

The Influence of Project-Based Learning on Student Cultural Confidence in Dance Work Creation and Performance Course at a Chengdu University

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ABSTRACT

This study explored the influences of Project-based Learning on student cultural confidence in a Dance Work Creation and Performance Course at a Chengdu University. Using a mixed methods research approach, a structured questionnaire was administered to 30 students to quantitatively assess cultural confidence, learning engagement, and knowledge construction. This was supplemented by participant observation and in-depth interviews, with data analyzed via SPSS and NVivo. The result of the study found that: 1) The course significantly enhanced students' Learning Engagement, their Knowledge Construction, and their overall cultural confidence, with the Cultural Heritage and Innovation dimension showing the most significant improvement. 2) Statistical mediation analysis revealed that Learning Engagement and Knowledge Construction sequentially and significantly mediated the relationship between the course intervention and the development of cultural identity. 3) Qualitative data indicated that through the structured learning process, students deepened their understanding and internalization of Chinese excellent traditional culture via collaborative exploration and embodied artistic expression.

Keywords: Project-Based Learning (PBL), Dance Work Creation and Performance Course, Cultural Confidence, Learning Engagement, Knowledge Construction

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Introduction

Against the backdrop of globalization and multicultural integration, higher education plays a crucial role in the formation of students' cultural identity and value systems. This is particularly significant in art education, where the comprehension and expression of cultural meaning itself constitutes an essential part of learning (Evans & Taylor, 2025). From a policy perspective, multiple educational policy documents in China emphasize the importance of promoting Chinese excellent traditional culture and enhancing cultural confidence. Theoretically, cultural identity is integral to the construction of an individual's self-concept and sense of social belonging, forming the psychological foundation for students' holistic development (Phinney, 1990). However, despite its recognized importance, the dependent variable—cultural confidence—faces practical challenges. Current problems include students' shallow understanding of traditional culture, difficulty in forming stable cultural identity, and a tendency to neglect

their own culture when exposed to foreign influences. These issues directly affect students' personal growth and the inheritance of traditional culture.

In current dance education practices, courses often prioritize technical training and final work completeness, while in-depth cultural exploration and reflection remain insufficient. This leads students' understanding of traditional culture to often stay at superficial imitation, making deep cultural identity difficult to form. A critical research gap exists. Although project-based learning (PBL) and culturally responsive teaching have their own merits, existing studies lack an operational curriculum framework that systematically integrates PBL, cultural content, and dance practice with the explicit aim of fostering cultural confidence. Specifically, there is an absence of empirical examination regarding how such an integrated framework influences students' cultural confidence through sequential mediating pathways. The literature review in existing studies tends to be descriptive rather than critically analytical, and the methodological gap—namely, the lack of chain mediation models linking instructional intervention to cultural confidence via learning engagement and knowledge construction—has not been clearly identified.

Based on this, this study introduces Project-Based Learning as the core instructional design principle. PBL is driven by authentic problems and emphasizes sustained inquiry, collaborative practice, and reflective construction (Thomas, 2000). Its procedural characteristics are highly aligned with the developmental logic of individual cultural identity—from cognitive understanding and emotional identification to behavioral expression. By implementing PBL in the Dance Work Creation and Performance course and transforming traditional cultural content into specific creative projects, a structured pathway can be provided for students from cultural cognition to practical internalization. This study aims, through this curriculum design, to explore how to effectively promote the development of students' cultural confidence in professional art education, providing theoretical foundations and practical references for teaching reforms in related fields.

Research Objectives

1. To examine the effectiveness of a PBL dance work creation and performance course in enhancing dance students' cultural confidence.
2. To compare the enhancement of cultural confidence among dance students before and after participating in the dance work creation and performance course based on project-based learning.
3. To explore how learning engagement and knowledge construction can be used as intermediate variables to influence the enhancement of cultural confidence of dance students in a Chengdu university.
4. To examine the perspectives of dance students at a Chengdu university on the enhancement of their cultural confidence through a dance work creation and performance course based on project-based learning.
5. To derive implications for optimizing the design and implementation of PBL-based dance courses based on the empirical findings.

Research Methodology

This study employed a mixed-methods research approach to systematically examine the impact of the Dance work Creation and Performance course, grounded in the Project-Based Learning framework, on the Learning Engagement, Knowledge Construction, and cultural confidence of undergraduate dance majors. By integrating quantitative and qualitative data within the foundational framework of “Recognize-Design-Reflect” (RDR), the research investigated the causal relationships and intrinsic pathways of influence among the key variables.

