning Habits of Fu'an Middle Vocational School Students in Fujian Province

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Abstract—This study investigates the impact of Interest-Based Learning (IBL) strategies in art education on the development of learning habits among middle school students at Fu'an Middle Vocational School in Fujian Province. Using a mixed-methods approach, the research combines quantitative and qualitative data to assess the effectiveness of IBL in fostering essential learning habits such as goal setting, time management, active participation, reflection, and collaboration. The study involved a five-week music course designed around IBL principles, with 40 students participating in pre- and post-tests, questionnaires, and a music knowledge test. Results indicate significant improvements in students' learning habits, particularly in time management (+1.50 mean difference) and collaboration (+1.49). The mean score on the music knowledge test increased from 6.50 to 17.28, reflecting a 166% improvement. The study concludes that IBL strategies effectively promote both cognitive and behavioral development in art education, supporting the integration of student interests into the curriculum to enhance engagement and academic outcomes.

Keywords— *Interest-Based Learning, Art Education, Learning Habits, Middle School Students*

I. INTRODUCTION (HEADING 1)

The significance of art education in middle school education has been a subject of considerable interest and research (Smith, 2018; Johnson & Lee, 2020). This period, often referred to as adolescence, is a pivotal time in a young person's life, characterized by significant physical, emotional, and intellectual growth. Middle school students are developing their sense of self, forming peer relationships, and beginning to understand their place in the larger society (Eccles, 1999). It is within this complex developmental stage that the arts can play a transformative role.

Art education encompasses a wide range of disciplines, including visual arts, music, drama, and dance. Each of these areas offers unique opportunities for students to express themselves, explore their emotions, and develop a critical understanding of the world. The arts provide a space where students can experiment, take risks, and learn from both success and failure in a non-judgmental environment. This freedom to explore and create is crucial for fostering resilience, adaptability, and a growth mindset—qualities that are essential for lifelong learning.

Historically, the arts have been valued for their ability to enrich the human experience (Historical Society of Art

Education, 2017) and for their potential to inspire change. In educational settings, the arts have been recognized as a means to enhance cognitive development, improve academic performance, and promote social and emotional well-being. However, despite this recognition, art education has often been underfunded and undervalued (Education Funding Research Institute, 2019), leading to a lack of resources and support for arts programs in many schools.

In recent years, there has been a resurgence of interest in the arts as a critical component of education. This renewed focus is driven by a growing awareness of the interdisciplinary nature of learning and the need for educational experiences that prepare students for the complexities of the 21st century. The integration of art education with other academic subjects can lead to a more holistic approach to learning, where students are encouraged to think creatively, communicate effectively, and collaborate with others (Olaoye and Samon, 2024).

Moreover, the digital age has brought about new opportunities for art education, with technology facilitating access to a wealth of artistic resources and tools. This has opened up new avenues for artistic expression and learning, such as digital art, music production, and virtual reality experiences. These technological advancements have the potential to make art education more engaging and relevant to today's students, who are digital natives.

Despite these promising developments, challenges remain (Arts Education Policy Review, 2021). Art education continues to face budget cuts, and there is a persistent debate about the role of the arts in core academic subjects. This debate underscores the need for empirical research to demonstrate the tangible benefits of art education on student learning habits and academic outcomes.

In light of these considerations, the background for the study on "The Impact of Art Education on the Learning Habits of Middle School Students" is set against a landscape of evolving educational priorities, technological advancements, and ongoing debates about the value of the arts in education. The study aims to contribute to the discourse by providing insights into how art education can positively influence the cognitive, social, and emotional development of middle school students, ultimately shaping their learning habits and academic trajectories.

II. EASE OF USE

A. The Role of Art Education in Cognitive and Social Development

Art education has been recognized for its potential to enhance cognitive development, improve academic performance, and promote social and emotional well-being (Eccles, 1999; Historical Society of Art Education, 2017). Research has shown that engagement in artistic activities fosters creativity, memory, and attention, which are fundamental aspects of cognitive flexibility (Winner & Hetland, 2000). This enhanced flexibility supports the ability to adapt to new and complex problem-solving tasks, a skill that is essential for academic success.

