



Research on Digital Innovation Mechanism of Anhui Flower Drum Lantern Teaching Based on Modular Resource Library

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Abstract. As one of the intangible cultural heritages integrating music, dance, and theater, Anhui Lantern faces challenges such as low teaching efficiency and outdated methods. This paper proposes an innovative teaching approach based on a modular digital resource library, combining teachers' instructional experience with data-driven analytical algorithm-assisted evaluation models. This approach establishes a new model of dance teaching empowered by digital technology, achieving an attempt at 'skill inheritance-redefinition of teacher-student roles-creativity stimulation.' It enhances teaching efficiency and student experience, provides a theoretical paradigm and practical model for the digital transformation of traditional arts education, accomplishes breakthroughs in the contemporary performance promotion and living inheritance of Anhui Lantern, and offers methodological references for teaching innovations in Chinese ethnic and folk dance.

Keywords: Digital Innovation Mechanism Anhui Flower Drum Lantern, Modular Resource Library, TACT Teaching Methodology

1 Introduction

Chinese ethnic folk dance is both a vital carrier of Chinese culture and an important part of world heritage. Rooted in the traditions of various ethnic groups, these dances reflect distinct regional styles and folk characteristics^[1]. As society changes and globalizes, this art form faces new opportunities and challenges. The central question for researchers is how to preserve traditional techniques while adapting to multicultural influences and innovation. In response, educators are exploring how technology can improve classroom teaching. Two approaches have gained attention: blended teaching models and holistic teaching concepts^[2]. Blended models combine online and offline learning to extend the classroom, enrich content, and improve interaction. Holistic approaches integrate movement with music, culture, and history, deepening students' understanding of the art's cultural value^[3].

Intangible cultural heritage (ICH) dances have long been taught through the master-apprentice model, based on oral instruction and physical demonstration. While this

method preserves tradition, it has clear limitations: teaching is confined to the classroom, methods are rigid, and individual student needs are often neglected^[4]. Anhui Flower Drum Lantern has followed this traditional approach. However, as education modernizes and student populations change, the model's weaknesses have become more visible. Limited Individual Attention. The one-size-fits-all approach cannot accommodate different learning paces. Advanced students are held back, while struggling students fall further behind. The heavy focus on imitation preserves technique but suppresses creativity. Teacher Overload. Instructors juggle teaching with administrative duties, leaving little time for personalized guidance. Constrained by class size and schedule, they must prioritize the majority, making detailed feedback for each student impossible^[5]. In teaching complex techniques like the "fan variation," this lack of individual attention reduces practice effectiveness. Because Flower Drum Lantern involves improvisation and creativity, individual attention is especially important. Yet traditional assessment focuses only on movement accuracy, leading students to mechanical repetition without understanding deeper meaning^[6]. This creates a risk: technique is preserved, but artistry declines. Students lose motivation and creative drive.

Teaching goals should operate at multiple levels. Foundational goals ensure students master basic skills and knowledge^[7]. Developmental goals cultivate advanced abilities like choreography and collaboration^[8]. However, current teaching emphasizes imitation over understanding, limiting students' capacity for independent creation. Another problem is the lack of ongoing assessment. Traditional evaluation relies on final performances, with no tracking of student progress or attention to creative process^[9]. This delayed feedback neither helps teachers adjust instruction nor keeps students motivated. As a result, teaching quality stagnates and innovation suffers.

To address the above issues, this paper proposes a student ability grading evaluation and Anhui Lantern performance teaching model based on digital technology. This model is based on the DUET-AFDL digital resource library and can automatically collect and analyze students' performance data, identify areas for improvement, and help teachers translate their teaching experience into targeted instructional suggestions. This model can significantly improve the quality of Anhui Lantern dance teaching, reduce teachers' instructional stress, and enhance students' interest and learning effectiveness.