1. Research Population, Sample, and Key Informants

This study focuses on third-year dance performance majors enrolled in the Dance work Creation and Performance course at a university in Chengdu, China, as its research population. To thoroughly investigate the impact of the course intervention on Learning Engagement, Knowledge Construction, and cultural confidence, a mixed-methods approach was employed, with the sample determined accordingly.

For the quantitative component, cluster sampling was used. One intact class was selected from parallel sections within the same grade, and all 30 students from this class constituted the research sample. The participants, averaging 19-20 years old, possessed foundational dance training and collaborative experience. The diversity in their regional backgrounds provided a suitable context for observing the process of cultural cognition construction.

The qualitative component aimed to obtain in-depth explanatory data. Key informants were selected via purposive sampling. Following the pre-course assessment, students were stratified into high, medium, and low-level groups based on their initial scores on the cultural confidence scale. Subsequently, three students were selected from each group, resulting in a total of nine students who served as participants for in-depth interviews. This sampling strategy ensured that the interview data captured and reflected the diverse experiences and cognitive shifts of students starting from different baselines of cultural confidence.

2. Research Instruments

This study employed three categories of research instruments to collect quantitative and qualitative data. Each instrument's development and quality evaluation followed a rigorous, step-by-step process.

Step 1: Questionnaire Development. The primary quantitative instrument was the Questionnaire on Learning Engagement, Knowledge Construction, and Cultural Confidence. First, items were generated based on established models: the Learning Engagement Scale (adapted from Fredricks et al., 2004, 9 items), the Knowledge Construction Scale (grounded in constructivist and sociocultural theories, 12 items across four dimensions), and the Cultural Confidence Scale (based on the tripartite attitude model, 12 items across three dimensions). All items used a five-point Likert scale. Second, items underwent semantic localization for dance education contexts. Third, five experts independently rated each item's relevance and clarity on a 4-point scale. The Scale-Content Validity Index (S-CVI) was 0.91, with most Item-CVI > 0.80. Adjusted Kappa coefficients for most items exceeded 0.74, rated as “excellent.” Minor wording adjustments were made based on expert feedback. Fourth, the refined questionnaire was pilot-tested with 30 non-research-sample students. Fifth, reliability analysis showed Cronbach's $\alpha = 0.902$ for the

overall questionnaire, with subscales exceeding 0.88. Corrected Item-Total Correlation (CITC) values exceeded 0.50 for all items, confirming positive contributions to scale reliability.

Step 2: Intervention Instrument Design. The Dance Work Creation and Performance course served as the structured intervention instrument. Designed around a “Three Stages, Four Modules” PBL framework centered on Chinese excellent traditional culture, it guided student groups from cultural inquiry to stage performance and reflection. The course design underwent expert review to ensure alignment with PBL principles and cultural confidence goals.

Step 3: Qualitative Instrument Development. Qualitative tools included a semi-structured interview protocol and a classroom observation scheme. For interviews: questions were designed around core themes (learning engagement, knowledge construction, cultural confidence), reviewed by experts, and administered to nine purposively selected students (30-45 minutes each, audio-recorded with informed consent). For observation: the scheme focused on five dimensions (behavioral engagement, emotional response, cognitive activity, cultural expression, interactive collaboration) with a 1-5 rating scale. Observers were trained to standardize criteria and ensure inter-rater reliability. Non-participant observation was conducted during weeks 2, 5, and 7. All records were anonymized using student ID numbers.

3. Data Collection Process

Data collection was conducted in phases following ethical review board approval and adherence to the principle of informed consent.

Quantitative data were collected via questionnaire surveys. A pre-test was administered to the 30 sample students one week before the course commenced to establish baseline levels of Learning Engagement, Knowledge Construction, and cultural confidence. An identical post-test was administered to the same cohort of students in the first week following the completion of the eight-week course to assess the intervention effects.

Qualitative data were gathered through classroom observations and in-depth interviews. The researcher conducted three rounds of systematic non-participant classroom observations of all 30 students during the 2nd, 5th, and 7th weeks of the course, with detailed records maintained. After the course concluded, semi-structured one-on-one interviews were conducted with the nine key informants. Each interview lasted approximately 30 to 45 minutes and was audio-recorded with consent for subsequent transcription and analysis.

4. Data Analysis Strategy

This study employed a mixed-methods design for data analysis, wherein quantitative data were analyzed first, followed by qualitative data to provide deeper explanation of the quantitative findings.

Quantitative data analysis was performed using SPSS 26.0. Descriptive statistics and reliability analysis were conducted on the questionnaire data. Paired-sample t-tests were used to compare pre-test and post-test scores to examine the course's effects on learning engagement, knowledge construction, and cultural confidence. Correlation analysis, multiple regression analysis, and mediation effect tests were employed to investigate the relationships among the three core variables and the mediating roles of learning engagement and knowledge construction.

