



CONSTRUCTING A COURSE OF RUAN IN BEIJING JUNIOR MIDDLE SCHOOLS, CHINA

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Abstract

In the context of global education, there is a growing recognition of the importance of preserving and revitalizing traditional cultural arts within modern curricula. As societies strive to maintain cultural heritage in an increasingly globalized world, music education serves as a powerful medium for cultural transmission. Traditional Chinese instruments like the Ruan, a plucked string instrument with over two thousand years of history, play a vital role in connecting younger generations to their cultural identity. This research aimed to integrate traditional music into contemporary education by focusing on Ruan performance instruction for junior middle school students in Beijing's Haidian District. The objectives of this research were: (1) to study current Ruan music teaching methods; (2) to construct a Ruan performance textbook specifically for junior middle school students; (3) to conduct experimental teaching using the textbook in Haidian District junior high schools; and (4) to evaluate the effectiveness of the Ruan elective course. A mixed-methods research design was employed. The population included 10 junior middle schools in Haidian District, comprising 10,311 students across grades 7–9, with a sample size of 3,437 grade 7 students selected through random sampling. Key informants—Wang Shaowei, Guo Rang,





and Wu Sha—were chosen via purposive sampling. Data collection tools included interview forms, observation forms, OC forms, and evaluation instruments such as formative and summative tests. Quantitative data were analyzed using descriptive and inferential statistics. **The findings were as follows:** (1) The study of Ruan teaching methods indicated that the instrument effectively enhances student musical skills and supports the integration of traditional music into modern education. (2) The constructed textbook served as a culturally grounded and pedagogically structured resource, fostering the preservation of traditional arts. (3) Teaching experiments confirmed the textbook's practicality, demonstrating that structured Ruan instruction encourages both technical development and cultural engagement. (4) The evaluation of the elective course showed that combining formative and summative assessments verified the course's effectiveness in improving students' performance skills, interpretive ability, and cultural awareness. These results support the broader goal of nurturing cultural identity through formal music education in junior middle schools.

Keywords: Constructing; Course of Ruan; Beijing Junior Middle Schools

Introduction

Traditionally Chinese instrumental music boasts a rich and diverse history that mirrors the cultural evolution of China over several millennia. Rooted in ancient philosophical and artistic legacies, it integrates a vast array of instruments, each imparting unique sounds and styles to the musical panorama. Since its inception, traditional instrumental music has undergone a protracted development process. Every historical epoch has its own characteristic mode of development. Bell and drum bands and gu qin music in the pre-Qin period; Advocated music and Xiang he songs from the Han Wei to the Southern and Northern Dynasties; The flourishing of instrumental music in the Sui and Tang Dynasties; Folk instrumental music in the Song, Yuan, Ming, and Qing dynasties; The development and innovation of modern and contemporary national instrumental music. The principal families of Chinese instruments encompass string, wind, and percussion, which are frequently categorized into classifications such as “silk,”





“bamboo,” and “stone” instruments. As early as the primitive society, China had created a multiplicity of musical instruments, such as drums, chimes, bells, and so forth. By the time of the Western Zhou Dynasty, around the 11th century BC, approximately 70 types of musical instruments were recorded in the literature. At that time, based on the diverse materials of the instruments, they were divided into eight categories, known as "eight Yin", namely gold, stone, earth, leather, silk, wood, pao, and bamboo. Early instrumental music was a fusion of poetry, song, and dance, and emerged as an accompaniment form of poetry, song, and dance. In the Western Zhou Dynasty, some independent instrumental passages were interspersed within large-scale song and dance programs, which constitutes the earliest record of independent instrumental performance. This classification elucidates the intrinsic connection between the instruments and their cultural significance, as well as their utilization in various social contexts, including rituals, celebrations, and storytelling (Lin, 2000).

Traditionally Chinese instrumental music has a long history, wide distribution and diverse categories. Based on its performance form, traditionally instrumental music mainly encompasses two performance forms: solo music and ensemble music. Solo music is categorized by musical instruments and can be classified into wind, string, plucking and percussion, etc. Ensemble music is divided into string music for various string instrument ensembles, silk-bamboo music for wind and string instruments, wind and percussion music for wind instruments and percussion instruments, as well as percussion music such as gongs and drums. Different instrument combinations, diverse repertoires and playing styles form a variety of musical genres. According to the characteristics of local music bands, traditionally Chinese music can be classified into five types, namely string music, silk and bamboo music, wind music, blowing and percussion music, and gong and drum music. Chinese traditional music places emphasis not only on melody and rhythm but also on the emotional expression and cultural symbolism of the music. Traditionally instruments often embody philosophical ideas and are played to evoke particular sentiments, connecting the performer and the audience to their shared cultural heritage. The preservation and teaching of this musical tradition are crucial for maintaining cultural identity, especially in an increasingly globalized world (Chen, 2019).