2 Methodology

To address the bottlenecks in traditional Flower Drum Lantern teaching, this study proposes the TACT (Tailored And Creative Teaching) methodology, as shown in Figure 1, which innovates the pedagogy of Anhui Flower Drum Lantern dance^[10]. Grounded in the open-source resource library DUET-AFDL, this methodology transforms the teaching paradigm from holistic replication to logical assembly, preserving the rigor of cultural inheritance while endowing instruction with flexibility and generality. TACT comprises two core components: tailored instruction to achieve decoupling of teaching burdens, and encouraging creation to activate endogenous motivation for inheritance^[11]. The following sections elaborate on TACT's content and implementation methods in these two dimensions.

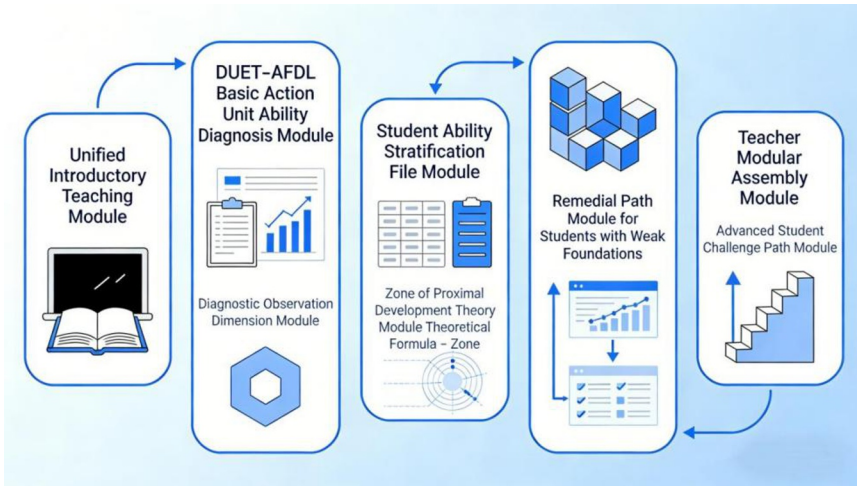


Fig. 1. TACT Method Roadmap

2.1 Tailored Instruction: Designing Personalized Learning Pathways

The central challenge of tailored instruction has long been that teachers possess rich expertise yet lack practical tools to translate it into personalized teaching schemes. The DUET-AFDL resource library addresses this gap by transforming its standardized movement system into assemblable teaching modules, converting tailored instruction from an abstract ideal into an operable technical pathway. This process involves two steps.

Step 1: Competency Diagnosis and Stratification. Teaching progresses from uniformity to differentiation. The initial phase comprises two centralized sessions that deliver foundational instruction to all students: historical and cultural background of Flower Drum Lantern, basic fan-holding methods, body posture norms, and preliminary exposure to fundamental movement units [12]. This unified introduction establishes shared cultural cognition and physical preparation, eliminating absolute zero-foundation disparities among students. Following the unified introduction, teachers conduct systematic diagnostic assessment using the fundamental units in DUET-AFDL. The resource library deconstructs Flower Drum Lantern techniques into 51 irreducible fundamental movement units, each corresponding to independent technical elements or emotional expressions. These units are coded into four difficulty levels:

1001–1007: Basic level

2001–2009: Intermediate level

3001–3012: Advanced level

4001–4023: Challenging level

Teachers select representative movements from each difficulty level for classroom observation—for example, two-finger fan-holding and pinching fan at the basic level, and two-three-finger fan-holding with wrapping fan at the intermediate level. By ob-

serving students' trajectory accuracy, rhythmic alignment, and prop manipulation precision, teachers rapidly identify competency zones and construct differentiated learning profiles.

