
IMPROVING PRIMARY SCHOOL STUDENTS' PITCH AND RHYTHM ABILITY THROUGH THE KODÁLY TEACHING METHOD: AN EMPIRICAL STUDY IN A CHINESE MUSIC CLASSROOM *

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Abstract

This study aimed to (1) examine the impact of the Kodály Method on students' pitch perception, rhythm stability, multi-part singing cooperation, and musical cultural understanding, and (2) explore students' attitudes and satisfaction toward Kodály-based music instruction. A one-group pretest-posttest experimental design was adopted over a five-week instructional period consisting of ten music lessons. A total of 48 primary school students participated in the study and received Kodály-based instruction through four instructional modules: pitch perception training, rhythm stability training, multi-part choral collaboration, and folk music cultural experience. Data were collected through music ability tests administered before and after the intervention, as well as a post-intervention satisfaction questionnaire. Paired-sample t-tests were conducted to analyze the differences between pretest and posttest results. The results showed statistically significant improvements in students' musical abilities across all four instructional modules ($p < 0.01$). Students' total musical ability score increased substantially after the

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intervention. In addition, the questionnaire results indicated that students held highly positive attitudes toward the Kodály-based lessons. Most students reported that the classroom atmosphere was relaxed and enjoyable, and that the learning activities were engaging, participatory, and motivating. The results suggested that the Kodály Method, as a student-centered and experience-oriented teaching approach, was effective in enhancing students' musical learning outcomes and fostering their comprehensive musical development. This study provided empirical support for the localized application of the Kodály Method in Chinese primary school music education and offered valuable implications for music curriculum reform and instructional practice.

Keywords: Kodály Method; primary school, music education, musical ability, learning satisfaction

Introduction

In recent years, China has attached increasing importance to the development of aesthetic education in primary schools, with music education playing a central role in cultivating students' artistic literacy, creativity, and cultural awareness. As part of the national curriculum reform, the Ministry of Education has emphasized the integration of music perception, performance, and cultural understanding in classroom teaching, aiming to promote students' comprehensive musical competence and lifelong interest in music. However, despite these policy initiatives, many primary school music classrooms still face persistent challenges in cultivating students' basic musical abilities, particularly in the areas of pitch perception, rhythm stability, and expressive performance.

In many traditional music classrooms, teaching remains largely teacher-centered and demonstration-based. Instruction often relies on mechanical imitation, rote singing, and repetitive drills, with limited opportunities for students to actively experience, internalize, and apply musical concepts. As a result, students may be able to reproduce melodies in a superficial manner, yet lack a deep understanding of pitch relationships, rhythmic structures, and musical expression. Moreover, insufficient attention is often given to students' auditory discrimination, inner hearing, and cooperative performance skills, which are essential foundations for long-term musical development.

These problems are particularly evident in the teaching of singing and basic music literacy. Some pupils struggle with inaccurate intonation, unstable rhythm, and weak sense of musical structure, which not only affects their performance quality but also reduces their confidence and interest in music learning. As Feng Dan (2020) and Cui Qi (2024) have pointed out, without systematic training in pitch, rhythm, and musical perception, students are likely to develop poor singing habits that are difficult to correct in later stages of education.

In response to these challenges, the Kodály Teaching Method has gradually attracted the attention of music educators in China. Originating from Hungary, the Kodály Method emphasizes music education based on singing, auditory training, body movement, and inner hearing. It advocates the use of movable-do solfège, hand signs, rhythm syllables, and folk music materials to help learners internalize musical elements in a natural and progressive manner. Through multisensory participation and step-by-step musical training, the Kodály Method aims to cultivate students' musical perception, expressive ability, and cooperative awareness.

Previous studies in China have demonstrated the positive effects of the Kodály Method in various educational contexts. Li Feng (2023) reported that

the integration of Kodály hand signs and rhythm training significantly improved primary school students' pitch accuracy and classroom engagement. Zhou Shan (2024) found that Kodály-based instruction enhanced junior middle school students' rhythmic stability and cooperative performance ability. Yi Xuechen and Sun Yun (2024) further confirmed that the Kodály Method is particularly suitable for rural schools, where systematic music training resources are relatively limited. These studies suggest that the Kodály Method offers a scientifically grounded and pedagogically effective approach to music education.