Furthermore, Lazear (1992) emphasized the role of arts education in developing multiple intelligences, suggesting that the diverse cognitive skills honed through arts learning, such as musical, visual, and interpersonal intelligences, collectively contribute to a more well-rounded cognitive profile. This profile not only improves problem-solving abilities but also enriches the learning experience across various academic disciplines.

B. Interest-Based Learning (IBL) in Art Education

Interest-Based Learning (IBL) has emerged as a transformative pedagogical strategy within art education, offering a framework that enhances student engagement and motivation by integrating their interests into the curriculum (Smithrim & Uptis, 2005). By aligning educational content with student interests, IBL fosters a deeper connection with the learning material, thereby promoting more effective learning outcomes.

Empirical evidence supports the effectiveness of IBL in enhancing learning habits within art education. Smithrim and Uptis (2005) demonstrated that students who engaged in interest-driven learning activities exhibited higher levels of creativity, motivation, and self-efficacy compared to those in traditional learning environments. Similarly, Catterall (2009) found that IBL strategies in the arts contributed to the development of long-term interest and sustained engagement among students.

C. The Impact of Teaching Strategies on Learning Habits

Teaching strategies in art education play a crucial role in shaping students' learning experiences and outcomes. Effective strategies such as project-based learning (PBL), differentiated instruction, inquiry-based learning, visual thinking strategies (VTS), and interdisciplinary teaching have been shown to enhance student engagement and motivation (Thomas, 2009; Tomlinson, 1999; Hmelo-Silver, 2004).

These strategies not only improve students' artistic skills but also promote the development of multiple aspects essential for effective learning habits. For instance, project-based learning (PBL) has been shown to enhance students' problem-solving skills and creativity by integrating artistic skills with practical applications (Khine & Areepattamannil, 2019). Differentiated instruction ensures that all learners can access and benefit from art education by tailoring the learning experience to meet diverse needs (Aguilera, 2021)

III. RESEARCH METHODS

The research design for this study is a mixed-methods approach, combining quantitative and qualitative data collection and analysis to provide a comprehensive understanding of the impact of art education teaching strategies on middle school students' learning habits (Ray, 2007). This design allows for the exploration of both the measurable outcomes of art education and the subjective experiences of students, teachers, and parents (Johnson et al., 2007).

A. Participants

The research population consists of 430 students from Fu'an Middle Vocational School, aged 15 to 17, who are studying in different art education disciplines (music, dance, drama, and painting). The sample group includes 40 students from the music class, selected through simple random sampling.

B. Participants Data Collection

Data collection involved the following instruments:

- Lesson Plans: Five-week music course designed around IBL principles.
- Questionnaires: Questionnaire on the Impact of Art and Education Teaching Strategy
- Music Knowledge Test: To assess students' understanding of key musical concepts and skills introduced during the five-week music course.

IV. USING THE TEMPLATE

Quantitative data were analyzed using frequencies, percentages, means (x), and standard deviations (S.D.). Paired-sample t-tests were conducted to compare pre-test and post-test scores for questionnaires and the music knowledge test. Pearson correlation analyses explored relationships between learning habits and music knowledge. Effect sizes (Cohen's d) were calculated to assess practical significance. Analyses were performed using SPSS 26.0 with $\alpha = 0.05$.

A. Descriptive Statistics

Questionnaire 1: Impact of IBL on Learning Habits.

TABLE I. PRE-TEST AND POST-TEST SCORES FOR QUESTIONNAIRE 1 (N=40)

Learning Habit	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Median (Pre/Post)	Range (Pre/Post)	Mean Difference
Goal Setting	2.85 ± 0.76	4.32 ± 0.58	3.0 / 4.5	1-4 / 3-5	+1.47
Time Management	2.68 ± 0.82	4.18 ± 0.64	2.5 / 4.0	1-4 / 3-5	+1.50
Active Participation	3.02 ± 0.71	4.45 ± 0.53	3.0 / 4.5	2-4 / 4-5	+1.43

Identify applicable funding agency here. If none, delete this text box.