Step 2: Personalized Lesson Plan Assembly. Based on diagnostic results, teachers design individualized learning pathways for each student. The theoretical foundation for this approach is Vygotsky's Zone of Proximal Development (ZPD) theory [13]. This theory distinguishes between two levels of student development: the actual developmental level (independent problem-solving) and the potential developmental level (achievable with adult guidance or peer collaboration). The gap between these constitutes the zone of proximal development. Effective instruction targets this zone—neither repeating mastered content nor assigning tasks beyond students' capabilities, but providing appropriately challenging learning opportunities achievable with moderate support [14]. Applying this framework, teachers manually select movement units from the DUET-AFDL resource library to assemble personalized learning pathways for each student. This process resembles modular invocation in programming but relies entirely on teachers' professional judgment. Specifically, teachers:

- Identify students' actual developmental levels from diagnostic results

- Consult the resource library's difficulty coding system

- Select movement combinations situated within each student's ZPD

For students with weak foundations, lesson plans prioritize consolidating fan-holding stability and basic patterns, deferring complex movements involving fan trajectory routes, and incorporating dance phrases with relaxed rhythms to build confidence [15]. For advanced students, lesson plans directly select dance phrases containing multi-level movements, dis-aggregate technical difficulties for targeted reinforcement, and introduce demonstration versions from different inheritors for comparative learning [16]. The teacher's core function lies in judging which combinations will best stimulate each student's potential, rather than simply stacking movements in order of difficulty.

Scenario A: Remediation Pathway for Students with Weak Foundations. Student profile indicates unstable two-finger fan-holding gestures, erroneous finger force application stemming from daily habits, yet acceptable body coordination. Lesson plan assembly: Weeks 1-2 focus on 1001-1007 basic fan-holding and hand positions, coordinated with slow-motion demonstration videos of fan-holding movements in DUET-AFDL, with daily practice duration of fifteen minutes; Weeks 3-4 introduce 2001 full-hand fan-holding to 2009 two-three-finger fan-holding with shaking fan, but temporarily exclude complex movement 2006 striking fan requiring fan-holding trajectory routes; interspersed practice selects dance phrases with relaxed rhythms such as 20250630001, avoiding complex prop manipulation to build confidence.

Scenario B: Challenge Pathway for Advanced Students. Student profile indicates mastery of 2000-series movements, good fan surface control precision, yet lacking experience with complex combinations. Lesson plan assembly: Directly select from the resource library dance phrases containing multiple 3000 and 4000-series movements such as 20250630021; disassemble technical difficulties in the phrase, identifying segments containing 3002 upward-downward opening-closing fan, and retrospectively reinforce these in fundamental units; introduce comparative learning, having students

simultaneously view standard-version demonstrations and variant versions from different school inheritors in the resource library to understand the flexibility of movement logic.

2.2 Encouraging Creation: From Fundamental Movements to Short Phrase Choreography

The crisis of inheritance lies not only in the loss of techniques but also in techniques becoming rigid dogmas. The TACT methodology addresses this by creating structured open spaces for students after they master rigorous fundamental units, permitting and even encouraging non-standardized exploration. This approach transforms intangible cultural heritage from museum display into living emotional language. The implementation of this concept relies on the structural characteristics of the DUET-AFDL resource library. Fundamental units serve as non-negotiable cultural genes that must be strictly inherited. Students must ensure accuracy in mechanical trajectories and cultural symbols—for example, tiger-mouth fan-holding and wrapping fan—through repeated imitation of expert demonstration videos. Dance phrases, conversely, serve as open poetic spaces permitting deconstruction and reassembly. Standard phrases in the resource library are model essays rather than standard answers. Students should understand their combination logic, such as the narrative structure of initiation, development, transition, and conclusion, rather than engaging in mechanical replication.

This approach is grounded in constructive learning theory (Piaget, 1973; Vygotsky, 1978), which carries important implications for Flower Drum Lantern teaching: the ultimate goal of instruction is not merely replicating tradition but enabling students to internalize techniques as personal languages of emotional expression, becoming active constructors of knowledge rather than passive recipients. Accordingly, the design of creative sessions follows the scaffolding instruction concept. Teachers initially provide explicit structural support—such as limiting movement ranges and rhythmic frameworks—then gradually remove scaffolds and expand creative freedom as students' capabilities improve. Ultimately, students can independently complete the entire process from thematic conception to movement choreography. Based on this framework, the implementation of encouraging creation proceeds in two steps.