Nevertheless, existing research has mainly focused on general teaching experiences or short-term classroom observations, while empirical studies based on experimental design and quantitative analysis remain relatively limited, especially in the context of primary school music education. Moreover, few studies have systematically examined the impact of Kodály-based instruction on multiple dimensions of musical ability, such as pitch perception, rhythm stability, choral cooperation, and cultural understanding.

In addition, most existing research tends to focus on isolated aspects of musical development, such as pitch training or rhythmic practice, while few studies examine multiple dimensions of musical ability simultaneously, including ensemble cooperation and cultural understanding. This limitation restricts a comprehensive understanding of how Kodály-based instruction influences students' overall musical learning experience.

Therefore, further empirical investigation using quantitative methods is necessary to evaluate the effectiveness of Kodály-based music instruction in Chinese primary schools.

Objectives

1. To evaluate the effectiveness of the Kodály teaching method in improving primary school students' musical abilities, including pitch perception, rhythm stability, multi-part choral collaboration, and musical cultural understanding.
2. To investigate primary school students' learning satisfaction and perceptions toward Kodály-based music instruction.

Literature Review

1. Definition of the Kodály Teaching Method

The Kodály Teaching Method is a comprehensive music education approach developed by Hungarian composer and educator Zoltán Kodály in the mid-twentieth century. Rooted in the philosophy that “music belongs to everyone,” the method emphasizes the development of musical literacy through singing, listening, movement, and active participation. Kodály believed that music education should begin at an early age and be based on high-quality musical materials, particularly folk songs that are culturally meaningful and developmentally appropriate.

At the core of the Kodály Method is the concept of internalizing musical elements through auditory experience. Students are encouraged to develop inner hearing, pitch awareness, rhythmic stability, and musical expression through a carefully sequenced learning process. Movable-do solfège, hand signs, rhythm syllables, and body movement are employed as pedagogical tools to help learners understand musical structure in a concrete and intuitive way (Kodály, 1974).

Unlike traditional music instruction that relies heavily on teacher demonstration and rote imitation, the Kodály Method places students at the center of the learning process. Learners construct musical understanding through active engagement, repeated listening, and cooperative performance. As Houlahan and Tacka (2015) note, Kodály-based instruction fosters musical independence by enabling students to read, write, hear, and perform music with confidence and accuracy.

2. Teaching Procedures of the Kodály Method

The instructional framework of the Kodály Method is characterized by a carefully sequenced and spiraled curriculum. Musical concepts are introduced gradually and revisited at increasing levels of complexity, ensuring that students build a solid foundation before progressing to more advanced skills. This approach aligns with children's cognitive and auditory development and supports long-term musical growth.

A typical Kodály-based lesson includes several interconnected stages. First, students engage in listening and singing activities using familiar songs. Through imitation and repetition, learners internalize melodic and rhythmic patterns. Next, musical elements such as pitch intervals, rhythmic figures, or form are highlighted through hand signs, rhythm syllables, or movement. Finally, students apply these elements through sight-singing, rhythmic reading, and simple composition or improvisation tasks.

Many scholars emphasize that the success of Kodály instruction lies in its experiential nature. As Choksy et al. (2001) argue, musical understanding develops most effectively when students experience music physically and

aurally before encountering abstract notation. Similarly, Wu (2019) pointed out that primary school music teaching should follow the cognitive pattern of "first feeling, then understanding, and then writing" so that students can master musical language through real music experiences.

In the Chinese context, researchers such as Li Feng (2023) and Zhou Shan (2024) have demonstrated that Kodály-based lesson structures significantly improve students' pitch accuracy and rhythmic stability. Their findings suggest that systematic solfège training and body movement activities can effectively address common problems such as inaccurate intonation and weak rhythmic control among primary school students.

3. Evaluation of Musical Ability in Kodály-Based Education

Musical ability is a core component of music education and an important indicator of students' overall musical development. In Kodály-based instruction, assessment goes beyond technical performance and emphasizes students' internal musical understanding, expressive ability, and cooperative awareness. Kodály (1974) emphasized that musical literacy involves the ability to hear, read, write, and perform music independently, and evaluation should therefore reflect these integrated competencies.

