Comparing Intangible Cultural Heritage-Based and Traditional Aesthetic Education: Effects on University Students' Aesthetic Experience

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ABSTRACT

A quasi-experimental pretest–posttest design was adopted to compare the effects of intangible cultural heritage integrated into the Aesthetic Education course (ICH-AE) and traditional Aesthetic Education on university students' aesthetic experience. Integrating Aesthetic Experience Theory and Flow Theory, this study recruited 540 students across 18 intact classes, with nine classes assigned to each group. The experimental group received ICH-integrated teaching featuring Chinese Opera, Shadow puppetry, and Tie-dyeing, while the control group followed conventional art appreciation instruction. Sequential Multilevel Linear Models (null model, single-level model, two-level nested model) with REML estimation were constructed to analyze repeated nested data. Results showed a negligible class-level clustering effect (ICC = 0.0035). The significant main effect of Time ((p<.001) verified that aesthetic education generally improved students' aesthetic experience (Hypothesis 1). The non-significant Group main effect confirmed balanced baseline levels, whereas the significant Group × Time interaction (p<.001) indicated the experimental group achieved a far larger score gain (0.292 and 0.086), supporting Hypothesis 2. Model robustness tests confirmed consistent intervention effects regardless of random structure specifications. This study demonstrates that ICH serves as a participatory, multisensory aesthetic resource rather than mere cultural content; its immersive learning conditions facilitate deep engagement and superior aesthetic growth. Theoretical implications for experiential Aesthetic Education and limitations for future replication are discussed.

Keywords: Intangible Cultural Heritage; Aesthetic Education; aesthetic experience; Flow theory; Multilevel Linear Model; quasi-experiment

INTRODUCTION

Aesthetic education (AE) has become an increasingly important component of higher education, reflecting a growing recognition that universities should cultivate not only students' disciplinary knowledge and professional competence but also their capacity to perceive, appreciate, and create beauty(D'Olimpio, 2022; Møller-Skau, 2024; Ulvik, 2020; Ye et al., 2025). Recent educational discourse has shifted from viewing AE as the acquisition of artistic knowledge toward emphasizing aesthetic experience as its fundamental educational outcome (D'Olimpio, 2022; Ye et al., 2025). Rather than merely understanding artistic forms or cultural knowledge, students are expected to actively engage with artistic activities through perception, emotion, imagination, reflection, and meaning-making, thereby developing richer aesthetic awareness and broader humanistic qualities

(Pelowski et al., 2017; Wanzer et al., 2020).

1.1 Aesthetic Experience as the Central Goal of Contemporary Aesthetic Education

From the perspective of Aesthetic Experience Theory, aesthetic experience is not simply an emotional response to artistic objects but a holistic psychological process involving perceptual engagement, emotional resonance, cognitive interpretation, and immersive participation (Dewey, 1934; Ruoppa, 2025). Contemporary research further suggests that meaningful aesthetic experiences are closely associated with students' creativity, empathy, cultural understanding, well-being, and lifelong engagement with the arts (UNESCO, 2024). Consequently, enhancing students' aesthetic experience has become a central objective of contemporary aesthetic education and an important indicator for evaluating educational quality.

Despite this growing emphasis, AE in many higher education contexts continues to rely predominantly on discipline-based instructional models. Courses are commonly organized around individual art forms such as painting, music, dance, or literature, with teaching focusing primarily on artistic appreciation, theoretical explanation, and historical knowledge; the teaching method is single (W. Chen & Li, 2021). Although these approaches effectively support artistic literacy, learning activities are frequently centred on observation and interpretation rather than authentic participation and embodied artistic engagement (Chiu et al., 2023). Such instructional arrangements may constrain students' opportunities to develop deep aesthetic experiences characterized by sustained attention, emotional immersion, and active interaction with artistic practices (Duchatelet et al., 2024).

1.2 Intangible Cultural Heritage as a Multisensory Aesthetic Education Resource

Unlike conventional artistic resources that are typically organized around individual art forms, Intangible Cultural Heritage (ICH) represents a distinctive category of aesthetic resource characterized by the integration of artistic expression, cultural practice, and lived experience (Wang, 2024). Rather than existing as isolated artistic products, ICH embodies dynamic processes of creation, performance, transmission, and community participation. These characteristics make ICH particularly suitable for AE, as students engage not only with artistic forms but also with the cultural contexts and human experiences embedded within them (W. Chen & Li, 2021; UNESCO, 2023; Zhang et al., 2026).