Research Objectives

1. To study the Ruan music teaching methods.
2. To construct the Ruan performance textbook for junior middle school students.
3. To conduct experiments on teaching the Ruan performance textbook for junior high school students in Haidian District.
4. To evaluate the effectiveness of the Ruan elective course in teaching junior high school students in Haidian District.

Literature Reviews

Playing Techniques and Transmission of Ruan Instrumental: Ruan is a traditional Chinese plucked instrument with a long history, and its playing techniques and inheritance methods have undergone remarkable development and changes in different historical periods. From the simple function of accompaniment in the early days to the diversified development of solo and ensemble playing in modern times, the technique system and cultural value of Ruan have gradually become the focus of academic attention. Ruan's performance techniques have experienced a systematic development from single to complex. According to Han Cheng's research, the traditional technique of ruan is based on basic movements such as “playing, picking, wheeling, and scratching”, which is mainly used for supporting single and long notes in accompaniment, and has a monotonous tone (Han, 2020). In the 1950s, with the improvement of ruan by Zhang Zi Rui (e.g., the introduction of the twelve equal temperaments and standardization of the shape), the technique began to expand to diversification. to diversify. For example, in the solo piece “Night of the Torch Festival”, the Chinese ruan used techniques such as “sliding” and “beating” for the first time, which enriched the expressive power of the music (Zhang, 2023).





In the 1980s, Liu Xing's "Memories of Yunnan" marked a breakthrough in the art of solo performance. The piece incorporates techniques such as "finger rotation" and "rapid string skipping" to extend the range of the ruan to more than three octaves, while absorbing elements of Western jazz to form a unique modern musical language. In recent years, performers such as Feng Mantian have furthered the fusion of techniques by restoring the Ruan Xian of the Tang Dynasty and combining it with ancient fingerpicking and plectrum techniques (Feng, 2015).

Ruan playing techniques: The playing techniques of modern Ruan can be divided into two major directions: inheritance of traditional techniques and innovation of modern techniques:

Traditional Technique: 1) Right hand technique: Ruan's right-hand techniques include playing, picking, wheeling, scratching, lifting, pinching, plucking, scraping, hooking and hitting. These techniques have different applications and expressions in different works. For example, playing and picking are the basic techniques of Ruan, which can produce different tones and effects through different strengths and angles. The wheel finger technique produces continuous notes and is suitable for fast melodic playing. 2) Left Hand Technique: Ruan's left-hand techniques include strumming, sliding, trilling and overtones. The string press technique produces different pitches and timbres through different fingerings. Slide and vibrato can increase the expressiveness of the music and make the tone richer and more vivid. The overtones technique produces a clear and bright tone, and is suitable for specific musical passages. 3) Comprehensive techniques: Ruan's comprehensive techniques include two-handed coordination, tone processing, and intensity control. The two-handed technique requires the left and right hands to harmonize in order to achieve the best performance. Tone processing and strength control need to be flexibly adjusted according to the requirements of the piece to express different emotions and moods.





Modern techniques: Compound Rhythm Technique: for example, the rapid decomposition of chords alternating between the right and left hands in “Mountain Rhythm” imitates the rhythmic sense of natural sounds. Extended sound effect technique: simulating percussion effects by hitting the panel (“beating board”), rubbing the strings (“scraping”), etc., such as the “dotted sound effect” that imitates the camel's bells in “Camel Bells on the Silk Road. Cross-cultural fusion techniques: borrowing techniques such as guitar finger rotation and flamenco sweeping to enhance Ruan's international expression.

Inheritance mode of Ruan: The mode of inheritance of Ruan has transformed from a master-apprentice system to a diversified system, which is manifested in the following dimensions:

1) Master-disciple inheritance: The inheritance mode of Ruan mainly includes master-disciple inheritance and family inheritance. The master-disciple inheritance is the most traditional way of inheritance, in which the playing skills and artistic essence of Ruan are passed on through oral transmission between masters and disciples. This way not only focuses on the teaching of skills, but also on the cultivation of artistic and cultural connotations.