Qualitative data analysis was conducted using NVivo 12, involving thematic analysis of interview transcripts and observation records. The analysis followed the procedures of open coding, axial coding,

and selective coding, aiming to identify core themes and patterns related to students' learning experiences, processes of cultural meaning construction, and shifts in attitudes. The results of the qualitative analysis were used to specifically illustrate, exemplify, and deepen the understanding of the quantitative statistical findings, thereby achieving data triangulation and integration of conclusions.

The Conceptual Framework

This study integrates Project-Based Learning theory, sociocultural learning theory, and the tripartite model of cultural confidence to construct a chain mediation theoretical framework. This framework aims to systematically explain the internal mechanism through which the Dance work Creation and Performance course influences students' cultural confidence. It follows the logical pathway of “context stimulates engagement → engagement drives construction → construction generates confidence,” with its core relationships illustrated in Figure 1:

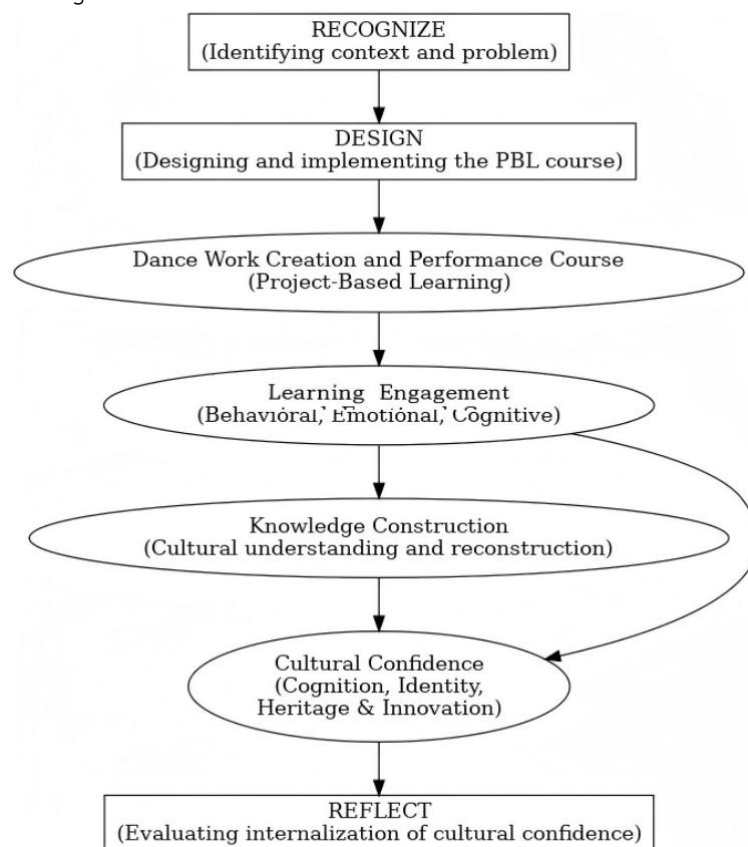


Figure 1 Research Conceptual Framework Model

The independent variable is the Dance work Creation and Performance course implemented using the PBL model. Centered on the theme “Dancing Through Time and Space: A Millennial Dialogue in Motion,” the course employs a structured “Three Stages—Four Modules” design to create a learning environment based on authentic tasks, emphasizing collaborative inquiry and reflective practice.

The mediating variables encompass two sequential, in-depth processes. First, Learning Engagement serves as the initial mediating variable, referring to the multidimensional state of participation activated in students during the course. This specifically includes behavioral engagement (active participation in rehearsals and creation), emotional engagement (interest in and identification with cultural themes), and

cognitive engagement (in-depth thinking and analysis of cultural connotations). Second, Knowledge Construction acts as the subsequent mediating variable, describing students' active creation and reorganization of meaning regarding Chinese excellent traditional culture through social interaction and artistic practice, based on deep engagement. This is concretely manifested in four dimensions: Cultural Cognitive Construction, Collaborative and Interactive Construction, Cultural Transformation and Expression, and Cultural Identity Internalization.

The dependent variable is cultural confidence, defined as a stable and positive psychological structure formed by students towards their own national culture. Drawing on the tripartite theory of attitudes, this study operationalizes it into three interrelated dimensions: Cultural Cognition (cognitive level), Cultural Identity (affective level), and Cultural Heritage and Innovation (level of behavioral intention and capability).