In this study, three representative forms of Chinese ICH Chinese opera, shadow puppetry, and tie-dyeing were selected as the primary instructional resources. Although these traditions differ in artistic form, they share several pedagogically significant characteristics that distinguish them from conventional aesthetic teaching materials.

First, ICH provides inherently multisensory aesthetic experiences. Chinese opera simultaneously integrates vocal performance, instrumental music, costume design, facial makeup, body movement, and stage performance. Shadow puppetry combines visual imagery, oral narration, music, manual manipulation, and dramatic storytelling, while traditional dyeing techniques engage learners through colour perception, tactile interaction with natural materials, manual production, and observation of artistic transformation (Li et al., 2025). Rather than stimulating isolated sensory modalities, these forms encourage coordinated visual, auditory, tactile, and kinesthetic engagement, creating richer perceptual experiences that support aesthetic appreciation (Chen, 2021).

Second, ICH is fundamentally characterized by its living and performative nature; unlike static artistic objects presented through textbooks or digital media, ICH is transmitted through live demonstration,

performance, craftsmanship, and interpersonal interaction. (Wang, 2024). Knowledge is constructed through observing authentic practice, interacting with practitioners, and participating in artistic processes. This dynamic mode of transmission enables students to experience artistic creation as an unfolding process rather than merely a finished product, thereby strengthening their sense of presence and experiential engagement (Duchatelet et al., 2024).

Third, ICH is embedded within cultural narratives and social meanings. Artistic techniques are inseparable from historical memory, regional identity, traditional values, and collective cultural experience (Wu, 2022; Zeng et al., 2025). Learning therefore extends beyond appreciating artistic forms to understanding the cultural meanings and human stories they embody. Such narrative contexts enrich students' emotional engagement and facilitate deeper meaning-making during aesthetic learning (Wu, 2022).

Finally, ICH naturally encourages interactive participation. Many ICH learning activities require learners to observe, imitate, manipulate materials, collaborate with peers, and receive continuous feedback throughout the learning process (Chen & Li, 2021). Compared with instructional approaches primarily based on appreciation and explanation, these participatory activities create greater opportunities for sustained attention, active engagement, and intrinsic interest. Consequently, the educational value of ICH lies not only in its cultural significance but also in its capacity to create immersive aesthetic learning environments that foster meaningful aesthetic experience (Xie, 2014).

1.3 Flow Theory and Aesthetic Experience Theory

The present study integrates Flow Theory and Aesthetic Experience Theory to explain how different instructional approaches may influence students' aesthetic experience. While Aesthetic Experience Theory conceptualizes aesthetic experience as the primary educational outcome of aesthetic learning, Flow Theory provides a psychological explanation for how particular learning environments facilitate the emergence of such experiences. Together, the two theories offer a coherent framework for understanding the pedagogical mechanisms underlying ICH-based aesthetic education.

According to Aesthetic Experience Theory, aesthetic experience is a multidimensional psychological process characterized by perceptual engagement, emotional response, cognitive interpretation, cultural understanding, and immersive participation (John Dewey, 1934; Pelowski et al., 2017; Wanzer et al., 2020). Rather than being an inherent property of artworks, aesthetic experience emerges through the dynamic interaction between learners and aesthetic objects within meaningful contexts. Consequently, the quality of students' aesthetic experience depends not only on the artistic content itself but also on how learning activities encourage active perception, emotional involvement, and personal meaning-making.

Flow Theory (Csikszentmihalyi,2012) complements this perspective by explaining the psychological conditions that support deep engagement during learning. Flow refers to an optimal psychological state in which individuals become fully absorbed in ongoing activities, accompanied by intense concentration, intrinsic motivation, a sense of control, and reduced awareness of external distractions. Educational research has consistently shown that learning environments encouraging active participation, immediate feedback, and meaningful challenges are more likely to facilitate flow experiences, which subsequently enhance learning engagement and positive educational outcomes (Csikszentmihalyi, 2000).