In this study, students' musical development was assessed using a framework adapted from Choksy et al. (2001) and further informed by recent research in Chinese primary school contexts (Li, 2023; Zhou, 2024). The assessment focused on five key dimensions: 1) Pitch Accuracy: the ability to recognize and reproduce melodic patterns accurately through singing and solfège. 2) Rhythmic Stability: the ability to maintain steady beat and rhythmic coordination. 3) Musical Expression: the use of dynamics, phrasing, and emotional interpretation in singing. 4) Listening and Inner Hearing: the capacity

to audited and respond accurately to musical stimuli. 5) Cooperative Performance: ensemble awareness and coordination during group singing.

4. Theoretical Foundation: Experience-Oriented Music Learning

The pedagogical principles of the Kodály method are closely related to experience-oriented learning theory. Experience-oriented learning emphasizes that knowledge is constructed through active participation, sensory engagement, and reflective understanding. In music education, this approach encourages learners to experience musical elements through singing, movement, listening, and cooperative activities before encountering abstract musical symbols.

Kodály-based instruction reflects this philosophy by placing singing at the center of learning and encouraging students to internalize musical concepts through multisensory engagement. Instead of relying solely on verbal explanation, students develop musical understanding through direct musical experiences such as rhythm games, solfège singing, and ensemble participation. This experiential learning process enables students to gradually transform external musical activities into internal musical cognition.

In the Chinese context, integrating experience-oriented learning with local folk music materials—such as Chaozhou folk songs—provides students with culturally meaningful musical experiences. This localized approach not only strengthens students’ musical abilities but also enhances their cultural identity and appreciation of traditional music.

Methodology

Three research instruments were employed in this study:

This study employed a one-group pretest–posttest research design to examine the effectiveness of the Kodály teaching method in improving primary school students’ pitch and rhythm skills in music classes, as well as to investigate students’ learning satisfaction with Kodály-based music instruction.

1. Participants

The study population consisted of 564 third-grade students from a public primary school in Chaozhou City, Guangdong Province, all of whom received formal music education in accordance with the national compulsory education curriculum standards. (academic year of 2025)

The research sample consisted of 48 students from one intact Grade 3 classroom, which represents a convenience sample commonly used in educational classroom research. All participants had received basic school music education but had no formal or systematic professional music training, which ensured a relatively homogeneous musical background among the students. Prior to the implementation of the study, the research purpose and procedures were explained to the students and their guardians. Participation was voluntary, and ethical principles related to educational research were strictly observed throughout the study.

2. Research Instruments

Three research instruments were employed in this study:

1) Kodály-Based Lesson Plans: The instructional content was designed based on the core principles of the Kodály teaching method, emphasizing singing-centered learning, relative solmization, rhythm syllables, Curwen hand signs, and the use of local folk music materials. The teaching content focused on four main areas: pitch perception training, rhythm stability training, basic multi-part singing practice, and folk music cultural experience. The instructional

intervention was implemented over a five-week period, with two music lessons per week, resulting in a total of 10 class sessions.

2) Pitch and Rhythm Skills Test: A pitch and rhythm skills test was administered as both the pre-test and post-test to assess students' musical ability development. The test evaluated students' pitch accuracy, rhythm stability, and basic coordination ability through structured performance-based tasks. The internal consistency of the test was examined using Cronbach's alpha, yielding a reliability coefficient of $\alpha = 0.85$, which indicates good reliability. In addition to reliability testing, content validity of the instruments was ensured through expert review. Two experienced music educators and one university music education researcher evaluated the test items and questionnaire statements to confirm that they appropriately reflected the core principles of the Kodály method and aligned with the learning objectives of the music curriculum.

3) Student Satisfaction Questionnaire: A student satisfaction questionnaire was administered after the instructional intervention to examine learners' perceptions of Kodály-based music instruction. The questionnaire consisted of 20 items measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) and covered four dimensions: learning interest, classroom engagement, perceived improvement in pitch and rhythm skills, and overall learning satisfaction. The reliability analysis produced a Cronbach's alpha coefficient of $\alpha = 0.88$, indicating strong internal consistency.

3. Data Collection Procedures

Data were collected over a five-week instructional period using a pretest–posttest procedure. Prior to the implementation of the Kodály-based

lessons, all participants completed the pitch and rhythm skills pre-test under standardized classroom conditions. The Kodály teaching intervention was then carried out in accordance with the designed lesson plans, during which students participated in singing activities, rhythm exercises, hand-sign training, and folk music learning tasks. Upon completion of the intervention, the same pitch and rhythm skills test was administered as a post-test under identical conditions. Subsequently, the student satisfaction questionnaire was distributed and completed in class. All test materials and questionnaires were collected immediately to ensure data integrity. The collected data were coded, organized using Microsoft Excel, and imported into SPSS 26.0 for statistical analysis.