As illustrated in the figure, the framework's mechanism of action can be explained as follows: The PBL course, as the driving force, first effectively enhances students' multidimensional Learning Engagement. This high level of engagement, in turn, propels students to engage in deep Knowledge Construction through project collaboration—jointly exploring cultural meanings and creatively translating them into dance vocabulary and stage expression. Ultimately, this deep construction process systematically fosters the development of cultural confidence: knowledge exploration deepens Cultural Cognition, emotional resonance strengthens Cultural Identity, and successful creative practice directly reinforces the willingness and sense of efficacy for Cultural Heritage and Innovation. Learning Engagement and Knowledge Construction thus constitute the critical chain mediating links in this pathway.

This framework clearly outlines the complete theoretical pathway from course implementation to the enhancement of cultural confidence, specifying the core mediating roles of Learning Engagement and Knowledge Construction, thereby providing a clear theoretical direction for subsequent empirical testing.

Research Results

According to the research, the following key findings were identified:

1. To examine the effectiveness of a PBL dance work creation and performance course in enhancing dance students' cultural confidence.

The course successfully established a “Three Stages, Four Modules” teaching framework, with Chinese Excellent Traditional Culture as the core theme, centered on the authentic project of “creating and presenting a dance work.” Quantitative and qualitative data consistently indicated a significant improvement in students' overall Cultural Confidence after course implementation ($\Delta M = +0.17$, $p < 0.05$, $d_z = 0.48$), with the most notable enhancement observed in the Cultural Heritage and Innovation dimension ($\Delta M = +0.28$, $p < 0.05$). Through phased and modular task design, the course effectively stimulated students' Learning Engagement and Knowledge Construction, providing structured support for the cultivation of Cultural Confidence.



Figure 2 “Three Stages–Four Modules” Project-Based Learning Design Framework

2. To compare the enhancement of cultural confidence among dance students before and after participating in the dance work creation and performance course based on project-based learning.

Paired-sample t-test results showed that students' overall Cultural Confidence scores post-intervention were significantly higher than pre-intervention ($t = 2.64$, $p < 0.05$), with a moderate effect size ($dz = 0.48$). Among the sub-dimensions, Cultural Heritage and Innovation demonstrated the most significant improvement, indicating the course's effectiveness in enhancing students' practical confidence in the contemporary transformation and innovative expression of traditional culture. Although Cultural Cognition and Cultural Identity showed positive trends, they did not reach statistical significance, which may be related to the short intervention period and higher pre-test baseline scores.(Table 1)

Table 1 Comparison of Improvements in Cultural Confidence Dimensions Before and After Course Implementation

(n=30)

Dimension	Pre-test Mean±SD	Post-test Mean±SD	Improvement (ΔM)	t-value	p-value	Effect Size (dz)
Overall Cultural Confidence	4.14±0.33	4.31±0.30	+0.17	2.64	0.01	0.48
Cultural Heritage and Innovation	4.15±0.47	4.43±0.48	+0.28	2.15	0.04	0.39
Cultural Cognition	4.09±0.51	4.22±0.47	+0.13	0.93	0.36	0.17
Cultural Identity	4.17±0.43	4.28±0.44	+0.11	0.98	0.34	0.18

3. To explore how learning engagement and knowledge construction can be used as intermediate variables to influence the enhancement of cultural confidence of dance students in a Chengdu university.

Bootstrap mediation effect testing revealed that the course indirectly promoted Cultural Confidence through the chain mediation pathway of “Learning Engagement → Knowledge Construction” (Total Indirect Effect = 0.10, 95% CI [0.052, 0.153]). Regression analysis further indicated that Learning Engagement had a significant positive predictive effect on Knowledge Construction ($\beta = 0.62$, $p < 0.05$), supporting the validity of the chain mediation model. (Table 2)

Table 2 Chain Mediation Effects of Learning Engagement and Knowledge Construction on Cultural Confidence

Pathway	Effect Size	Boot SE	Bootstrap 95% CI	Significant
Course → Learning Engagement → Cultural Confidence	0.076	0.021	[0.038, 0.121]	Yes
Course → Learning Engagement → Knowledge Construction → Cultural Confidence	0.027	0.012	[0.007, 0.056]	Yes
Total Indirect Effect	0.100	0.025	[0.052, 0.153]	Yes

4. To examine the perspectives of dance students at a Chengdu university on the enhancement of their cultural confidence through a dance work creation and performance course based on project-based learning.

Students generally agreed that the course promoted their Cultural Confidence through “high Behavioral Engagement and Cognitive Engagement” and “Knowledge Construction - Cultural Transformation and Expression.” They reported challenges in translating cultural knowledge into dance movements and experienced stress and collaboration tensions during the creative process. However, they also gained a sense of achievement and cultural belonging through stage performances and teamwork. Students suggested that the course should strengthen theoretical cultural support, provide more technical resources, and incorporate structured reflection sessions to facilitate deeper emotional internalization and identity formation.