The characteristics of ICH identified in this study correspond closely to these facilitating conditions (Csikszentmihalyi & Robinson, 1990). Its multisensory nature encourages sustained perceptual attention; living

demonstration provides continuous observation and immediate experiential feedback; cultural narratives strengthen intrinsic meaning and emotional engagement; and interactive participation promotes active involvement throughout the learning process. Compared with conventional appreciation-oriented instruction, these characteristics are expected to create learning environments that are more conducive to sustained concentration, learner engagement, and immersive participation (Uhrmacher et al., 2016).

Building upon this theoretical perspective, the present study proposes that the educational effectiveness of ICH-based aesthetic education is not solely attributable to its cultural value. Instead, its distinctive characteristics facilitate learners' flow experiences, thereby promoting richer aesthetic experiences. Accordingly, Flow Theory serves as the explanatory mechanism linking instructional approaches to students' aesthetic experience, whereas Aesthetic Experience Theory provides the conceptual framework for understanding the educational outcome assessed in this study.

1.4 Research Gap

Although previous studies have demonstrated the educational potential of intangible cultural heritage in promoting cultural understanding, engagement, and heritage awareness, limited research has examined why ICH-AE may be more effective than traditional aesthetic education in enhancing students' aesthetic experience. Existing studies have rarely conceptualized ICH as a distinctive aesthetic resource characterized by multisensory engagement, living demonstration, cultural narrative, and interactive participation, nor have they empirically compared its effectiveness with conventional aesthetic instruction using rigorous pretest–posttest quasi-experimental designs and validated measures of aesthetic experience. To address these gaps, the present study integrates Flow Theory and Aesthetic Experience Theory to examine whether the unique characteristics of ICH-based learning environments contribute to greater improvements in university students' aesthetic experience than traditional aesthetic education.

1.5 Research Purpose and Research Hypothesis

Building upon the theoretical framework and research gaps identified above, this study compares the effectiveness of ICH-AE and traditional AE in enhancing university students' aesthetic experience. Specifically, ICH-AE was designed around three representative forms of Chinese ICH are Chinese opera, shadow puppetry, and Tie-dying to create learning environments characterized by multisensory engagement, living demonstration, cultural narrative, and interactive participation. Based on Flow Theory and Aesthetic Experience Theory, this study addresses the following research hypothesis:

H1: Participation in AE will significantly improve university students' aesthetic experience.

H2: Students receiving ICH-AE will demonstrate significantly greater improvements in aesthetic experience than those receiving traditional AE.

METHODS

This study employed a cluster pretest–posttest quasi-experimental design to compare the effectiveness of ICH-based aesthetic education and traditional aesthetic education in enhancing university students' aesthetic experience. Because students were enrolled in existing classes and random assignment of individual participants was not feasible, intact classes rather than individual students served as the unit of group allocation. Nine classes were assigned to the experimental group, which received ICH-AE, while another nine classes were assigned to

the control group, which received traditional AE.

Both groups completed the Aesthetic Experience Questionnaire (AEQ) before and after the instructional intervention. The pretest established baseline levels of students' aesthetic experience, whereas the posttest assessed changes following the intervention. This design enabled the comparison of within-group changes over time and between-group differences in learning outcomes, thereby providing robust evidence of the relative effectiveness of the two instructional approaches.

The intervention lasted for 16 weeks, with both groups following the same course schedule, instructional duration, and learning objectives. To minimize potential confounding effects, the two groups were taught by the same instructor, and the instructional content covered comparable aesthetic themes. The primary difference between the two conditions lay in the instructional approach: the experimental group adopted an ICH integration in the AE course (ICH-AE) approach centred on Chinese opera, shadow puppetry, and Tie-dyeing, whereas the control group received conventional AE organized around appreciating music, paintings, dances, and literary works.

2.1 Participants

A total of 18 intact classes participated in the study, comprising nine experimental classes and nine control classes. Students completed the Aesthetic Experience Questionnaire (AEQ) before and after the instructional intervention; a total of 657 students completed the pretest AEQ. Anonymous identification codes were used to match pretest and posttest responses at the individual level. The final analytic sample consisted of 540 matched pretest–posttest cases, including 253 students in the experimental group and 287 students in the control group, representing 82.2% of the original pretest sample. Only participants with complete matched responses across both measurement occasions were included in the analyses.

