



Developing and Evaluating a Traditional Dance Course to Enhance Movement Accuracy: The Nanjian Tiaocai Dance through the Davies Model

Chao Zhu¹, Phunchita Detkrut² and Rawiwan Wanwichai³

Faculty of Fine Arts, Srinakharinwirot University, Thailand

¹E-mail: chao.zhu@g.swu.ac.th, ORCID ID: <https://orcid.org/0009-0001-8724-3448>

²E-mail: phunchita@g.swu.ac.th, ORCID ID: <https://orcid.org/0009-0000-3964-8240>

³E-mail: rawiwan@g.swu.ac.th, ORCID ID: <https://orcid.org/0009-0005-1940-6611>

Received 27/05/2025

Revised 11/06/2025

Accepted 15/07/2025

Abstract

Background and Aim: Ethnic dance plays a vital role in preserving intangible cultural heritage and developing movement accuracy in arts education. However, transmitting precise gestures in traditional dances, such as Nanjian Tiaocai, remains challenging due to symbolic complexity and the limitations of conventional teaching approaches. This study aimed to develop a traditional dance course guided by the Davies Psychomotor Domain Instructional Model, integrating structured instructional stages with culturally immersive activities, such as symbolic gesture interpretation, festival reenactment, and costume-based storytelling, to support cognitive and psychomotor development in ethnic dance education.

Materials and Methods: This study adopted a curriculum development approach. The course was designed for tenth-grade students at the Affiliated Arts School of Yunnan Arts University, assuming a basic dance background but no prior experience with Tiaocai dance. The 16-week course followed the five-stage framework of the Davies model: preparation, presentation, guided practice, independent practice, and evaluation. Instructional strategies included task-based learning, collaborative creation, and cultural scenario simulations. To validate the content and ensure alignment with pedagogical goals, three experts in ethnic dance, curriculum design, and cultural education assessed each instructional component using the Index of Item-Objective Congruence (IOC).

Results: IOC analysis showed scores ranging from 0.67 to 1.00 across 17 instructional components. Based on expert feedback, certain areas—such as instructional flow, learner engagement strategies, and cultural symbolism clarity—were refined. Experts confirmed the course's strong alignment with educational objectives, especially in promoting structured skill development and integrating cultural context into the learning process.

Conclusion: The results demonstrate that the Davies-based Tiaocai dance course provides a valid, structured model for integrating movement training with cultural education. This curriculum offers valuable insights for vocational and arts education settings, particularly in developing instructional models for ethnic dance that balance technique, tradition, and learner-centered pedagogy.

Keywords: Nanjian Tiaocai; Movement Accuracy; Ethnic Dance Education; Intangible Cultural Heritage; Curriculum Development

Introduction

Traditional Chinese dance plays a vital role in preserving and transmitting intangible cultural heritage (ICH), embodying both aesthetic and ritual significance. One such representative form is Nanjian Tiaocai, a traditional Yi dance originating from Nanjian Yi Autonomous County in Yunnan Province. Officially recognized as part of China's national-level intangible cultural heritage in 2008 (Project No III71), Tiaocai is noted for its symbolic use of props (notably plates), ritualistic movements, and culturally embedded choreographic structure. In recent years, national education policies have increasingly encouraged the integration of ICH into vocational arts education as a strategy to cultivate cultural confidence and promote heritage transmission (People's Daily, 2017).

However, despite its cultural richness, the pedagogical integration of Tiaocai into formal dance education remains fraught with challenges. Traditional instruction, typically based on teacher demonstration and student imitation, lacks structure and theoretical support. This results in significant barriers to students' movement accuracy, physical stamina, and proprioception—all essential for delivering authentic and expressive performances. These instructional gaps have been extensively discussed in recent literature, highlighting an urgent need for reform.





The first major challenge is the lack of standardized technical training. Tiaocai requires precise spatial orientation, coordinated postural control, and stylistic consistency, yet most teaching practices lack systematic decomposition of movements or clear technical benchmarks. Zhang (2021) reports that many schools rely on oral transmission without standardized curricula or analytical breakdown of movement sequences, leaving students with a limited understanding of form and function. As a result, inaccuracies in angle control, limb extensions, and body alignment are common, undermining both technical quality and cultural authenticity.