5. To derive implications for optimizing the design and implementation of PBL-based dance courses based on the empirical findings.

Based on the research findings, a three-dimensional course optimization plan was proposed: (1) adding an interdisciplinary cultural theory module to deepen cognitive foundation; (2) embedding structured reflection workshops to extend emotional internalization; (3) strengthening technology and cross-media innovation support to consolidate practical confidence. This plan follows the logic of “cognitive deepening – emotional internalization – innovation consolidation.” The optimization implications were derived from thematic analysis of interview and observation data. Following open coding to generate initial themes, axial coding to categorize them, and selective coding to integrate core themes

(e.g., Behavioral Engagement, Cultural Transformation, Identity Internalization), nine purposively selected students provided the empirical basis for the framework.

Discussions

The research findings for Objective 1 reveal that: The PBL-Based dance course was effective in enhancing students' cultural confidence. Specifically, this study successfully constructed and implemented a “Three Stages, Four Modules” course framework. With Chinese Excellent Traditional Culture as its theme and driven by authentic creative and performance tasks, the course deeply integrates cultural content with dance creation practice. The findings indicate that the course design not only aligns with the core elements of Project-Based Learning (PBL)—such as authenticity, challenge, and public product—but also provides students with a complete experiential process from cultural cognition and artistic transformation to value internalization through a structured, phased learning pathway. The tree diagram and matrix coding results related to “Course Structure and Module Experience” in the qualitative analysis show that students' Learning Engagement was most concentrated during the “Creation Implementation and Rehearsal Refinement” and “Work Presentation and Reflective Internalization” stages, with the highest frequency of Knowledge Construction, indicating that the course framework effectively guided the deepening of student experience and the generation of Cultural Confidence. Quantitative data further confirmed that students' overall Cultural Confidence significantly improved after course implementation, with the most notable enhancement in the Cultural Heritage and Innovation dimension, which is highly consistent with the course's emphasis on practical transformation and innovative expression. This suggests that systematically embedding the goal of cultivating Cultural Confidence into the professional curriculum system and achieving “learning by doing, comprehending through creation” through Project-Based Learning is an effective pedagogical pathway. However, the moderate effect size ($d_z = 0.48$) indicates that the course's impact, while positive, was not large, raising the possibility that the eight-week intervention period may have limited the depth of cultural internalization. Furthermore, the significant improvement in Cultural Heritage and Innovation, contrasted with the non-significant trends in Cultural Cognition and Cultural Identity, suggests that PBL may be more effective in fostering behavioral outcomes than cognitive or affective ones. The high pre-test baseline in Cultural Cognition ($M = 4.09$) points to a potential ceiling effect, implying that students entered the course with already strong cultural knowledge and that the course may be more suitable for students with lower initial cultural competence. Which is consistent with Yusri, Yusof, & Sharina (2024), who found that project-based learning fosters interdisciplinary skills through authentic, real-world tasks; Silma, Maulida, Wulan, Merawati, & Hasan (2024), who found that effective PBL requires elements of authenticity, sustained inquiry, and public product; Schupp (2024), who found that dance composition courses should reflect on social culture through bodily language; Malarsih and Widodo (2025), who found that dance creation enables students to develop emotional attachment to traditional culture and cultivate agency in cultural transmission.

The research findings for Objective 2 indicate that: A comparative analysis before and after course implementation revealed that dance students' Cultural Confidence significantly improved after the short-term intervention, with the enhancement exhibiting differentiated structural characteristics. Quantitative