2.2 Intervention

To ensure a valid comparison between the two instructional approaches, both the experimental and control groups followed the same curriculum framework, course schedule, instructional duration, learning objectives, and assessment requirements. The intervention was implemented over 16 weeks, with two 90-minute sessions per week**,** and both groups were taught by the same instructor. The only difference between the two conditions was the instructional approach adopted during classroom teaching (Carlisle et al., 2023).

The experimental group received an ICH-AE intervention**,** whereas the control group received traditional AE intervention. The ICH-AE intervention was designed based on Flow Theory and Aesthetic Experience Theory**,** viewing intangible cultural heritage not merely as cultural content but as a distinctive aesthetic resource capable of enriching students' aesthetic experiences. Three representative forms of Chinese ICH Chinese opera, shadow puppetry, and tie-dyeing were selected as the primary teaching resources. These art forms were chosen because they embody the multisensory, living, narrative, and interactive characteristics of ICH, which are considered conducive to creating engaging learning environments and fostering students' aesthetic experiences (Chen, 2021; Li et al., 2025).

In contrast, the control group followed a conventional aesthetic education approach centred on disciplinary art instruction. Teaching activities primarily involved the appreciation and analysis of painting, music, dance, and literature through lectures, multimedia presentations, and classroom discussions. While both groups pursued the same aesthetic education objectives, the instructional approaches differed substantially in the selection of

learning resources, modes of classroom engagement, and students' learning experiences. A comparison of the two instructional approaches is presented in Table 1.

Table 1. Comparison of the Two Instructional Interventions

Aspect	**(Experimental Group) ICH-AE**	**(Control Group) Traditional AE**
Teaching resources	Chinese opera, shadow puppetry, Tie-Dyeing	Painting, music, dance, literature
Educational orientation	ICH as aesthetic resources	Art appreciation by discipline
Learning activities	Observation, participation, creation, reflection	Lectures, appreciation, analysis, discussion
Student participation	Active experiential learning	Primarily appreciation-based learning
Learning experience	Integrated multisensory aesthetic experience	Separate aesthetic experiences within individual art forms
Cultural context	Authentic cultural practices and narratives	Artistic knowledge and aesthetic concepts
Teaching objective	Enhancing aesthetic experience through ICH engagement	Enhancing aesthetic understanding through traditional appreciation of artworks

2.3 Instrument

The original 22 items AEQ was translated into Chinese following a forward, and back translation procedure. No items were removed or substantially modified. The original AEQ consists of 6 dimensions: Emotional, Cultural, Perceptual, Understanding, Flow–Proximal Conditions, and Flow–Experience. These dimensions reflect multiple aspects of aesthetic experience, including emotional involvement, perceptual attention, cultural interpretation, cognitive understanding, and immersive engagement during aesthetic activities.

The reliability and construct validity of the Chinese version of the AEQ were evaluated before hypothesis testing. As shown in Table X, Cronbach's alpha coefficients ranged from 0.841 to 0.910, indicating good internal consistency across all six dimensions, with an overall alpha of 0.968. Composite reliability (CR) values ranged from 0.850 to 0.898, and all average variance extracted (AVE) values exceeded the recommended threshold of 0.50. Standardized factor loadings ranged from 0.69 to 0.90, supporting satisfactory convergent validity. In addition, confirmatory factor analysis demonstrated that the six-factor model provided an acceptable fit to the data ($\chi^2/df = 5.489$, CFI = 0.884, TLI = 0.928, RMSEA = 0.079, SRMR = 0.051), confirming the factorial validity of the translated instrument.