Step 1: Creating Structured Open Spaces. Teachers design creative tasks with clearly defined boundary conditions based on the scope of fundamental units' students have mastered. Boundary conditions include movement code sets, beat number limitations, themes or emotional keywords, etc., ensuring students possess sufficient decision-making autonomy within limited ranges. Teachers prepare corresponding instructional materials, including demonstration video links for relevant movements in DUET-AFDL, metadata description documents, and blank student creation record templates. Simultaneously, teachers must adjust their role positioning, transforming from right-wrong judges in traditional imitation sessions to inspiration partners and aesthetic consultants in creative processes, with core tasks lying in stimulating imagination, protecting exploratory desire, and guiding students from random assembly toward conscious expression.

Step 2: Implementing Formative Assessment and Inheritance Incentives.

Teachers establish process-oriented archive management mechanisms, requiring students to systematically preserve creation sketches, practice videos, and self-reflection notes, constituting personal artistic growth trajectories. For completed works, teachers organize presentation and discussion activities, with evaluation focus concentrated on creative logic rather than aesthetic outcomes. Teachers select excellent or representative student creations, and with authors' consent, standardize them according to DUET-AFDL naming conventions and metadata formats.

Specific Teaching Scenarios for Creation Guidance

Scenario A: Logical Assembly Exercise. Task Specifications. Students are provided with three to four fundamental units—for example, 2001 (full-hand fan-holding), 2007 (tiger-mouth fan-holding), 2008 (two-three-finger fan-holding), and 3004 (embracing fan)—and must independently determine connection sequences and rhythmic treatments to create four eight-beat phrases. Process Specifications. Students first list movement codes and beat allocations using pen and paper or tables, then record practice videos and engage in one-on-one discussions with teachers regarding the logic behind their selections. Teacher guidance focuses not on evaluating aesthetic quality but on discussing whether the kinetic chain between movements is coherent and whether emotional intentions are clear. Even awkward combinations are documented as counterexample materials for exploring what constitutes fluency.

Scenario B: Emotion-Driven Choreography. Task specifications center on specific themes such as autumn harvest, spring outing, or butterfly catching, with students autonomously selecting movement modules from DUET-AFDL to create thirty-second phrases. Resource utilization strategies include browsing metadata of fundamental units to preliminary screen based on emotional tags in movement descriptions, analyzing how experts create atmosphere by viewing demonstration videos of dance phrases, and permitting cross-level selection of movements basic-level students may attempt presenting challenging-level movements in simplified forms to explore personal expression limits. Teachers' role transforms from right-wrong judges to inspiration partners; when students attempt integrating Flower Drum Lantern movements with other dance elements, teachers do not hastily negate their non-traditional nature but rather inquire how such boundary-crossing reinterprets the contemporaneity of ethnic folk dance.

2.3 Structural Optimization of Classroom Time Allocation

To implement the TACT methodology, we must also reconstruct the configuration logic of classroom time. Under the traditional model, teachers allocate 60% to 70% of classroom time to collective demonstration and common-error correction; under the TACT model, class beginning preparation is completed through DUET-AFDL's open resources, and personalized lesson plans enable redistribution of classroom time, as shown in Table 1.

Table 1. Classroom Time Allocation Scheme

Phase	Time Allocation (min)	Teaching Content	Structural Analysis
Introduction	5	Play classic Anhui Flower Drum Lantern performance videos to introduce course theme	Stimulate student interest
Theoretical Explanation	5	Introduce basic theoretical knowledge of Flower Drum Lantern	Theoretical knowledge acquisition
Collective Unified Movement Instruction	10	Single-element dance movements	Teacher: demonstration, explanation, guidance; Student: observation, imitation, practice
Personalized Guidance	25	Basic student modules, advanced student modules	Intensive training for different students, real-time error correction, improving teaching effectiveness
Student Autonomous Practice and Creation	20	Logical assembly exercises, emotion-driven choreography	Database deconstruction
Intelligent Teaching Assessment	10	Utilize intelligent assessment equipment to evaluate and score complete Flower Drum Lantern dance combinations	Expert-level intelligent error correction and evaluation algorithms, achieving high-precision assessment of student dance movements
Class Summary and Reflection	5	Summarize lesson content, emphasize key movements and precautions, assign after-class homework	Observe students' mastery of Flower Drum Lantern and acceptance of intelligent assessment, reflect on teaching method effectiveness and improvement directions