The second challenge concerns insufficient physical conditioning. Tiaocai involves sustained movement, energetic pacing, and large-scale bodily engagement, demanding both endurance and strength. However, existing teaching models often omit structured physical training components. This leads to student fatigue, breakdown in rhythmic control, and reduced movement stability during extended practice. Ajinyan, Dai, and Long (2022) emphasize that a lack of innovation in traditional dance pedagogy further exacerbates this issue, as students are rarely equipped with the tools or support systems to improve their physiological performance.

The third challenge lies in the complexity of prop coordination, particularly the use of plates in both hands while executing full-body choreography. The technical requirement to maintain plate stability while performing rhythmic and spatially dynamic movements introduces significant cognitive and motor demands. Without systematic training and feedback, students struggle with upper-lower limb synchronization and often drop or mishandle the props during practice. As Huo (2019) points out, the increasing commodification and tourist adaptation of Tiaocai in some regions have led to oversimplified versions in performance settings, but such reductions fail to address the educational depth needed for cultural preservation and technical mastery.

Despite these barriers, scholars also recognize the pedagogical value of Tiaocai. Ma (2021) advocates for its structured inclusion in formal curricula, noting that it can foster cultural identity while supporting technical skill development. Pang (2025) and Li (2024) further stress the importance of combining modern educational theories with traditional dance content to support learner motivation and expressive depth. They argue that scientifically designed curricula can preserve the cultural core of ethnic dance while empowering students to develop greater artistic autonomy.

In response to these challenges, this study applies Davies' (1971) instructional model for the psychomotor domain, in conjunction with 21st-century learning theory, to design a structured, skills-based Tiaocai course. The Davies model delineates five sequential stages of instruction—preparation, presentation, guidance, practice, and evaluation—that support the progressive development of motor skills and performance-based learning. When integrated with 21st-century teaching strategies such as project-based learning, cooperative tasks, and formative assessment, this model offers a robust pedagogical foundation for enhancing students' technical control and cultural expression.

The course will be implemented with Grade 10 students at the Affiliated Arts School of Yunnan Arts University. The focus is to improve movement accuracy, especially regarding postural control, rhythmic consistency, and prop coordination, while maintaining the cultural essence of the dance. To ensure the scientific rigor of the course design, the content will be evaluated by three domain experts using the Index of Item-Objective Congruence (IOC)—a method that measures alignment between course components and learning objectives.

In sum, this study addresses the limitations of traditional ethnic dance instruction by developing a theoretically grounded, skill-oriented course tailored to the demands of Tiaocai dance training. It contributes to the broader field of ICH education by offering a replicable model for integrating structured pedagogy into culturally embedded performance disciplines.

Objectives

This study aims to design and develop a traditional dance curriculum for the Nanjian Tiaocai dance with a central focus on enhancing movement accuracy. Grounded in Davies' Psychomotor Domain





Instructional Model, the course integrates structured, stage-based instruction with 21st-century teaching strategies such as task-based learning, cooperative engagement, and cultural contextualization. To ensure pedagogical coherence and content validity, the course was evaluated by domain experts using the Index of Item-Objective Congruence (IOC). Based on expert feedback, the curriculum was revised to ensure precise alignment between instructional objectives, teaching content, and student performance outcomes, ultimately supporting both technical skill development and cultural expressiveness.

To evaluate the effectiveness of the curriculum, both quantitative and qualitative methods will be employed. Movement accuracy will be assessed through structured observation checklists and rubrics focusing on spatial precision, postural control, rhythmic synchronization, and prop coordination. For cultural expressiveness, which refers to the dancer's ability to embody symbolic meanings, ritual gestures, and stylistic authenticity embedded in Tiaocai choreography, an expert rating system will be used. This system will include predefined indicators such as fidelity to traditional movement vocabulary, emotional resonance, and alignment with cultural symbolism. Video recordings of student performances before and after the intervention will be reviewed by independent evaluators using both technical and cultural rubrics. This mixed-methods approach ensures a comprehensive evaluation of both the physical and expressive dimensions of learning.