Table 1 Reliability and validity of the Chinese version of the AEQ

Dimension	**Cronbach's α**	**CR**	**AVE**
Emotional	0.910	0.898	0.745

Dimension	Cronbach's α	CR	AVE
Cultural	0.861	0.849	0.585
Perceptual	0.864	0.839	0.636
Understanding	0.876	0.877	0.642
Flow–Proximal Conditions	0.841	0.850	0.739
Flow–Experience	0.891	0.895	0.684
Total	0.968	-	-

2.4 Data Analysis

Data analysis was conducted using multilevel linear modeling (MLM) to examine whether the ICH-AE intervention produced greater improvements in students' aesthetic experience than traditional AE intervention. MLM was selected because the data involved repeated measurements of students over time and students were nested within intact classes, resulting in a hierarchical data structure (Lin et al., 2023; Maas & Hox, 2005; Raudenbush & Schwartz, 2020).

Before hypothesis testing, preliminary analyses were conducted. Descriptive statistics were calculated for the AEQ scores at pretest and posttest. The reliability of the AEQ was examined using Cronbach's alpha coefficients. Intraclass correlation coefficients (ICCs) were calculated to assess the proportion of variance attributable to class-level differences and to determine the appropriateness of multilevel modeling (Sommet & Morselli, 2017; Van Breukelen, 2023).

The data had a two-level hierarchical structure, with students (level 1) nested within classes (level 2). Because each student completed the AEQ before and after the intervention, measurement time was modeled as a within-student repeated measure rather than an independent hierarchical level. A multilevel linear model was therefore employed to examine changes in students' aesthetic experience over time and to test whether the change differed between the ICH-based and traditional aesthetic education groups. The model estimated the effects of time, instructional condition, and their interaction on students' aesthetic experience. The critical parameter of interest was the Time × Group interaction effect, which indicated whether students receiving ICH-AE demonstrated greater improvement in aesthetic experience compared with those receiving traditional AE intervention.

The significance of fixed effects was evaluated using regression coefficients, standard errors, 95% confidence intervals, and p-values (Elff et al., 2021). Model comparisons were conducted using likelihood ratio tests, and model fit was assessed using information criteria, including Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). All statistical analyses were performed using IBM SPSS 27, with the significance level set at $\alpha = .05$.

RESULTS

2.5 Intervention Effects Based on Multilevel Linear Modeling (MLM)

A quasi-experimental pretest–posttest design was employed in this study. Because the data consisted of repeated

measurements in long format, with repeated observations nested within students and students nested within classes, multilevel linear modeling (MLM) was adopted to examine the intervention effects while accounting for the hierarchical structure of the data. Model estimation was performed using restricted maximum likelihood (REML), and the degrees of freedom were approximated using the Satterthwaite method. The analytical procedure involved sequentially fitting a null model, Model 1, and Model 2 to evaluate the extent of class-level clustering and the effectiveness of the instructional intervention.

2.6 Null Model and Intraclass Correlation Coefficient (ICC)

To determine the extent of class-level clustering, a null model without any predictor variables was first estimated, including only the fixed intercept and the random intercept for class. The variance component associated with the class-level random intercept was not statistically significant (p = .641), indicating no significant variation in aesthetic experience across classes. The intraclass correlation coefficient (ICC) was calculated as 0.0035, suggesting that only 0.35% of the total variance in students' aesthetic experience was attributable to differences between classes, as shown in table 2. As the ICC was substantially below the commonly accepted threshold of 0.05, the class-level clustering effect was considered negligible, indicating that the nested data structure introduced minimal bias into the analysis (Sommet & Morselli, 2021).

Table 2 Variance Parameters and ICC of the Null Model

parameter	Estimated variance	Standard Error	Wald Z	Sig.
σ^2_{class}	0.001046	0.002240	0.467	0.641
$\sigma^2_{residual}$	0.301299	0.013089	23.019	<0.001
ICC	0.0035	-	-	-

Note: $ICC=\sigma^2_{class}/(\sigma^2_{class}+\sigma^2_{residual})$ (Sommet & Morselli, 2021)

2.7 Competing Models and Hypothesis Testing

To test the two research hypotheses, two multilevel models were constructed as shown in Table 3.

Model 1 (Single-level model) included Group, Time, and the Group × Time interaction as fixed effects, while a random intercept for student ID was specified to account for the correlation between repeated measurements obtained from the same participant.

Model 2 further incorporated a random intercept for class based on Model 1 to account for the nested structure of students within classes. Model 2 was selected as the primary model for reporting the intervention effects.