2) Family Inheritance: Family inheritance is a way of passing down the skills and artistic traditions of Ruan from one generation to the next through the transmission of the skills and artistic traditions between the eldest and the youngest members of the family. This approach ensures the purity and continuity of the art of playing Ruan to a certain extent.

3) Institutional education: With the development of modern music education, the ways of passing down Ruan have gradually diversified. Institutional education has become one of the most important ways to pass on Ruan, and a large number of Ruan players have been trained through specialized courses and training in music colleges and universities. This approach focuses not only on the teaching of skills, but also on the cultivation of theoretical knowledge and modern musical concepts.





4)Technology empowerment: The Brain and Intelligence Laboratory of Tsinghua University has cooperated with Ruan players to capture the neural activities of players and listeners in real time through near-infrared brain imaging technology to reveal the mechanism of neural interactions in musical performances. For example, Feng Mantian's experiments on the restoration of Ruan Xian's performance in the Tang Dynasty have shown that ancient rhythms can significantly activate brain regions related to emotional memory, providing a basis for scientific inheritance (Ning, 2010).

Research Methodology

This research adopts a mixed of qualitative and quantitative research methods. In order to achieve the research objectives of learning about Ruan, designing a curriculum, conducting an experiment, and evaluating it through qualitative and quantitative research. **Qualitative Research:** Qualitative research included learning about Nguyen's knowledge and skills, interviewing key informants, and analyzing data through description. **Quantitative Research:** Quantitative research involved conducting instructional experiments using Ruan's course, which included lab evaluation forms, formative tests, and summative tests. These forms were used primarily to conduct experiments using Ruan's curriculum and course, and the data were analyzed based on percentage statistics. **Key Informant:** 1) Wang shaowei, a teacher at the High School affiliated to Qsinghua Shangdi. 2) Guo Ran, a teacher at the High School affiliated to Peking University. 3) Wu Sha, a teacher at the High School affiliated to Beijing Institute.

Results

To study the Ruan music teaching methods: The investigation into Ruan music pedagogy at the junior middle school level revealed a fragmented and informal instructional landscape. Teaching approaches predominantly relied on oral transmission and teacher modeling, often in the absence of sequenced curricula or pedagogically validated instructional frameworks. While imitation and repetition are culturally rooted strategies, their exclusive use limits





opportunities for musical literacy, differentiated instruction, and the development of independent performance skills.

A major impediment identified was the inconsistency in teacher qualifications. While a few instructors had specialized backgrounds in Ruan performance, the majority were generalist music teachers without specific expertise. This variation resulted in divergent pedagogical quality and inconsistent learning experiences across schools. The absence of professional training and institutional support further exacerbated this disparity, revealing a need for targeted teacher development initiatives in traditional Chinese instrumental instruction.

Time constraints and curricular marginalization further restricted the pedagogical potential of Ruan education. Typically offered as short-duration electives, Ruan classes were limited to brief, infrequent sessions. Such conditions hindered cumulative skill acquisition and restricted opportunities for personalized feedback, assessment, and reflective learning—key components of effective music education for novice learners.

Compounding these issues was the scarcity of resources. In many settings, students lacked personal access to instruments, had minimal practice time, and were taught without the aid of structured textbooks, graded repertoire, or multimedia teaching tools. These constraints undermined instructional continuity and the ability to implement responsive or adaptive teaching strategies.

Nonetheless, the research identified innovative practices among motivated educators. Contextualized teaching—such as integrating historical and cultural narratives—enhanced student engagement. Ensemble performance encouraged social learning and group cohesion. The use of digital tools, including video modeling and rhythm training applications, extended instruction beyond the classroom. These emergent strategies demonstrate a foundation for future systemic improvements if adequately supported by policy and institutional infrastructure.





To construct the Ruan performance textbook for junior middle school students: The textbook development process in this study reflected a synthesis of contemporary instructional design principles, cultural-historical content, and expert consultation. Structured across four pedagogical units and integrating 16 curated pieces of music, the textbook offers a progressive learning pathway that spans introductory, intermediate, and pre-advanced levels. Drawing from constructivist principles, the content builds incrementally from foundational knowledge—such as Ruan history and playing posture—toward complex musical expression through ensemble work and solo performance.