Learning Habit	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Median (Pre/Post)	Range (Pre/Post)	Mean Difference
Reflection	2.74 ± 0.69	4.21 ± 0.61	2.5 / 4.0	1-4 / 3-5	+1.47
Collaboration	2.89 ± 0.77	4.38 ± 0.55	3.0 / 4.5	1-4 / 4-5	+1.49
Total	2.84 ± 0.75	4.31 ± 0.58	2.8 / 4.3	1-4 / 3-5	+1.47

TABLE II. PRE-TEST AND POST-TEST SCORES FOR QUESTIONNAIRE 2 (N=40)

Dimension	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Median (Pre/Post)	Range (Pre/Post)	Mean Difference
Goal Setting	2.91 ± 0.73	4.26 ± 0.62	3.0 / 4.0	1-4 / 3-5	+1.35
Time Management	2.64 ± 0.81	4.12 ± 0.59	2.5 / 4.0	1-4 / 3-5	+1.48
Active Participation	3.07 ± 0.68	4.33 ± 0.57	3.0 / 4.5	2-4 / 4-5	+1.26
Reflection	2.78 ± 0.70	4.19 ± 0.61	2.5 / 4.0	1-4 / 3-5	+1.41
Collaboration	2.85 ± 0.75	4.28 ± 0.54	3.0 / 4.5	1-4 / 4-5	+1.43
Total	2.85 ± 0.73	4.24 ± 0.59	2.8 / 4.2	1-4 / 3-5	+1.39

TABLE III. PRE-TEST AND POST-TEST SCORES FOR MUSIC KNOWLEDGE TEST (N=40)

Component	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Median (Pre/Post)	Range (Pre/Post)	Mean Difference	Frequency Distribution (Post-test %)
Total Score	6.50 ± 1.12	17.28 ± 2.15	6.0 / 17.5	5-8 / 11-20	+10.78	86.4%

Inferential Statistics
Hypothesis Testing for Questionnaire 1, 2, and Music Knowledge Test

TABLE IV. PAIRED-SAMPLE T-TEST RESULTS FOR ALL QUESTIONNAIRES (N=40)

Questionnaire/Dimension	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Mean Difference	t-value	df	p-value	Cohen's d	95 % CI
Questionnaire 1 (Total)	2.84 ± 0.75	4.31 ± 0.58	+1.47	12.34	39	<0.001	1.95	[1.22, 1.72]
Questionnaire 2 (Total)	2.85 ± 0.73	4.24 ± 0.59	+1.39	11.89	39	<0.001	1.82	[1.15, 1.63]
Music Knowledge Test (Total)	6.50 ± 1.12	17.28 ± 2.15	+10.78	25.16	39	<0.001	3.78	[9.85, 11.71]

TABLE V. DOMAIN-SPECIFIC ANALYSIS OF MUSIC KNOWLEDGE TEST DOMAIN-SPECIFIC IMPROVEMENTS IN MUSIC KNOWLEDGE (N=40)

Domain	Pre-test (M ± S.D.)	Post-test (M ± S.D.)	Mean Difference	t-value	p-value	Cohen's d
Music Theory	1.20 ± 0.45	4.52 ± 0.71	+3.32	18.92	<0.001	2.99
Rhythm	1.55 ± 0.60	4.68 ± 0.65	+3.13	16.45	<0.001	2.68
Musical Expression	1.10 ± 0.30	4.33 ± 0.74	+3.23	20.11	<0.001	3.15
Collaborative Skills	1.25 ± 0.55	4.75 ± 0.58	+3.50	22.34	<0.001	3.40
Reflection	1.40 ± 0.50	4.21 ± 0.61	+2.81	15.78	<0.001	2.52

TABLE VI. CORRELATION BETWEEN LEARNING HABITS AND MUSIC KNOWLEDGE PEARSON CORRELATION COEFFICIENTS (N=40)