The fixed effects results of Model 2 revealed three major findings.

First, a significant main effect of Time was observed, F (1,539.85) = 64.56, p < .001. The estimated marginal means indicated that students' overall aesthetic experience significantly increased from pretest to posttest, supporting Hypothesis 1, which proposed that participation in aesthetic education would enhance students' aesthetic experience. Second, the main effect of Group was not statistically significant, F (1,533.52) =0.53,

p= .47, indicating no significant baseline difference between the experimental and control groups after controlling for time. This result suggests that the two groups were comparable prior to the intervention.

Third, the Group × Time interaction was statistically significant, F (1,539.85) =19.18, p<.001, indicating that changes in aesthetic experience over time differed significantly between the two instructional conditions, as shown in table 3.

Table 3 Summary of Key Results for Models

Category	**Indicator**	**Null Model**	**Model 1**	**Model 2**
Specification	Fixed	Intercept	-Intercept -Group -Time -Group×Time	-Intercept -Group -Time -Group×Time
	Random	class (ID)	ID	class (ID)
	Sample Size	540	540	540
	Number of Classes	18	18	18
Fit Indices	-2REML	1777.83	1604.55	1601.78
	AIC	1781.83	1608.55	1607.78
	AICC	1781.84	1608.56	1607.80
	BIC	1791.80	1618.51	1622.72
Fixed Effects Tests	Group	-	F (1,557.64) =0.51 p=.47	F (1,533.52) =0.53 p=.47
	Time	-	F (1,544.09) =63.88 p<.001	F (1,539.85) =64.56 p<.001
	Group×Time	-	F (1,544.097) =18.97 p<.001	F (1,539.85) =19.18 p<.001
Random Variance & ICC	Class-Level σ^2_{clas}	0.001046	-	0.000000
	$\sigma^2_{residual}$	0.301299	0.149944	0.148373
	Class-Level ICC	0.0035	-	0.000000
	Individual-Level ICC	-	0.4894	0.4927

Note: REML = Restricted Maximum Likelihood; AIC = Akaike Information Criterion; AICC = Corrected Akaike Information Criterion; BIC = Schwarz's Bayesian Information Criterion; ICC = Intraclass Correlation Coefficient. Fixed effects were tested with Type III sums of squares, and degrees of freedom were corrected using the Satterthwaite method.

Simple-effects analyses showed that students receiving ICH-AE a significant increase in aesthetic experience, with an estimated gain of 0.292 points from pretest to posttest. In contrast, students receiving traditional aesthetic education showed a smaller increase of 0.086 points. Therefore, Hypothesis 2 was supported, indicating that students receiving ICH-based aesthetic education achieved significantly greater improvement in aesthetic experience than those receiving traditional aesthetic education. The estimated marginal means further demonstrated that the experimental group's aesthetic experience score increased from 3.538 at pretest to 3.830

at posttest, whereas the control group's score increased from 3.612 to 3.698 over the same period as shown in table 4. The substantially larger gain observed in the experimental group further supports the effectiveness of the ICH-based instructional intervention.

Table 4 Estimated Marginal Means by Group and Time Point

Group	Pretest Mean	Post-test Mean	Score Gain
Experimental Group	3.538	3.830	0.292
Control Group	3.612	3.698	0.086

2.8 Model Robustness

A comparison between Model 1 and Model 2 showed that the Group × Time interaction remained statistically significant regardless of whether the class-level random intercept was included, indicating that the intervention effect was robust across model specifications. Although the class-level clustering effect was negligible, Model 2 was retained as the primary reporting model because it appropriately accounted for the hierarchical structure of the data and provided a more conservative estimation of the intervention effect.

Overall, the findings indicate that AE significantly enhanced students' aesthetic experience, while ICH-AE produced substantially greater improvement than traditional AE. Therefore, both research hypotheses were empirically supported.

DISCUSSION

3.1 ICH-AE Enhanced Students' Aesthetic Experience

The first hypothesis was supported, indicating that participation in AE significantly enhanced students' aesthetic experience regardless of instructional approach. The significant main effect of time suggests that AE itself provides meaningful opportunities for students to engage with artistic materials, expand aesthetic perception, and develop reflective appreciation. This finding is consistent with previous research demonstrating that sustained engagement in aesthetic learning contributes positively to learners' aesthetic sensitivity, emotional engagement, and cultural understanding (Wanzer et al., 2020).