Literature review

Movement accuracy is a fundamental indicator of technical proficiency and expressive effectiveness in dance education, especially in the context of traditional ethnic dance forms such as Nanjian Tiaocai. Defined by Krasnow and Wilmerding (2015) as the precise execution of spatial, temporal, and dynamic elements by choreographic intent or cultural tradition, movement accuracy encompasses five key dimensions: form precision, rhythmic synchronization, spatial control, dynamic regulation, and cultural alignment. These dimensions are particularly salient in Tiaocai, where movements such as turning, squatting, and plate handling carry not only physical complexity but also ritual and symbolic meaning (Pang, 2025; Xu, 2022).

However, while movement accuracy is widely emphasized in instructional literature, some perspectives argue that overemphasis on technical precision may overshadow essential aspects such as expressive authenticity and cultural interpretation. For example, some scholars suggest that in certain ethnic dance contexts, conveying emotional meaning or embodying cultural identity may hold greater importance than strict technical form. This tension between accuracy and expressiveness presents pedagogical challenges that are often overlooked in curriculum design.

Improving movement accuracy also requires pedagogical strategies grounded in psychomotor learning theory. Fitts and Posner's (1967) three-stage model and Gentile's (1972) two-stage framework both outline progressive pathways for skill acquisition through cognitive understanding, controlled practice, and contextual refinement (Schmidt et al., 2019). While these models provide a strong foundation for understanding skill development, they may not fully capture the nonlinear and culturally embedded learning processes typical of ethnic dance education.

Additionally, ethnic dance instruction faces structural challenges, including shallow cultural engagement, difficulty in spatial-prop coordination, and a lack of structured curricula and evaluation rubrics (Zhang, 2021; Diao & Liu, 2019; Ma, 2021). To address these issues, recent studies have proposed multi-dimensional strategies such as task-based segmentation, culturally embedded instruction, prop-focused simulation, and feedback-integrated learning environments (Ajinyan et al., 2022; Shi, 2019). These approaches aim to bridge the gap between movement mechanics and cultural meaning.

Complementing these strategies, 21st-century learning theory, centered on critical thinking, collaboration, creativity, and communication, offers pedagogical tools to enhance both skill development and cultural interpretation (Trilling & Fadel, 2009). Project-based learning, cooperative methods, and technology-assisted feedback systems have demonstrated strong potential in improving motor accuracy and learner engagement in dance education (Thomas, 2000; Slavin, 1995; He, 2024).



Within this pedagogical landscape, Davies' (1971) instructional model for the psychomotor domain provides a structured, stage-based teaching framework encompassing preparation, presentation, guidance, practice, and evaluation. The model is theoretically aligned with both motor learning theory and contemporary educational principles, offering a balanced approach to technical instruction and reflective practice. Although research has shown its effectiveness in general education and sports science (Boonlers et al., 2025; Boonyanant, 2023), the model remains underutilized in Chinese ethnic dance education, and its culturally responsive potential has yet to be systematically explored.

In conclusion, although the literature offers robust theoretical frameworks and diverse pedagogical innovations, few studies critically reconcile the technical demands of movement accuracy with the cultural flexibility required in ethnic dance education. Furthermore, the use of Davies' psychomotor instructional model has not been systematically applied or evaluated within the context of Chinese ethnic dance, particularly in vocational education settings. This study aims to address these gaps by integrating Davies' model with culturally embedded, learner-centered strategies to enhance the precision, fluency, and expressiveness of Tiaocai performance.

Conceptual Framework

This study adopts a conceptual framework that integrates Davies' Psychomotor Domain Instructional Model with 21st-century learning theory to guide the design and evaluation of a traditional dance course aimed at enhancing movement accuracy in Nanjian Tiaocai. The framework consists of four core components: theoretical foundation, structured instructional design, expert validation, and outcome-based learning. Davies' five-stage model—preparation, presentation, guidance, practice, and evaluation—provides a scaffolded approach to motor skill acquisition, supporting students in mastering posture alignment, spatial coordination, rhythmic accuracy, and prop control within culturally embedded movement contexts. To foster student engagement and deeper learning, the framework incorporates task-based, project-based, and cooperative learning strategies drawn from 21st-century pedagogy. These methods promote collaboration, critical thinking, and cultural understanding while reinforcing physical control. The course's content validity and pedagogical alignment are assessed by a panel of experts using the Index of Item-Objective Congruence (IOC), with a threshold score of 0.67 indicating satisfactory congruence. This theory-informed and practice-oriented framework ensures that the course supports both technical precision and meaningful cultural expression in ethnic dance education.