4. Data Analysis

Quantitative data analysis was conducted to address the research objectives. Descriptive statistics, including means (M) and standard deviations (SD), were calculated to summarize students' pre-test and post-test pitch and rhythm scores as well as their satisfaction questionnaire responses. To determine whether the Kodály teaching intervention led to statistically significant improvements in students' pitch and rhythm skills, a paired-samples t-test was performed to compare pre-test and post-test scores. The level of statistical significance was set at $\alpha = 0.05$. In addition, reliability analyses using Cronbach's alpha coefficients were conducted for both the pitch and rhythm skills test and the student satisfaction questionnaire to confirm the internal consistency and reliability of the research instruments.

Although a control group was not included in this study due to practical constraints within the school timetable, the pretest–posttest design allowed the researchers to examine measurable changes in students' musical abilities after the instructional intervention. To reduce potential bias, the same testing procedures and evaluation criteria were applied in both measurements.

Results

Pre-test and post-test data were used to answer the first research question “Did elementary school students' pitch and rhythm abilities improve after using the Kodály method compared to before the intervention?” as shown in Table 1.

Topics	Full Score	pretest		Posttest		N	T-test	P-value
		$\bar{x}$	S.D	$\bar{x}$	S.D			
Module:1								
Pitch Perception and Expression Ability	5	1.92	0.28	4.56	0.5	48	27.84	0.00
Module 2: Rhythm Stability Training	5	1.67	0.75	4.4	0.49	48	21.63	0.00
Module 3: Multi-part Choral Collaboration	10	4.15	0.65	9.29	0.46	48	36.92	0.00
Module 4: Folk Music Cultural Experience	10	4.75	0.44	9.29	0.68	48	31.57	0.00
Total	30	12.49	0.53	27.54	0.54	48	58.46	0.00
p < 0.01								

Table 1 Pre-test and Post-test Scores

Table 1 Paired-samples t-test results of pre- and post-test scores. A total of 48 primary school students completed the two-way measurement. A paired-samples t-test was conducted to compare students' pre- and post-test scores in the four teaching modules and their total scores. The total score significantly

improved from a pre-test mean score of 12.49 (standard deviation = 0.53) to a post-test mean score of 27.54 (standard deviation = 0.54) (out of 30). Statistical analysis showed a highly significant difference between the pre- and post-test results ($t = 58.46$, $p < .01$), indicating that the implementation of the Kodály method significantly improved students' overall musical ability.

To answer Research Question 2 "Is the primary school students' satisfaction toward the Kodály method in improving their pitch and rhythm skill at the higher level?" as shown in Table 2.

Topics	Statements	N	$\bar{X}$	S.D.
1、 Acceptance of teaching methods	1. Kodai gesture training is more fun than traditional singing along	48	4.5	0.51
	2. Multisensory learning makes music class more lively	48	4.6	0.87
	3. Small choir activities enhance my sense of participation	48	4.8	0.71
	4. Small choir activities improve my cooperation with classmates.	48	4.38	0.91
2、 Perception of ability enhancement	5. Through gesture training, my pitch has improved significantly	48	4.6	0.89
	6. Rhythm games help me master the beat better	48	4.5	0.68
	7. The polyphonic exercise improved my ability to cooperate	48	4.3	0.96
	8. Folk song learning makes me understand traditional music culture better	48	4.29	0.46
3、 Learning	9. The teacher's instant feedback helps me improve quickly	48	4.7	0.8

Topics	Statements	N	$\bar{X}$	S.D.
experience	10.The relaxed atmosphere in the classroom made me dare to show my true self	48	4.3	0.87
	11. The final performance gave me the opportunity to showcase my learning achievements.	48	4.6	0.84
	12. Music creation stimulates my imagination	48	4.7	0.85
4、 Cultural identity perception	13. Learning Chaozhou folk songs makes me love my hometown culture more	48	4.3	0.77
	14. This course has increased my interest in traditional music	48	4.9	0.71
	15. I can now distinguish the characteristics of folk songs from different regions	48	4.6	0.81
	16. I will take the initiative to share folk songs learned with my family	48	4.17	0.86
Total		48	4.52	0.78

Table 2 Satisfaction survey on pitch and rhythm skills

The questionnaire results showed that students held a positive attitude towards the implementation of the Kodály method. The average score for all 16 items was above 4.52, with a standard deviation of 0.78, meeting the "highly satisfied" level of the evaluation criteria. This indicates that students are very satisfied with music courses based on the Kodály method and believe that this teaching method is effective, engaging, and beneficial to their learning.