From the perspective of Dewey's theory of aesthetic experience, aesthetic experience is not merely the passive appreciation of artistic objects but an active and continuous process through which individuals perceive, interpret, and reconstruct meaning through interaction with artistic experiences (Dewey, 1981; Howard, 2007; Dewey, 1934). The improvement observed in both groups suggests that systematic aesthetic education, whether implemented through traditional artistic content or ICH resources, provided students with opportunities to experience perception, emotion, reflection, and meaning-making, thereby fostering richer aesthetic experience.

This finding also aligns with recent educational research emphasizing that AE should be understood as an experiential learning process rather than simple knowledge transmission (Chen & Li, 2021; Duchatelet et al., 2024). Contemporary AE encourages learners to actively participate, observe, experience, and reflect, allowing aesthetic understanding to emerge through authentic engagement with artistic practice rather than through passive reception of information (UNESCO, 2024). Therefore, the overall improvement in aesthetic experience observed in this study further supports the educational value of sustained aesthetic learning within higher education.

3.2 Why Was ICH-AE More Effective?

The second hypothesis was also supported. Compared with traditional aesthetic education, students receiving ICH-based aesthetic education demonstrated significantly greater improvement in aesthetic experience. While both instructional approaches enhanced students' aesthetic experience over time, the significant Time × Group interaction indicates that integrating ICH into aesthetic education provided additional educational benefits beyond those achieved through conventional AE instruction.

One possible explanation lies in the distinctive characteristics of intangible cultural heritage as an aesthetic learning resource. Unlike traditional aesthetic education, which often introduces artistic forms such as painting, music, dance, or literature as relatively independent domains (Chen & Li, 2021). Chen & Li (2021) also mentioned that ICH typically presents artistic practice as an integrated cultural experience. Chinese opera, shadow puppetry, and traditional dyeing techniques simultaneously engage visual, auditory, tactile, and kinesthetic perception while embedding artistic expression within cultural narratives, craftsmanship, and social participation (Chen, 2021; Li et al., 2025) . Such multidimensional engagement may create richer aesthetic situations that encourage learners to participate more actively, sustain attention, and construct personal meaning throughout the learning process.

This interpretation is consistent with Flow Theory, which proposes that optimal experience is more likely to occur when learners become deeply engaged in meaningful and intrinsically rewarding activities (Csikszentmihalyi, 2012). Although the present study did not directly measure flow as a mediating variable, the multimodal, experiential, and participatory characteristics of ICH may provide learning conditions that facilitate students' concentration, engagement, and intrinsic interest, thereby contributing to richer aesthetic experience. Rather than functioning merely as cultural knowledge, ICH serves as a living aesthetic resource through which learners actively experience artistic creation, cultural understanding, and aesthetic appreciation.

Recent studies similarly suggest that the educational value of ICH lies not only in preserving cultural traditions but also in creating authentic learning experiences that integrate artistic practice, cultural participation, and experiential learning. Through direct interaction with living cultural practices, students are more likely to develop emotional engagement, cultural understanding, and aesthetic appreciation than through knowledge-oriented or discipline-separated instruction (UNESCO, 2024; Zeng et al., 2025). Therefore, the greater improvement observed in the experimental group supports the view that ICH can function not simply as instructional content but as a pedagogical resource capable of enriching students' aesthetic experience.

3.3 Theoretical Implications

The findings of this study contribute to the growing body of literature on AE by providing empirical support for the educational value of integrating ICH into university AE. More importantly, the results offer a theoretical perspective for understanding how culturally situated artistic practices may enrich students' aesthetic experience. Rather than treating ICH merely as cultural content, this study conceptualises it as an aesthetic learning resource capable of creating authentic, participatory, and meaningful learning experiences.

The findings also provide complementary support for both Dewey's theory of Aesthetic Experience and Flow Theory. (Dewey, 1934) argued that aesthetic experience emerges through continuous interaction between individuals and their environment, emphasising experience, participation, and meaning-making as essential components of aesthetic learning. Similarly, Flow Theory proposes that deep engagement in meaningful activities promotes optimal psychological experience (Csikszentmihalyi, 2014; Csikszentmihalyi, 2000).