In alignment with the literature on music curriculum development (Howard, 2012), the textbook strategically combines Chinese folk songs, poetic repertoire, and globally familiar melodies. This hybridization not only enriches students' exposure to musical diversity but also fosters transnational appreciation of traditional Chinese instruments. Each lesson is modular, featuring rhythm training, aural skills, historical commentary, singing practice, and guided performance. These layered instructional modes promote holistic musicianship.

A critical component of the design was the textbook's validation through expert review. Using the Item-Objective Congruence (IOC) framework, three subject-matter experts evaluated the alignment between content and educational objectives. The final IOC score of 0.84 affirms the instrument's pedagogical integrity and contextual appropriateness. Respondents emphasized the balance between technical challenge and accessibility, noting that the textbook provides sufficient scaffolding for learners without prior instrumental experience.

The integration of digital media—including QR codes linking to performance videos and fingering tutorials—addresses equity concerns and supports multimodal learning. This aligns with global trends in music pedagogy, which advocate for blended learning to enhance student engagement and provide flexible access to learning materials. Furthermore, the textbook's inclusion of reflective exercises encourages metacognitive development, enabling students to self-assess progress and internalize musical concepts.





Overall, the Ruan performance textbook constitutes a model for culturally embedded, pedagogically sound curriculum design in traditional music education. Its adaptability across varied instructional contexts makes it a scalable solution for revitalizing Ruan instruction in public school settings.

To conduct experiments on teaching the Ruan performance textbook:

The textbook's effectiveness was evaluated through a full academic-year intervention across 10 junior middle schools, involving a cohort of 50 students with no prior training in Ruan. Instruction was delivered in 20 weekly sessions per semester, structured around the textbook's four-unit framework. The teaching methodology combined whole-class instruction, guided ensemble performance, individual assignments, and formative feedback mechanisms.

Quantitative results from pre- and post-intervention assessments revealed substantial gains in technical and expressive capabilities. Specifically, the average composite score across five evaluative dimensions increased from 81.46 in semester 1 to 88.48 in semester 2. Notable improvements were observed in musical phrasing, tone control, and rhythmic consistency—skills targeted through structured exercises within the textbook. These data corroborate the value of sustained, textbook-based instruction in cultivating foundational musicianship.

In addition to empirical data, qualitative evidence from teacher observations and student reflections highlighted increased motivation, attentiveness, and peer collaboration. Teachers reported more efficient classroom management and lesson delivery, attributing this to the predictability and comprehensiveness of the textbook's structure. Students demonstrated higher levels of autonomy in practice and performance, suggesting that the curriculum encouraged intrinsic motivation and creative expression.

The experimental teaching phase also facilitated professional growth among instructors. Weekly lesson planning sessions, aligned with textbook objectives, fostered collaborative reflection on pedagogy. Teachers shared effective strategies for addressing common learning challenges, such as left-hand





endurance or ensemble timing. These practices contributed to a professional learning community centered on Ruan pedagogy.

The findings validate the textbook not only as a didactic tool but also as a catalyst for institutional change. By embedding traditional music within structured pedagogical systems, the project exemplifies how curriculum development can serve as a lever for revitalizing underrepresented musical practices within formal education.

To evaluate the effectiveness of the Ruan elective course: The evaluation of the Ruan elective course emphasized both the formative and summative assessment results across two academic semesters, providing insight into the textbook's pedagogical efficacy. Students participated in regular classes where their skills were assessed through structured evaluation protocols, including formative tests administered mid-semester and summative tests at the conclusion of each term.

The formative tests, conducted during weeks 9-10 of each semester, were designed to gauge student progress in five domains: musical scale execution, solo performance, ensemble coordination, performance technique, and musical expression. The data from the first semester's formative test revealed a baseline average score of 81.46 across 10 schools. Although student proficiency varied by school, certain strengths emerged in musical emotion and ensemble synchronization, while areas such as technical consistency required further development.

By the end of each semester, students underwent summative assessments aligned with the same criteria. The second semester's summative test results demonstrated a notable increase in average performance, with the mean score rising to 88.48. This improvement represents a significant gain of over seven points, confirming the instructional value of the Ruan textbook and the structured elective model. Gains were particularly visible in students' tone control, scale fluency, and interpretive abilities, reflecting the cumulative impact of scaffolded instruction, targeted repertoire, and consistent ensemble training.