The essence of this temporal reconstruction is to transform the classroom from a theater where teachers perform and students imitate into a laboratory where teachers guide and students explore, ultimately achieving the organic unity of skill transmission and art education.

In the traditional master-apprentice system, experts' artistic interpretation and teaching administration are highly coupled, with quality teaching resources diluted by transitional work. The TACT methodology achieves decoupling of teaching burdens through the structured resources of DUET-AFDL. The resource library assumes administrative work: its standardized movement coding, difficulty grading, beat division, and

demonstration videos replace teachers' repetitive planning and movement demonstration. Teachers thus transform from omnipresent providers into learning designers and aesthetic education consultants, concentrating their energy on observing students' potential for emotional expression, correcting subtle force-application errors, and interpreting the cultural connotations behind movements. This transformation releases expert wisdom from burdensome transitional work, focusing it on the most creative and humanistic aspects of teaching.

3 Results

To rigorously assess the TACT teaching methodology, this study implemented two complementary empirical investigations. Experiment A targeted teacher-side effects, verifying the efficiency and quality gains of DUET-AFDL-based modular lesson preparation. Experiment B targeted student-side effects, drawing on final grade distributions and semi-structured interviews from two natural classes to examine the impact of personalized learning pathways on student achievement and engagement.

3.1 Experiment A: Efficiency and Quality Assessment of Instructional Design

This experiment aimed to verify whether the DUET-AFDL resource library could significantly reduce preparation burdens while enhancing the professional standards of lesson plans. The experiment employed a case comparison design, comparing two lesson preparation methods: Method A involved using the DUET-AFDL resource library combined with student file systems to generate personalized lesson plans through modular block assembly; Method B involved consulting traditional paper-based textbooks and video materials to hand-write personalized lesson plans based on experience.

Participants and Procedure. Two university teachers with over five years of Flower Drum Lantern teaching experience participated in the experiment. Teacher A adopted Method A, while Teacher B adopted Method B. For the same set of student profiles (including high, medium, and low competency levels), they respectively designed personalized lesson plans for two weeks of instruction (four sessions total). Teacher A had access to the DUET-AFDL resource library, utilizing its fundamental units coding system, dance phrases demonstration videos, and metadata descriptions to manually select and assemble movement modules, and completed the learning profile templates in the student file system. Teacher B relied on traditional textbooks, personally collected video materials, and handwritten notes routinely used in daily teaching for lesson plan preparation.

Assessment Indicators and Results. Indicator 1: Preparation Duration. Teacher A completed three personalized lesson plans (corresponding to high, medium, and low competency students) in 4.5 hours total, including 2 hours for movement selection and sequence arrangement, 1.5 hours for learning profile completion, and 1 hour for instructional material preparation. Teacher B completed equivalent tasks in 11 hours total, including 5 hours for consulting materials and recalling movement details, 4.5 hours for handwritten lesson plans and drawing movement diagrams, and 1.5 hours for difficulty

adaptation and personalized adjustment. Method A saved approximately 59% of preparation time compared to Method B. The efficiency improvement primarily stemmed from DUET-AFDL's standardized coding system eliminating the cognitive load of designing movement sequences from scratch, and the existing demonstration videos and difficulty grading reducing the time cost of verifying movement feasibility.