Although the present study did not directly examine the psychological mechanisms underlying these processes, the superior performance of the ICH-AE instructional approach suggests that learning environments characterised by authentic cultural participation and artistic engagement may provide more favourable conditions for developing aesthetic experience than conventional discipline-based instruction.

Importantly, this study extends existing AE research by shifting attention from what is taught to how aesthetic experience is generated. Previous studies have primarily examined curriculum content, artistic disciplines, or cultural transmission, whereas comparatively limited attention has been paid to the characteristics of learning resources themselves. The present findings suggest that the educational value of ICH may derive not only from its cultural significance but also from its capacity to organise learners' aesthetic engagement through integrated artistic practice, cultural context, and experiential participation. This perspective contributes to current discussions on culture-based aesthetic education by highlighting the pedagogical role of authentic cultural resources in facilitating aesthetic experience.

3.4 Limitations and Future Research

Despite the meaningful findings, several limitations should be acknowledged when interpreting the results of this study.

First, the study was conducted at a single university in China, which may limit the generalizability of the findings to other higher education contexts. Although the sample size was relatively large and students were randomly assigned at the class level, institutional characteristics and cultural contexts may influence the implementation and effectiveness of ICH-AE. Future studies are encouraged to replicate the intervention across different universities, educational systems, and cultural settings to examine the robustness and external validity of the findings.

Second, the present study focused primarily on the effectiveness of the instructional intervention but did not directly investigate the underlying psychological mechanisms. The discussion interpreted the findings through Flow Theory and Dewey's theory of Aesthetic Experience; however, variables such as learning engagement, flow experience, aesthetic interest, or cultural identity were not measured. Future research could employ mediation or structural equation modelling to examine whether these psychological constructs explain how ICH-AE enhances students' aesthetic experience.

Third, the intervention incorporated three representative forms of Chinese intangible cultural heritage—Chinese opera, shadow puppetry, and traditional dyeing techniques. While these resources were selected because they represent different artistic forms and sensory characteristics, they do not encompass the diversity of intangible cultural heritage. Future studies may compare different categories of ICH or examine whether specific types of ICH generate distinct patterns of aesthetic experience.

Finally, the present study evaluated students' aesthetic experience immediately following the instructional intervention. Whether the observed improvements can be maintained over longer periods remains unclear. Longitudinal studies incorporating follow-up assessments would provide valuable evidence regarding the sustainability of ICH-AE and its long-term influence on students' aesthetic development.

CONCLUSION

This study examined the effectiveness of ICH-AE compared with traditional AE through a quasi-experimental

design using repeated measures data analyzed with a linear mixed model. Two hypotheses were proposed, and both were supported. First, aesthetic education significantly enhanced university students' aesthetic experience, indicating that sustained participation in aesthetic learning contributes positively to students' aesthetic development. Second, students receiving ICH-AE demonstrated significantly greater improvement than those receiving traditional aesthetic education, suggesting that integrating ICH into AE provides additional educational value beyond conventional AE instruction.

The findings contribute to the literature by demonstrating that ICH can function not only as an object of cultural preservation but also as an effective aesthetic learning resource. Rather than emphasizing cultural transmission alone, the present study highlights the pedagogical potential of ICH for fostering richer aesthetic experience through authentic artistic engagement. Interpreted through Flow Theory and Dewey's theory of aesthetic experience, the findings suggest that culturally situated and experiential learning environments may provide more favorable conditions for students' aesthetic development.

Several limitations should be acknowledged. First, the intervention was conducted at a single university in China, which may limit the generalizability of the findings to other educational contexts. Second, although the study demonstrated the effectiveness of ICH-AE, it did not directly examine the psychological mechanisms underlying the observed improvement. Future research could investigate potential mediating variables, such as learning engagement or flow experience, to further explain how ICH-based instruction facilitates aesthetic experience. Finally, extending the intervention to different educational levels, cultural contexts, and diverse forms of intangible cultural heritage would further strengthen the evidence for culture-based aesthetic education.

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