data indicated that students' overall post-test Cultural Confidence scores were significantly higher than pre-test scores, reaching a medium effect size, demonstrating that the course had a stable and positive influence on stimulating cultural-psychological identification. Notably, the three sub-dimensions of Cultural Confidence did not develop uniformly: Cultural Heritage and Innovation showed the most significant improvement, closely related to the high-intensity creative practice, skill construction, and stage presentation embedded in the course; Cultural Cognition showed a positive trend but did not reach statistical significance, primarily due to the high pre-test baseline and limited cognitive gains from short-term intervention; Cultural Identity, as a deep-seated emotional and value-based sense of belonging, requires a longer period for emotional sedimentation and meaning reflection to internalize. This finding indicates that Project-Based Learning is most directly effective in promoting the behavioral dimension of Cultural Confidence (innovative practice), while systematic and longer-term design support is needed for cognitive deepening and emotional internalization. This provides clear direction for course optimization: while maintaining practical strengths, systematic support for the depth of cultural cognition and the process of identity internalization should be strengthened. While the significant improvement in Cultural Heritage and Innovation supports Buck, R. (2022) and Ting & Chongzeng (2023), it should be noted that their studies did not specifically examine dance creation courses in the context of Chinese traditional culture, nor did they employ mixed-methods designs to validate chain mediation mechanisms. Similarly, while Shaff (2024) and Saltsman (2025) are cited to explain the non-significant trend in Cultural Identity, their research focused on ethnic identity formation over extended periods rather than short-term course interventions, raising questions about the direct applicability of their theoretical timelines to an eight-week dance course. An alternative interpretation is that the measurement tools may be insufficiently sensitive to capture short-term changes in Cultural Identity, or that students' prior exposure to traditional culture may have already saturated this dimension. The non-significant trend in Cultural Cognition aligns with Totin, E. et al. (2021), who noted that cultural understanding depth affects value judgments, while the need for longer identity internalization is consistent with Shaff (2024) and Saltsman (2025), who emphasized that cultural identity formation requires commitment stages and emotional appreciation over time.

The research findings for Objective 3 demonstrate that: Learning Engagement and Knowledge Construction play a key chain-mediating role in the process through which the course influences Cultural Confidence. Bootstrap testing confirmed that the course indirectly promotes Cultural Confidence through the mediating pathway of “Learning Engagement → Knowledge Construction,” with a significant total indirect effect. Specifically, Emotional Engagement serves as an “emotional hub,” stimulating students' sense of cultural belonging and pride to drive the internalization of Cultural Identity; Cognitive Engagement and Knowledge Construction (particularly “Cultural Transformation and Expression”) constitute a “cognitive engine,” enhancing students' confidence in Cultural Heritage and Innovation by facilitating the artistic transformation and innovative practice of cultural symbols. Regression analysis further indicated that Learning Engagement has a significant positive predictive influence on Knowledge Construction, suggesting that the course first stimulates students' multi-dimensional engagement, which in turn promotes deep Knowledge Construction through collaboration and creation. The revelation of this mediating mechanism not only empirically clarifies the intrinsic pathway through which Project-Based

Learning influences Cultural Confidence but also provides a theoretical basis for a cultural education model that synergistically develops “emotion-cognition-behavior.” Which is consistent with Martins, Cunha, Lopes, Moreira & Rosário (2022), who found that learning engagement encompasses behavioral, emotional, and cognitive dimensions as key variables influencing learning outcomes; Zhang & Ma (2023), who found that in PBL, learners construct knowledge through independent inquiry and collaborative exchange; Jacobs (2023), who found that arts-based PBL courses integrate sensory experiences and cultural emotions into knowledge construction; and Loyens et al. (2023), who found that knowledge construction in PBL involves generating new forms of expression beyond mere understanding. Nevertheless, the relatively small indirect effect size (0.10) suggests that the practical significance of this mediation may be modest, and other unmeasured variables—such as prior cultural exposure or peer dynamics—may also play important roles. Moreover, the short-term design of this study cannot confirm whether these mediating effects are sustained over time.

The research findings for Objective 4 reflect that: Students exhibit a high degree of subjective identification with the mechanisms through which the course enhances Cultural Confidence. Their feedback affirms the effectiveness of the course design while also highlighting challenges in practice. Students generally agree that the course promotes their Cultural Confidence through “high Behavioral and Cognitive Engagement” and “Knowledge Construction—Transformation and Expression”, particularly valuing their experiences with stage presentation, teamwork, and cultural transformation processes. At the same time, students reported difficulties encountered during course implementation, such as the challenge of translating cultural knowledge into dance movements (“easier to know than to act”), emotional stress and collaborative tensions during the creative process, and insufficient time for deep Cultural Identity internalization. These responses not only explain why some dimensions (e.g., Cultural Cognition, Cultural Identity) did not show significant improvement but also provide specific suggestions for course optimization from the learner’s perspective, such as strengthening cultural theoretical support, providing more technical resources, and adding structured reflection sessions. This reflects the principle that course improvement should adhere to a “student-centered” approach, balancing the scientific rigor of instructional design with the authenticity of the learning experience. Which is consistent with Yamo, Kim & Dreamson (2022), who found that when teaching content reflects students' own cultures, students develop a deeper sense of engagement and belonging in terms of cognition and emotion; Shih (2024), who found that culturally responsive curricula enable students to “see themselves in the curriculum,” thereby enhancing cultural identity and confidence in cultural expression; and Shaw (2022), who proposed that culturally sustaining pedagogy should encourage students to develop self-identity, self-expression, and self-empowerment through cultural practices. A notable pattern is that students with lower cultural confidence baselines (e.g., S5) struggled more than those with higher baselines (e.g., S30), suggesting that differentiated instructional support may be necessary—an aspect that previous literature, which tends to report positive outcomes without examining differential effects across student subgroups, has not adequately addressed.