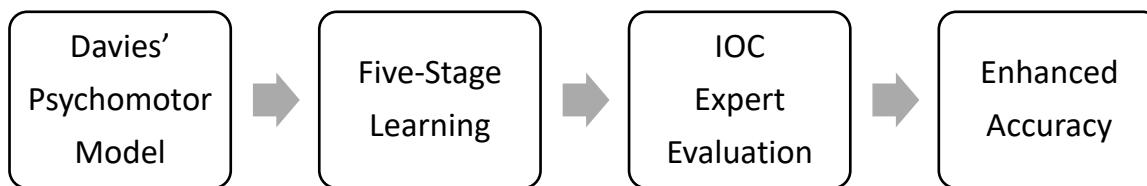


Figure 1 Conceptual Framework of the Study

Methodology

Research Design

This study employs a two-phase research design. In the first phase, a traditional dance course was developed to improve movement accuracy in the performance of Nanjian Tiaocai, a culturally significant Yi ethnic dance. The course was constructed based on Davies' Psychomotor Domain Instructional Model, which emphasizes a five-stage approach to skill acquisition: preparation, presentation, guidance, practice, and evaluation. In addition, 21st-century pedagogical strategies—including project-based learning, task-based instruction, and contextual learning—were integrated to enhance student engagement and cultural



understanding. The second phase of the research focused on evaluating the content validity and instructional alignment of the developed course. This was achieved using the Index of Item-Objective Congruence (IOC), a tool designed to assess how well the instructional components match their intended learning objectives. The validation was conducted by a panel of experts to ensure that the course structure supports both technical precision and cultural expressiveness in dance.

Research Subjects

This study involved two categories of participants: target learners for curriculum design reference and expert evaluators for content validation.

The curriculum was developed with tenth-grade students from the Affiliated Arts School of Yunnan Arts University as the target learner group. These students were assumed to possess general dance training but no prior experience with Nanjian Tiaocai. Although no actual classroom implementation or performance assessment was conducted, the student profiles served as a contextual reference to ensure the curriculum's appropriateness in terms of technical level, cognitive readiness, and cultural exposure. This allowed for a more realistic and learner-centered instructional design.

For the expert validation phase, a panel of three professionals was assembled. The experts had extensive experience in ethnic dance education, intangible cultural heritage (ICH) preservation, and curriculum development, with long-term engagement in Tiaocai performance and instruction. Their qualifications included a nationally certified ICH inheritor, a senior ethnic dance choreographer, and a regional cultural affairs officer. This diverse expertise provided a robust foundation for evaluating the course components using the Index of Item-Objective Congruence (IOC), ensuring alignment between instructional objectives and content.

Research Tools

The primary evaluation instrument used in this study is the Index of Item-Objective Congruence (IOC), a validated tool for assessing the degree of alignment between instructional objectives and course content. Each lesson module in the course was aligned with one of the five stages in Davies' instructional model—preparation, presentation, guidance, practice, and evaluation—and integrated specific indicators of movement accuracy, including posture alignment, spatial awareness, rhythmic coordination, and cultural fidelity.

Three domain experts independently reviewed the course components and rated each item using a three-point scale:

- +1: clear and full alignment between the objective and the content
- 0: partial or ambiguous alignment
- 1: no alignment

According to standard IOC evaluation criteria, a mean IOC score above 0.67 indicates satisfactory alignment and is considered evidence of good content validity. This threshold was used as the basis for determining whether individual items and course segments met acceptable standards for instructional congruence.

Data Analysis

The data analysis process involved two main components: quantitative analysis using the Index of Item-Objective Congruence (IOC) and qualitative analysis of expert feedback.

First, descriptive statistics were calculated to determine the mean IOC scores for each instructional item and module. Following standard criteria, any item receiving a mean IOC score below 0.67 was flagged for revision. This quantitative screening served as the initial filter for content refinement.