In addition to quantitative outcomes, qualitative data collected from teacher journals and student feedback revealed strong engagement and emotional investment. Students expressed growing confidence in their musical identity, and teachers observed enhanced peer interaction, time-on-task, and attentiveness during rehearsals. These affective results support prior findings suggesting that culturally embedded and socially contextualized music education strengthens both cognitive and emotional development.

Furthermore, the design and use of the assessment tools provided a formative loop that allowed for instructional adjustments. Teachers could identify specific weaknesses in areas such as left-hand technique or rhythmic stability and address them through tailored exercises and peer-led practice sessions in subsequent lessons.

Overall, the integration of formative and summative assessments provided robust evidence of learning, confirming that the Ruan elective course—delivered through a structured textbook—enhances musical skill acquisition, interpretive depth, and student engagement in culturally meaningful ways.

Discussions

The findings of this study contribute to a growing body of research advocating for curriculum innovation in traditional music education. The Ruan project confirms that culturally embedded pedagogies, when structured with clear instructional scaffolding, significantly enhance student learning outcomes. This supports the broader argument presented by Wang (2020), who emphasizes the importance of culturally relevant teaching strategies for maintaining student interest and improving musical proficiency.

Moreover, the implementation of both formative and summative testing protocols throughout the study provided a robust framework for continuous assessment and targeted instructional refinement. Black and Wiliam (1998) emphasize the value of formative assessment in shaping instruction and enhancing



student outcomes—a concept mirrored in this research. Teachers were able to use mid-semester data to adapt their teaching and offer remediation or enrichment based on observed student needs.

In terms of policy implications, the study echoes the findings of Zhang (2019), highlighting the persistent disparity in access to resources and teacher training between schools. The absence of formal recognition of Ruan education within mainstream curricula continues to marginalize traditional arts programs. To address these inequities, policy reform must include investment in infrastructure, integration into national standards, and sustained professional development initiatives.

Finally, the project supports UNESCO’s (2019) call for education systems to safeguard intangible cultural heritage. By documenting, implementing, and evaluating Ruan music pedagogy in a formal school context, the study contributes to broader efforts in preserving China’s musical traditions in ways that are pedagogically rigorous and socially meaningful.

New Knowledges

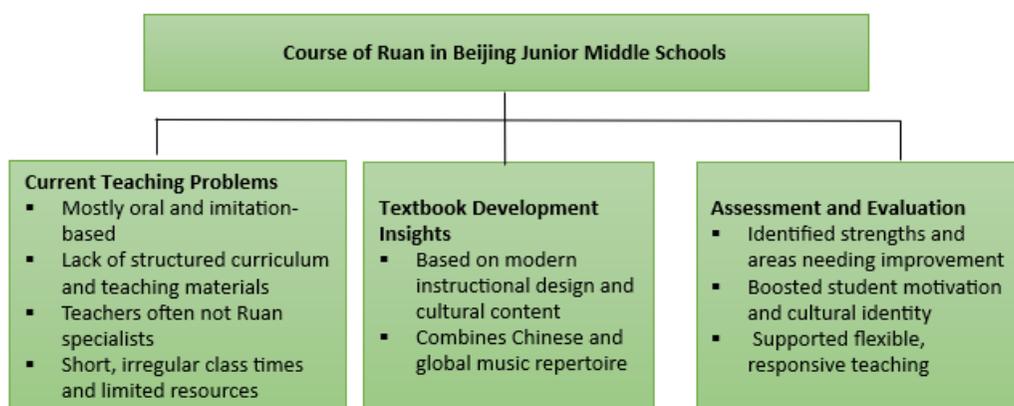


Figure 1: New Knowledges Diagram of Constructing Course of Ruan in Beijing Junior Middle Schools, China.



Conclusions

This research investigated Ruan music instruction in junior middle schools and identified key challenges including fragmented teaching methods, inconsistent teacher qualifications, limited class time, and lack of resources. To address these issues, a structured Ruan performance textbook was developed, integrating cultural context, progressive technical content, and multimedia support. Validated by experts with an IOC score of 0.84, the textbook was implemented across 10 schools in a year-long teaching experiment involving 50 students with no prior Ruan experience. The results showed significant improvement in students' musical skills, motivation, and classroom engagement, with average scores rising from 81.46 to 88.48. Teachers also reported professional growth and improved lesson delivery. Comprehensive formative and summative assessments confirmed the textbook's pedagogical effectiveness and cultural relevance, making it a scalable model for revitalizing traditional music education in Chinese public schools.





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