Discussion

Significant Improvement in Fundamentals: The study confirmed that Kodály-based instruction led to statistically significant gains in pitch accuracy and rhythm stability. By utilizing active techniques—such as relative solmization, hand-sign practice, and rhythm syllables—students were able to internalize musical concepts far more effectively than through traditional passive imitation (Kodály, 1974; Choksy, 1999).

Enhanced Cooperative Abilities: Beyond individual skills, the method fostered better coordination and ensemble awareness. Through multi-part singing and group rhythm tasks, students learned to listen attentively, maintain their own musical parts, and adjust their performance in response to their peers, consistent with previous research on ensemble-based learning (Houlahan & Tacka, 2015).

High Learning Satisfaction: Students reported consistently high satisfaction regarding the teaching activities and classroom atmosphere. The method's emphasis on active participation, multisensory learning, and culturally meaningful content enhanced motivation and engagement (Choksy, 1999). Additionally, the teacher acting as a "facilitator" rather than just a demonstrator created a supportive environment that boosted student confidence.

Duration and Skill Consolidation: While basic skills improved rapidly, the study noted that the five-week intervention was likely too short for students to fully master complex skills like sustained performance independence. Continued practice over a longer period is necessary for the deeper "automatization" of these higher-level competencies (Forrai, 1996).

Pedagogical Value: Overall, the results suggest that the Kodály method effectively addresses the limitations of traditional music instruction in Chaozhou City. It successfully integrates systematic technical training with positive affective experiences, supporting both the technical and affective

dimensions of musical development.

The relatively short five-week intervention suggests that rhythm stability and ensemble cooperation may respond more quickly to structured training activities, particularly when supported by body movement and rhythmic syllables. Pitch accuracy, on the other hand, may require longer periods of systematic ear training to achieve full automatization. These findings highlight the importance of sustained Kodály-based instruction in order to consolidate musical skills over time.

Recommendations

1. To optimize Kodály-based teaching design for targeted musical skill development. Future practice should focus on balancing different components of students' musical abilities, particularly the coordinated development of pitch accuracy, rhythm stability, and ensemble awareness. Structured and progressive training activities should be systematically integrated across lesson stages, including preparatory singing, guided hand-sign practice, and rhythm syllable exercises, to support students' gradual internalization of musical concepts. Differentiated learning tasks (basic, intermediate, and advanced levels) are recommended to accommodate students with varying musical foundations, ensuring that learning activities align with individual developmental needs. In addition, classroom activities should be enriched through integrated tasks that combine singing, movement, listening, and simple multi-part practice, allowing students to apply pitch and rhythm skills in meaningful musical contexts and reinforcing comprehensive musical literacy.

2.To strengthen teacher professional development and build a sustainable support system. Primary schools should provide targeted professional training for music teachers focusing on the theoretical foundations and practical implementation of the Kodály Method, including singing-centered instruction, multisensory training strategies, and the effective use of folk music materials. Establishing collaborative communities of practice is recommended to encourage teachers to share teaching experiences, co-design lesson activities, and develop a shared repository of Kodály-based teaching resources. Ongoing professional support—such as peer observation, mentoring, and reflective feedback—should be implemented to enhance teachers’ instructional confidence and consistency. In addition, appropriate incentive mechanisms may be introduced to encourage sustained teacher engagement in Kodály-based curriculum innovation, thereby promoting the long-term and effective application of the Kodály Method in primary school music education.

3.Future professional development programs for music teachers may include workshops on adapting local folk songs, such as Chaozhou folk melodies, into solfège-based classroom activities, enabling teachers to effectively integrate Kodály pedagogy with regional musical traditions.

4.Future studies are encouraged to conduct longitudinal investigations to examine whether the musical skills developed through short-term Kodály instruction can be maintained or further improved over longer periods, such as six months or one academic year.

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