Indicator 2: Lesson Plan Professionalism Score. A senior expert uninvolved in the experiment (a provincial-level ICH inheritor with over twenty years of Flower Drum Lantern teaching experience) conducted a blind review of both lesson plans, scoring three dimensions—scientifically of movement connection, rationality of difficulty gradient, and accuracy of cultural inheritance—on a 10-point scale. Teacher A's lesson plan received 9, 8, and 9 points respectively in the three dimensions, totaling 26 points; Teacher B's lesson plan received 7, 6, and 8 points respectively, totaling 21 points. The expert's comments noted that Teacher A's lesson plan presented a clear simple-to-complex logic in movement sequences, with difficulty progression conforming to body movement laws, and each movement annotated with DUET-AFDL codes for easy tracing and adjustment. While Teacher B's lesson plan was relatively rich in cultural interpretation, it contained two instances of difficulty jumps (from basic fan-holding directly to wrist-explosive opening fan movements), and personalized bases were mostly expressed as experiential descriptions lacking specific movement orientation.

Indicator 3: Personalization Accuracy. Comparing lesson plans with student profiles, Teacher A's lesson plans could clearly annotate the fundamental units codes and selection basis corresponding to each student, with selected movement difficulty distributions completely matching diagnostic results. In Teacher B's lesson plans, the scheme for students with weak foundations only annotated the need for intensified practice without specifying concrete movement codes, while the scheme for advanced students exhibited content overlap, failing to fully tap their potential, as shown in Table 2.

Table 2. Comparison of Key Indicators Between Two Lesson Preparation Methods

Assessment Indicator	Method A (DUET-AFDL)	Method B (Traditional Preparation)	Difference
Total Preparation Duration	4.5 hours	11 hours	59% saved
Movement Selection and Arrangement Time	2 hours	5 hours	60% saved
Lesson Plan Professionalism Total Score (30 points max)	26 points	21 points	5 points improved
Specificity of Movement Connection Score (10 points max)	9 points	7 points	2 points improved
Rationality of Difficulty Gradient Score (10 points max)	8 points	6 points	2 points improved
Accuracy of Cultural Inheritance Score (10 points max)	9 points	8 points	1 point improved
Personalization Accuracy	Complete match (code correspondence)	Experiential description (no coding)	Qualitative difference

The above results demonstrate that the DUET-AFDL resource library not only significantly enhances preparation efficiency but also strengthens the professional standards and personalization accuracy of lesson plans through its structured movement system and visualized difficulty grading, thereby achieving the anticipated goal of decoupling teaching burdens.

3.2 Experiment B: Differential Assessment of Learning Outcomes

This experiment, based on final grade distribution data and in-depth interview materials from two natural classes, verified the impact of tailored instruction pathways on students' skill mastery levels and learning experiences. The experiment employed a natural class control design, comparing learning outcome differences between traditional unified teaching and the TACT teaching model.

Participants and Procedure. Two natural classes from the Dance Major at Hefei Preschool Education College were selected as research subjects. Class 1 served as the control class (37 students), adopting the traditional unified teaching model, wherein teachers formulated unified lesson plans based on class average levels, with classroom instruction focusing on collective demonstration, synchronized imitation, and unified error correction. Class 2 served as the experimental class (28 students), adopting the TACT teaching model, conducting competency diagnosis before class and establishing individual learning profiles. Teachers manually assembled personalized lesson plans based on DUET-AFDL, and students could utilize demonstration videos and metadata in the resource library for class preview and after-class review. Both classes were taught by the same instructional team, with a teaching cycle of sixteen weeks, two sessions per week, and ninety minutes per session. At semester end, a senior expert unaware of group assignments (non-teaching faculty, with over thirty years of Flower Drum Lantern performance and adjudication experience) conducted standardized assessments of students from both classes. Assessment content included ten randomly selected fundamental units and two dance phrases, with scoring dimensions encompassing movement accuracy, rhythmic alignment, prop manipulation precision, and artistic expressiveness, totaling 100 points.