The research findings for Objective 5 imply that: Based on the empirical findings and student feedback, a systematic course optimization plan can be derived across three dimensions: at the cognitive level, adding an interdisciplinary cultural theory introduction module to deepen the foundation of Cultural

Cognition; at the emotional level, embedding structured reflection workshops to extend the cycle of emotional internalization; and at the practical level, strengthening technology integration and cross-media innovation support to consolidate confidence in Cultural Heritage and Innovation. This optimization plan follows the logic of “deepening theoretical input in the early stage—adding reflection sessions in the middle stage—strengthening technical support in the later stage”, forming a teaching cycle that synergistically advances “cognition—emotion—behavior.” The optimization suggestions not only address the existing shortcomings of the course but also aim to further enhance the systematicity, depth, and sustainability of Cultural Confidence cultivation, providing an actionable reference framework for the design and iteration of similar courses. Which is consistent with Sánchez-García & Reyes-de-Cózar (2025), who found that high-quality project-based learning requires essential elements such as sustained inquiry, authenticity, and reflection to ensure effective implementation; Zeng, et al. (2025), who found that culturally responsive teaching leverages students' cultural characteristics to enhance learning effectiveness and cultural identity; and Rahman (2024), who proposed that learning occurs through social interaction and cultural tools, and that cognitive development requires structured guidance within the zone of proximal development. However, several limitations must be acknowledged. These optimization suggestions remain theoretical and untested. Their effectiveness likely depends on institutional resources, instructor expertise, and student demographics. The additional modules would increase course hours, raising feasibility concerns. The plan assumes a linear cognition-emotion-behavior progression, while qualitative data suggest recursive interaction. Broader limitations include the single-cohort sample (N=30) from one university, short-term design, small qualitative sample (n=9), and potential coding bias. These should be considered when interpreting findings.

Originality and Body of Knowledge

This study empirically confirms that in Project-Based Learning (PBL) for dance, cultural confidence is cultivated through a chain mediation mechanism of “learning engagement → knowledge construction,” resulting in its differentiated development. The mechanism reveals that PBL course design first stimulates students' multi-dimensional learning engagement, which in turn drives their knowledge construction—a process encompassing physical practice and creative transformation. Ultimately, this leads to the formation of cultural confidence across three dimensions, each following a distinct logic: cultural cognition deepens through systematic integration, cultural identity internalizes through emotional sedimentation, and cultural heritage and innovation is directly generated through practical outcomes. This empirically validated pathway extends existing literature in four ways. First, it confirms the chain mediation model proposed by Martins et al. (2022) and Zhang et al. (2023) within dance education. Second, it refines the tripartite attitude model (Kaiser & Wilson, 2019) by demonstrating differentiated development across the three dimensions. Third, it provides empirical evidence for Rahman (2024) concept of embodied knowledge construction through bodily practice. Fourth, it contextualizes the “Gold Standard PBL” elements (Sánchez-García & Reyes-de-Cózar, 2025) within Chinese traditional cultural education. As illustrated in Figure 3, theoretical input supports cognitive depth, structured reflection extends emotional internalization, and technical support consolidates practical innovation, providing an actionable framework for pedagogical optimization. (Figure 3)

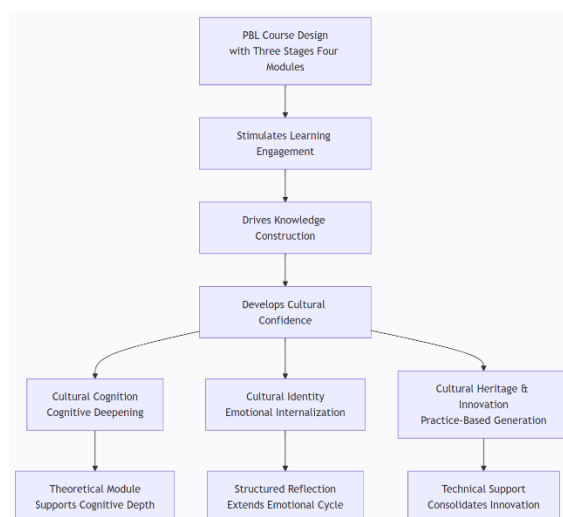


Figure 3 A Mechanism Model for Cultural Confidence Development in Dance PBL

Conclusions

This study examined the influence of a project-based dance creation course on university students' cultural confidence. Below is a summary of the outcomes based on the five research objectives.