Second, a systematic qualitative content analysis was conducted to extract and categorize expert suggestions. Feedback from the three evaluators was analyzed through thematic coding, focusing on four key dimensions: (1) clarity of instructional objectives, (2) appropriateness of content for learner level, (3) cultural fidelity of dance movements, and (4) practical feasibility of instructional activities. Suggestions were grouped into thematic categories, and representative quotes were used to guide specific revisions.





By combining quantitative and qualitative approaches, the revision process ensured that the final curriculum met both theoretical rigor and practical applicability. The validated course was therefore considered pedagogically sound, contextually relevant, and well-aligned with the overarching goals of enhancing movement accuracy and promoting cultural understanding in ethnic dance education..

Results

To evaluate the alignment between the course objectives and instructional content, three experts specializing in ethnic dance, intangible cultural heritage, and curriculum development were invited to assess the Nanjian Tiaocai Dance course using the Index of Item-Objective Congruence (IOC). The evaluation covered 17 criteria across areas such as instructional design, teaching methods, skill development, and cultural integration. Each item was rated on a scale from -1 (incongruent) to +1 (highly congruent), with a mean score of 0.67 or above considered acceptable.

The results showed that 14 out of 17 evaluation items received unanimous agreement from all three experts, with mean scores of 1.00, indicating excellent alignment between the instructional objectives and the content design. These high-scoring items included course content relevance, instructional strategies, technical skill development, creativity and expressiveness, rhythm and musicality, movement fluency, body control and flexibility, emotional expression, teamwork, learning pace, student confidence and attitude, technical mastery, cultural integration, and course reflection.

Such high scores were attributed to the curriculum's clear sequencing of skills, integration of culturally authentic movement vocabulary, and alignment with the five-stage instructional structure of the Davies model. Experts praised the use of progressive scaffolding, effective time distribution across units, and active learning strategies such as collaborative improvisation and performance critique. Moreover, the balance between technique and expressiveness, especially about Tiaocai's symbolic use of props, was highlighted as a strength that both preserved cultural integrity and promoted psychomotor learning.

However, three items received a mean IOC score of 0.67 and were identified for further revision. These included:

1. Clarity of instructional objectives,
2. Mechanisms for tracking individual progress and feedback absorption, and
3. Classroom management and learning environment.

To further validate the course design and ensure instructional effectiveness, these three items were analyzed in depth. Each area was reviewed based on the expert comments, and targeted revisions were implemented to address the specific concerns.

Clarity of Instructional Objectives (Item 1):

Expert 3 noted that the course objectives were overly broad and lacked specificity. In response, the objectives were refined into weekly goals, aligned with the five stages of the Davies model. For example:

Weeks 1–2: foundational footwork and tray-holding stability
Weeks 3–5: short sequences emphasizing rhythm and timing
Weeks 6–10: two prop-based sequences for segmental skill mastery
Weeks 11–13: culturally symbolic sequences from Yi festivals
Weeks 14–16: student-led choreography, rehearsal, and performance

Individual Progress and Feedback Absorption (Item 12):

Expert 1 emphasized the need for mechanisms to monitor student progress and reflection. To address this, the revised curriculum introduced stage-based showcase sessions, structured instructor feedback, brief written reflections, and one-on-one coaching.

Classroom Management and Learning Environment (Item 15):

Expert 2 pointed out the absence of motivational strategies. In response, the course incorporated peer role-play, group collaboration, and a reward-based system with recognitions such as "Best Progress" and "Team Spirit."

These revisions represent a direct and responsive application of expert feedback. Together with the highly rated components, they strengthen the curriculum's alignment with psychomotor learning principles, enhance instructional clarity, and ensure the course is both culturally respectful and pedagogically robust. The finalized curriculum structure is presented in the next section.