Grade Distribution Analysis. The grade distribution of the control class as shown in Figure 2. This class's scores ranged from 60.0 to 92.99 points, with a distribution span of 32.99 points. Examining the proportion of each score segment: low-score segment (below 70 points) comprised 6 students, accounting for 16.2%; 70–79.99 point segment comprised 8 students, accounting for 21.6%; 80–89.99 point segment comprised 16 students, accounting for 43.2%; high-score segment (90 points and above) comprised 7 students, accounting for 18.9%. This class had 2 students scoring 60–60.99 points, with the lowest score being only 60 points, indicating that under the unified teaching model, some students struggled to keep pace with instructional progress, exhibiting significant competency gaps. The grade distribution presented a multi polar differentiation characteristic, with scattered distribution across segments and lacking obvious central tendency.

The grade distribution of the experimental class as shown in Figure 3. This class's scores ranged from 73.0 to 94.99 points, with a distribution span of 21.99 points, compressing 11 points compared to the control class. Examining the proportion of each score segment: low-score segment (below 80 points) comprised 6 students, accounting for 21.4%, but the lowest score was 73.0 points, representing a 13-point improvement over the control class; 80–89.99 point segment comprised 15 students, accounting for 53.6%; high-score segment (90 points and above) comprised 7 students, accounting for 25.0%. The experimental class did not exhibit extremely low segments below 80 points, with grade distribution more concentrated in the medium-high score region.

Comparison of grade distributions between the two classes reveals three significant characteristics. First, substantial improvement in grade floor. The experimental class's minimum score (73.0 points) was 13 points higher than the control class's minimum score (60.0 points), and the experimental class had no students below 70 points, whereas the control class had 6 students (16.2%) below 70 points. This indicates that the tailored instruction pathway effectively supported learning catch-up among students with weak foundations, avoiding persistent falling behind under unified pacing. Second, enhanced grade concentration. The experimental class's score span (21.99 points) compressed approximately one-third compared to the control class (32.99 points), with the 80–90 point interval becoming a clearly dominant score segment (accounting for 53.6%), whereas the control class's grades were scattered across seven segments, presenting a fragmented distribution. This difference indicates that personalized teaching pathways effectively narrowed skill gaps among students, promoting more equitable instructional outcomes. Third, increased proportion of high-score segments. The experimental class's proportion of students above 90 points (25.0%) improved by 6.1 percentage points compared to the control class (18.9%), indicating that personalized lesson plans provided sufficient challenge space for high-ability students, enabling them to rapidly advance to complex combination learning after mastering foundations.

Based on mid-value estimates of each score segment, the control class's average score falls in the 79–81 point interval, while the experimental class's average score falls in the 85–87 point interval, representing an approximate 6-point improvement in overall level. However, it should be noted that due to the lack of individual raw data, this estimation contains certain errors, and precise means should be calculated from raw scores.