1. Effectiveness of the PBL Dance Course: The PBL-based dance course significantly enhanced students' cultural confidence, particularly in the Cultural Heritage and Innovation dimension.
2. Comparative Enhancement of Cultural Confidence: The three dimensions of cultural confidence developed unevenly. Cultural Heritage and Innovation showed the largest gain, while Cultural Cognition and Cultural Identity did not reach statistical significance.
3. Chain Mediation Mechanism: The study validated a chain mediation model of “Learning Engagement → Knowledge Construction → Cultural Confidence,” with Emotional Engagement and Cognitive Engagement playing distinct mediating roles.
4. Student Perspectives: Students identified high engagement and knowledge transformation as key to confidence generation, while also reporting challenges in knowledge translation, emotional stress, and time constraints.
5. Implications for Course Optimization: A three-dimensional optimization framework (cognition-emotion-practice) was derived from the empirical findings.

Theoretically, the study repositions the dance creation course as a platform for constructing cultural confidence. Practically, it provides a systematic scheme for integrating cultural education into professional training.

Recommendations

1. Policy Recommendations

1.1 Incorporate the cultivation of Cultural Confidence into the core evaluation system of higher arts education.

It is recommended that educational authorities collaborate with arts institutions to revise the training programs and teaching evaluation standards for dance and related arts majors. The development level of students' Cultural Confidence, particularly their practical ability in Cultural Heritage and Innovation, should be explicitly established as one of the core indicators for assessing the quality of professional talent cultivation and the effectiveness of curriculum teaching. This will guide a systematic shift in teaching from an emphasis on “skill transmission” to a focus on “value shaping and innovation capacity building.”

1.2 Establish special funding programs to encourage interdisciplinary curriculum development and practice.

It is recommended to establish national or provincial-level special teaching reform projects, such as “Curriculum Ideology and Politics & Traditional Culture Innovation in Arts Majors.” Priority funding should be directed towards the development of Project-Based Learning (PBL) courses that deeply integrate Chinese Excellent Traditional Culture with professional practice, similar to the “Three Stages, Four Modules” framework in this study. The formation of interdisciplinary teaching teams (e.g., collaborations between dance and history, philosophy, literature) should be encouraged, and supporting resources such as dedicated spaces, technologies (e.g., digital media, stage technology), and off-campus practical resources should be provided.

1.3 Build a faculty development system to empower the role of “Cultural Guides.”

It is recommended that arts institutions systematically implement teacher training and development programs. The training content should go beyond traditional pedagogy, focusing on enhancing two core competencies of teachers: first, the ability for deep interpretation and contemporary transformation of Chinese Excellent Traditional Culture; second, the ability to design, facilitate, and diversely assess Project-Based Learning (PBL) courses. Through workshops, mentorship by renowned experts, and teaching achievement awards, the teacher's role should be promoted from a mere “skill transmitter” to a “designer” and “guide” for students' cultural inquiry and innovation.

2. Recommendations for Future Research

2.1 Expand the diversity and representativeness of research samples.

Subsequent studies should increase sample sizes and employ methods such as stratified sampling to include students from different regions (e.g., eastern and western China), different types of institutions (e.g., professional arts academies and comprehensive universities), and different dance specializations (e.g., Chinese Dance, Sport Dance, Choreography) for comparative research. This will help test the generalizability and boundary conditions of the chain mediation model and course framework constructed in this study, thereby enhancing the external validity of the findings.

2.2 Adopt longitudinal tracking designs to examine the long-term and dynamic nature of effects.

Given that the internalization of dimensions such as Cultural Identity requires a long-term process, it is recommended that future research adopt longitudinal research designs. Follow-up

measurements can be conducted at 3 months, 6 months, 1 year, or even longer after the course ends to reveal the trajectory of changes in students' Cultural Confidence levels. This will explore the sustainability, potential decay, or latent growth effects of the course intervention, thereby providing a more scientific assessment of the long-term value of the educational intervention.

2.3 Enrich research methods by introducing multi-dimensional measurement and process data analysis.

Building upon the existing mixed-methods approach, research methodologies can be further deepened: First, quantitatively, learning analytics techniques can be introduced to code and analyze students' discussion texts and interaction data on online collaboration platforms, objectively quantifying the process of Collaborative and Interactive Construction. Second, qualitatively, the analysis of physical artifacts (e.g., in-depth textual analysis of students' creative notes, work videos) can be added, and researcher triangulation can be employed to improve the reliability of qualitative conclusions. Furthermore, the exploration and development of more sensitive measurement tools are encouraged to more accurately capture subtle changes in the depth of Cultural Cognition over short periods.

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