Table 1 Nanjian Tiaocai Dance Course Table





Week	Course Content	Course Objectives	Teaching Process
Week 1	Introduction to Dance Culture and Basic Posture	Understand the history and master basic standing posture and gestures	Lecture and demonstration
Week 2	Basic Step and Rhythm Training	Develop a sense of rhythm and coordinated movement	Demonstration and group practice
Week 3	Short Sentence Training and Coordination	Improve fluency through gesture-step sequences	Demonstration and phrase practice
Week 4	Combination Movement and Expressiveness I	Strengthen expressiveness and motor fluency	Detailed guidance and critique
Week 5	Combination Movement and Expressiveness II	Refine accuracy and motivate engagement	Interactive teaching and feedback
Week 6	Hand-held Plate Technique and Cultural Meaning	Understand dish-holding methods and symbolic meaning	Demonstration and symbolic training
Week 7	Advanced Step Techniques (Five-Step, Jumping Step)	Improve strength, posture control, and rhythm	Breakdown and rhythm analysis
Week 8	Short Phrase Variations and Coordination	Strengthen fluency and coordination	Phrase variation training
Week 9	Integrated Performance Practice I	Solidify technique and movement continuity	One-on-one correction and group performance
Week 10	Integrated Performance Practice II	Enhance group coordination and confidence	Gamification and peer review
Week 11	Revisit Cultural Roots and Gesture Expression	Connect expressive movement with cultural symbolism	Learning humorous movement styles
Week 12	Emotion and Precision	Refine emotion-driven gestures and technical detail	Isolated skill and emotion training
Week 13	Final Phrase Construction and Polishing	Consolidate vocabulary into fluent expression	Sequence building and integration
Week 14	Complete Combination Rehearsal I	Ensure consistency and stylistic unity	Routine rehearsal and feedback





Week	Course Content	Course Objectives	Teaching Process
Week 15	Complete Combination Rehearsal II	Refine readiness and execution	Video review and final critique
Week 16	Final Showcase and Assessment	Demonstrate comprehensive learning outcomes	Final performance and evaluation

Curriculum Design Explanation

The curriculum was systematically developed based on Davies' five-stage psychomotor instructional model, which emphasizes a progressive acquisition of movement skills through structured instructional phases. In the Preparation phase, students are introduced to the cultural background and symbolic elements of the Nanjian Tiaocai dance to establish cultural relevance and engagement. The Presentation phase follows with teacher-led demonstrations of key movements, ensuring students have a clear and accurate reference for imitation. The Guidance phase emphasizes peer-supported and instructor-guided practice, focusing on refining rhythm, space, and movement precision. In the Practice phase, students take on a more active role through repeated rehearsal and mirroring activities, which develop fluency and structural awareness. Finally, the Feedback and Evaluation phase involves multi-angle assessment using peer critique, instructor scoring, and video analysis to help students calibrate their performances and prepare for the final showcase. This sequential model allows for both technical mastery and expressive development, aligning performance-based learning with the pedagogical integrity of the Davies framework.

Conclusion

This study set out to design and evaluate a traditional dance curriculum aimed at enhancing movement accuracy through the Nanjian Tiaocai dance, using Davies' Psychomotor Domain Instructional Model as the core framework. Drawing from principles of 21st-century education and structured skill acquisition, the research developed a culturally responsive and pedagogically grounded course tailored for Grade 10 students with foundational dance training. Through the Index of Item-Objective Congruence (IOC), the study also validated the alignment between the course content and instructional objectives. The results affirmed the course's overall consistency and instructional effectiveness, with all items meeting or exceeding the 0.67 IOC threshold.

The application of Davies's five-stage model provided a clear, phase-based approach to teaching performance-based skills. The preparation and presentation stages (Weeks 1–3) helped students build an understanding of the cultural background and technical foundation of Tiaocai dance. The guidance and practice stages (Weeks 4–14) supported motor refinement, rhythm synchronization, and coordination in both individual and group formats. The final evaluation stage (Weeks 15–16) provided a structured setting for student performance, reflection, and skill demonstration. These stages helped scaffold learners' progression from isolated skills to holistic cultural performance.

In parallel, the integration of 21st-century learning strategies—including task-based instruction, project-based activities, and peer collaboration—enabled greater student engagement, personalized learning, and cultural appreciation. By embedding meaningful contexts and performance-based assessments, the curriculum emphasized not only technical mastery but also communicative and expressive competencies. Learners were expected to demonstrate improved movement accuracy, enhanced performance confidence, and a deeper understanding of the symbolic meanings and heritage value embedded in traditional dance.