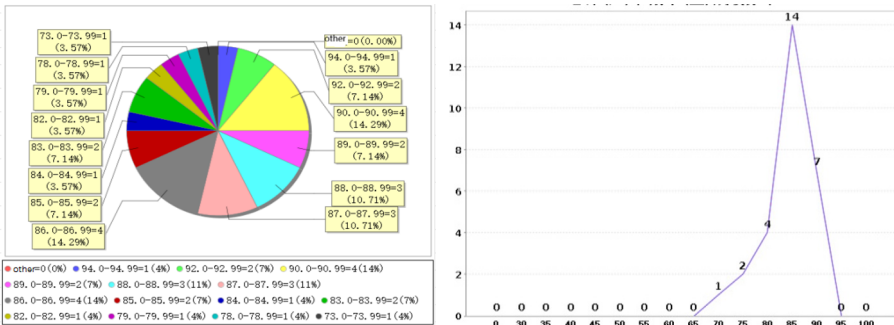


Fig. 2. Normal class performance distribution

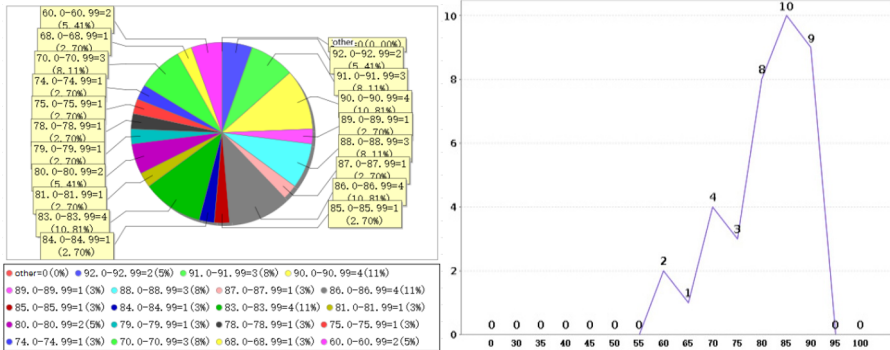


Fig. 3. Class score distribution based on the method

Qualitative Interviews. To understand the learning mechanisms underlying the observed grade differences, researchers conducted semi-structured interviews with three students from each class—one from the high, medium, and low performance segments respectively. Interviews focused on three themes: learning experience, difficulty coping, and creative participation.

Students from the experimental class generally reported a clear sense of learning pathway and personal control over their progress. A medium-performing student described the value of structured diagnosis: "When I first encountered Flower Drum Lantern, I had absolutely no concept of fan control. But the learning profile my teacher gave me clearly listed that I should first practice 1001 to 1007, these basic fan-holding movements. Each movement had videos for reference, so I could clearly know where I am now and what to learn next. This modular progress made me no longer afraid of falling behind." A high-performing student emphasized the motivational impact of creative space: "After completing the 2000-series movements assigned by my teacher, I tried combining 2005 knuckle-holding fan and 2006 striking fan into a short phrase. Although it was simple, it was my own choreography. This experience made me develop genuine interest in Flower Drum Lantern."

Interviews with control class students revealed a markedly different pattern characterized by anxiety, stagnation, and lack of purpose. A low-performing student described persistent frustration: "I've been trying hard to keep up with everyone's pace, but the movements demonstrated by the teacher were too fast for me. The fan kept dropping, and the more I practiced, the more panicked I became. Later on, I even became afraid of attending professional classes." A medium-performing student reflected on unresolved technical bottlenecks: "Although my movements became proficient through practice, the 'fan variation' technique was always stuck in my hands. The teacher was busy taking care of overall progress and rarely had time to guide me individually." Even high-performing students expressed confusion about learning meaning: "My exam scores are good, but besides coping with exams, I'm not clear what these movements can be used to express. It feels like I'm just replicating the teacher's demonstrations."

Synthesizing grade distribution data with qualitative interviews, the TACT teaching methodology achieved dual improvements. On the teacher side, it enhanced preparation efficiency and lesson plan quality. On the student side, it promoted fairness in skill

mastery, internalization of learning motivation, and awakening of creative consciousness. These findings validate the scientific basis and feasibility of transforming teaching from holistic replication to logical assembly.

4 Conclusion and Discussion

This study proposes a digital technology-enabled teaching model for Anhui Flower Drum Lantern that combines student ability grading evaluation with performance instruction. Leveraging the DUET-AFDL digital resource library, the system automatically captures and analyzes student performance data, identifies specific areas for improvement, and supports teachers in converting their experiential knowledge into precise, actionable feedback. The model aims to improve instructional quality, alleviate teacher burden, and boost student motivation and learning effectiveness. This study's theoretical contribution lies in constructing a systematic teaching transformation model of skill decoupling-precise adaptation-creative generation.

Future research can deepen in three directions. First, expanding application scope by applying the TACT methodology to other ICH dances or traditional skill domains, testing its transfer ability as a general teaching framework, and exploring adaptive adjustments in different cultural contexts. Second, conducting longitudinal tracking to examine the sustained impact of TACT teaching models on students' long-term artistic literacy, creative capabilities, and cultural inheritance identification. Third, exploring technology enhancement by researching the supportive role of intelligent auxiliary tools for teacher decision-making while maintaining TACT's core educational philosophy, but adhering to the fundamental principle of technology empowerment rather than substitution, preserving humanistic elements in education.

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