Variable Pair	r	p-value	Interpretation
Questionnaire 1 Total vs. Q3	0.76	<0.001	Strong positive correlation
Questionnaire 2 Total vs. Q3	0.69	<0.001	Moderate-to-strong correlation
Time Management (Q1) vs. Q3	0.72	<0.001	Strong correlation
Collaboration (Q2) vs. Q3	0.65	<0.001	Moderate correlation

DISCUSSION

The findings of this study demonstrate significant improvements in students' learning habits and music knowledge following the implementation of Interest-Based Learning (IBL). The observed enhancements in time management (+1.50 mean difference) and collaboration (+1.49) are consistent with Zimmerman's (2000) assertion that structured goal-setting fosters self-regulated learning. By integrating SMART goals tailored to students' musical interests, the intervention provided a scaffolded environment for developing metacognitive skills, enabling students to allocate practice time and prioritize tasks systematically—a critical factor in vocational education contexts where

balancing technical skill acquisition with theoretical knowledge is essential.

The substantial gains in collaborative skills (post-test M = 4.75/5) resonate with Johnson and Johnson's (1999) findings on the role of cooperative learning in enhancing social and cognitive outcomes. The curriculum's emphasis on group composition projects created opportunities for peer-to-peer knowledge exchange, mirroring Hmelo-Silver's (2004) inquiry-based learning framework, which posits that collaborative problem-solving strengthens both interpersonal skills and conceptual understanding. This synergy between interest-driven activities and teamwork aligns with Smithrim and Uptis' (2005) research, which identified peer interaction as a catalyst for creativity and engagement in arts education.

The dramatic improvement in music knowledge (166% increase) can be attributed to IBL's capacity to bridge intrinsic motivation and cognitive engagement. As hypothesized by Deci and Ryan's (2000) self-determination theory, aligning curricular content with students' interests—such as incorporating hip-hop rhythms or classical compositions—enhanced their autonomous motivation, thereby deepening their investment in mastering technical and theoretical concepts. This finding corroborates Catterall's (2009) longitudinal studies, which linked sustained artistic engagement to improved academic performance through heightened emotional and cognitive involvement.

The strong correlation between learning habits and music knowledge ($r = 0.76$) further validates Bruner's (1996) constructivist theory, which emphasizes the interplay between active participation, reflection, and knowledge construction. The reflection exercises embedded in Week 5, for instance, enabled students to contextualize their progress within their interests, fostering metacognitive awareness akin to Schön's (1983) reflective practice model. Such outcomes underscore the interdependence of behavioral habits and academic achievement, as hypothesized in the research framework.

While the results are robust, their generalizability must be contextualized. The sample's homogeneity—limited to a single vocational school—may amplify the observed effects compared to more diverse settings. Nevertheless, the consistency of these findings with prior research, particularly in effect sizes (e.g., Cohen's $d = 3.78$ for music knowledge), affirms their theoretical and practical validity. The intervention's success in a vocational arts context also challenges historical biases against art education's academic rigor, as noted by Eisner (2002), demonstrating its potential to cultivate transferable skills aligned with 21st-century competencies.

CONCLUSION

The results of this study provide empirical evidence that Interest-Based Learning (IBL) strategies significantly enhance both learning habits and academic outcomes in art education. The integration of students' interests into the curriculum not only fosters engagement and motivation but also promotes the development of essential learning habits such as goal setting, time management, active participation, reflection, and collaboration. These findings support the hypothesis that IBL can positively influence cognitive, social, and emotional development in middle school students, ultimately shaping their academic trajectories.

Future research should explore the long-term effects of IBL strategies and replicate these findings in larger, more diverse populations. Additionally, longitudinal studies and cross-disciplinary research are needed to validate the sustainability of IBL's impact on learning habits and academic performance. Policymakers and educators should consider incorporating IBL into art education curricula to enhance student engagement and academic outcomes, thereby preparing students for success in both artistic and non-artistic domains.

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