This study contributes theoretically to the intersection of skill acquisition theory and ethnic dance education by demonstrating the adaptability of Davies' model in a traditional Chinese folk context. It affirms that a structured psychomotor framework can support culturally embedded skills and expressions, thus extending the relevance of Western instructional models into non-Western, practice-based disciplines. The findings support prior research that highlights the importance of combining cognitive, motor, and cultural dimensions in traditional arts training, while also offering a concrete application model in the field of intangible cultural heritage (ICH) education.





Practically, the curriculum offers a replicable instructional model for integrating intangible cultural heritage into both national and local levels of vocational and arts-based education. It provides actionable guidance for curriculum developers, educators, and cultural institutions seeking to deliver coherent, measurable, and culturally respectful dance instruction. The study also emphasizes the pedagogical value of expert input, staged learning objectives, feedback mechanisms, and rhythmic-technical integration in enhancing movement accuracy in ethnic dance contexts.

Nevertheless, the study has limitations. The validation process relied solely on expert review without empirical student data, which limits insights into real-world learner outcomes. The use of only three experts, though strategically selected for their domain knowledge, introduces potential bias. Furthermore, the course was evaluated in a specific regional and institutional context, which may affect its broader applicability across China or in international settings.

Future research should incorporate mixed-method approaches, including student performance data, pre- and post-course assessments, and interviews with learners and instructors. Comparative studies across different regions and cultural practices would enhance the generalizability of the framework. Additionally, exploring digital technologies and multimedia feedback systems could provide new ways to support precise movement learning and cultural immersion in traditional dance education.

In conclusion, this study has successfully developed and validated a structured, culturally grounded curriculum for the Nanjian Tiaocai dance that emphasizes movement accuracy. By applying Davies' psychomotor model and 21st-century teaching principles, it bridges traditional art forms with modern pedagogical practice, offering a sustainable, replicable path for preserving cultural heritage through systematic, student-centered education.

Recommendation

Based on the findings of this study, several actionable recommendations are proposed to strengthen traditional dance education, particularly in the context of movement accuracy and cultural preservation. First, future studies should incorporate empirical testing through pre-test and post-test evaluations of student performance to more precisely measure the effectiveness of the revised Nanjian Tiaocai dance course. Collecting quantitative data on movement precision, rhythm control, and coordination, combined with qualitative data such as student feedback, observational notes, and reflective journals, will provide a more holistic understanding of the course's learning impact.

Second, adopting a mixed-methods approach in curriculum evaluation is highly recommended. By integrating numerical assessments (e.g., rubric-based performance scoring, motion accuracy metrics) with qualitative data from student interviews, peer feedback, and teacher evaluations, future research can achieve a more nuanced view of how technical skill and cultural understanding are developed concurrently. The use of video-assisted analysis and real-time movement tracking software could further enrich the evaluation process, especially in analyzing movement fluidity and gesture accuracy.

Third, the course design should be expanded through blended learning strategies that support both in-class physical practice and digital tools for independent learning. Introducing flipped classroom models, where students preview cultural materials and basic techniques through digital platforms, can enhance in-class effectiveness. Additionally, technologies such as Augmented Reality (AR) and Virtual Reality (VR) could be explored to simulate traditional festival environments and offer immersive experiences that reinforce cultural embodiment and spatial awareness.

Fourth, future curriculum development should place greater emphasis on creativity, improvisation, and expressive interpretation in ethnic dance education. While accuracy remains a core instructional objective, balancing it with student-led exploration, choreographic expression, and improvisational tasks may foster deeper engagement and artistic confidence. To support this, assessment frameworks should be expanded to include indicators of cultural sensitivity, creativity, and emotional expression alongside technical proficiency.

Finally, the adaptability and scalability of the Nanjian Tiaocai dance curriculum should be tested in broader educational contexts. These include vocational institutions in other regions, ethnic arts training programs, and general education settings with diverse student populations. Contextual customization—such as integrating local festivals or dialect-specific movements—can increase the relevance and acceptance of the course while maintaining its instructional integrity.





By following these recommendations, traditional dance education can evolve into a more evidence-based, culturally responsive, and learner-centered discipline, capable of enhancing both movement precision and the preservation of intangible cultural heritage in contemporary education.

References

Ajinyan, A., Dai, X., & Long, X. (2022). Research on the educational transmission of the Nanjian Yi “Tiao Cai” dance. *Talent*, (12), 56–58. <https://doi.org/CNKI:SUN:CAIZ.0.2022-12-017>

Boonlers, T., Thanasri, P., & Chanthachum, N. (2025). Development of learning activities based on Davies' instructional model for the psychomotor domain to promote the Khlui Piang Aw flute playing skill of Grade 4 students. *Journal of Education Rajabhat Maha Sarakham University*, 22(1), 52–62. <https://so06.tci-thaijo.org/index.php/edu-rmu/article/view/275180>

Boonyanant, K. (2023). The development of an instructional package on guitar skills based on Davies' instructional model for the psychomotor domain and cooperative learning for music students of Janokrong Secondary School, Phitsanulok. In *Proceedings of the 13th International Academic Conference (NMIB)*. Mahachulalongkornrajavidyalaya University, Nakhon Sawan Campus. <https://www.academia.edu/97273834>

Davies, I. K. (1971). *The management of learning*. McGraw-Hill.

Diao, G., & Liu, F. (2019). A cultural study of the Nanjian Yi “Tiao Cai” dance. *Journal of Southwest Forestry University (Social Sciences)*, (1), 50–54. <https://doi.org/CNKI:SUN:YNLS.0.2019-01-012>

Fitts, P. M., & Posner, M. I. (1967). *Human performance*. Brooks/Cole.

Gentile, A. M. (1972). A working model of skill acquisition with application to teaching. *Quest*, 17(1), 3–23. <https://doi.org/10.1080/00336297.1972.10519717>

He, L. (2024). An exploration of ethnic dance teaching methods in dance performance teaching in colleges and universities in the context of big data. *Applied Mathematics and Nonlinear Sciences*, 9(1), 1–17. <https://doi.org/10.2478/amns-2024-0097>

Huo, Y. (2019). Exploration of the industrialization of the “Yi Tiao Cai” culture in Nanjian against the background of rural tourism. *Tourism Overview (Second Half)*, (24), 178–179. <https://doi.org/CNKI:SUN:LZHB.0.2019-12-071>

Krasnow, D. H., & Wilmerding, M. V. (2015). *Motor learning and control for dance: Principles and practices for performers and teachers*. Human Kinetics.

Li, Y. (2024). A study on the living inheritance of Nanjian Yi “Tiao Cai” dance (Master’s thesis, Dali University). CNKI. <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202501&filename=1024603110.nh>

Ma, S. (2021). Preservation and transmission of the original ecological folk dance through “Tiao Cai”. *Artist*, (3), 150. <https://doi.org/CNKI:SUN:YSJA.0.2021-03-091>

Pang, D. (2025, April 18). Nanjian “Tiao Cai” dance: The culture of the “feast ceremony”. *China Food News*, p. 007.

People’s Daily. (2017, October 6). Intangible cultural heritage education: Vital to living cultural transmission. https://paper.people.com.cn/rmzk/html/2017-10/06/content_1810564.htm

Schmidt, R. A., Lee, T. D., Winstein, C. J., Wulf, G., & Zelaznik, H. N. (2019). *Motor control and learning: A behavioral emphasis* (6th ed.). Human Kinetics.

Shi, W. (2019). A study on the performance structure of Nanjian “Tiao Cai” dance in Yunnan. *Beauty and Times* (A), (8), 61–63. <https://doi.org/10.16129/j.cnki.mysds.2019.08.018>

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Allyn & Bacon.

Thomas, J. W. (2000). *A review of research on project-based learning*. The Autodesk Foundation.

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.

Xu, Y. (2022). Exploration of regional folk cultural elements in the Nanjian Yi dance “Tiao Cai”. *Famous Artists and Works*, (16), 60–62. <https://doi.org/CNKI:SUN:JMJMZ.0.2022-16-020>

Zhang, Y. (2021). Contemporary development and school-based transmission of the Nanjian Yi “Tiao Cai” dance (Master’s thesis, South-Central Minzu University). CNKI. <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202301&filename=1021700727.nh>

