



Surveying Vocal Exercise Book for Lower Middle School Students at Jining University Affiliated Middle School

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Abstract

The objectives of this study were to examine the vocal exercise book used for lower secondary students at Jining University Affiliated Middle School. This study employed a mixed-methods approach, integrating both qualitative and quantitative methods, with qualitative data collected through interviews and observations using structured guidelines with three key informants. The findings revealed that the school's vocal music curriculum is comprehensive and systematically structured, reflecting progressive instruction through a 24-week program organized into six units covering breathing, vocal production, resonance, articulation, and song performance. Teaching methods are diverse, combining traditional demonstration-based approaches with technology-assisted tools; however, large class sizes limit individualized instruction, particularly for students undergoing voice changes who require more targeted support. Classroom activities are varied and engaging, with innovative practices such as “blind listening games” and monthly “mini-concerts” significantly enhancing student motivation and learning outcomes. Teaching materials are enriched by teacher-developed supplementary resources, although textbook-linked digital materials remain insufficient, particularly lacking section-based practice audio and adjustable-speed accompaniment. Overall student performance is satisfactory, though gender differences and individual variations are evident, especially among boys experiencing voice changes who require additional support in participation and vocal engagement. The teaching evaluation system is relatively well-developed and employs diverse assessment methods, while students' classroom performance demonstrates clear phase-based and individual differences. Finally, the teaching environment generally meets instructional requirements, with specialized vocal classrooms equipped with essential musical instruments and modern teaching facilities.

Keywords: Survey, vocal exercise book, Jining University Affiliated Middle School

1. Introduction

Vocal music is an essential component of music education, as it develops students' aesthetic ability, body and breath control, emotional communication, and personality formation. Vocal training has therefore been regarded as the foundation of music education in China and has long been included in the compulsory education curriculum. one of the most important teaching resources is the Vocal Exercise Book, which provides students with systematic training in singing skills, ranging from basic breathing techniques, vocalization, tone control, to song interpretation. The development of vocal exercise books in China began

in the 20th century, initially using folk songs and children's songs as learning materials, before gradually evolving into academically structured manuals influenced by Western pedagogical approaches (Wang, 2023).

This study chooses Jining University Affiliated Middle School as a case study, as the school is well-known for its strong music education program and systematic teaching practices. It integrates both the national curriculum set by the Ministry of Education of China and its own specialized approaches in arts education. Investigating the vocal exercise books used in this school will not only reflect the overall situation of vocal training at the lower middle school level in China, but also suggest directions for future improvement of such materials.

2. Literature Review

2.1 The development of vocal exercise

Traditional vocal pedagogy has long relied on “oral transmission and heart-to-heart instruction” and “imitation.” Teachers employ metaphors such as “smelling flowers” or ‘sighing’ to guide students in sensing breath, and describe timbre using terms like “pearl-like” or “metallic.” While effective, this approach remains overly abstract and subjective. Vocal performance is an extraordinarily complex mind-body collaborative activity. Trainers increasingly recognize that the unity of psychological state, mental imagery, and physical sensation is paramount. Negative emotions such as tension, anxiety, and lack of confidence directly cause throat muscle stiffness and breathing irregularities, thereby undermining vocal quality (Huang, & Zhou, 2024).

Early vocal training systems (particularly in Europe) were almost exclusively based on Bel Canto as the standard and model. With the increasing frequency of global cultural exchange and the tremendous enrichment of musical styles, the scope and content of vocal training have expanded unprecedentedly. The goal of training is no longer solely to cultivate opera or art song singers, but to develop vocalists capable of adapting to multiple styles. This necessitates adjustments in training methods and philosophy. Vocal exercises are shown to have a connection with musical literacy—that is, knowing how to read music, understand rhythm, melody, etc. These exercises help singers internalize musical structure (Shokirjonovich, & Nabijonovna, 2020).

2.2 The technique of vocal exercise

The core foundation of vocal training lies in the scientific understanding and systematic development of the human vocal physiological mechanisms. This encompasses key elements such as breathing, vocalization, and resonance. Breathing is regarded as the “power source” of singing. Effective breath control provides stable support for the voice and enhances the expressiveness of timbre (Su, 2021).

Vocal artistry is a highly synergistic activity of mind and body, where psychological factors significantly influence technical execution and artistic expression. The Importance of Psychological State: A positive emotional state forms the foundation for optimal singing performance, stimulating active perception, thinking, and imagination. Negative emotions like tension, anxiety, and lack of confidence directly cause throat muscle stiffness and breathing irregularities. Even the renowned Pavarotti faced repeated failures due to self-doubt early in his career, ultimately achieving success through mindset adjustment (Xu, 2023).

The essence and role of musical cultivation: This encompasses solid music theory knowledge, strong musical intuition, rhythmic sense, comprehension of musical works, and aesthetic appreciation. It directly influences a singer's “musical intuition”—their sensitivity to music and ability to integrate emotion. During fundamental vocal training, musical cultivation helps learners “regulate the practice process from a spiritual perspective,” preventing

mechanical and tedious drills (Zhang,2023).

2.3 The teaching methods of vocal exercise

Vocal learning and performance are significantly influenced by psychological states. Positive psychological regulation forms the foundation for stable execution and improvement of singing techniques. Common psychological issues include nervousness, anxiety, lack of confidence, and poor concentration, all of which can cause throat muscle tension and breathing irregularities, thereby affecting vocal production (Li, 2024).

Deepening understanding and expression of musical emotion: Teachers should guide students to comprehend a piece's creative context, musical style, and underlying artistic intent. Emotionally charged and expressive recitation of lyrics not only helps students experience the song's sentiment but also facilitates finding a high vocal placement and opening the throat for optimal vocal production (Wu, 2022).

2.4 Research on vocal exercise book

Systematic Development of Fundamental Techniques: Vocal training materials usually begin with the most basic elements-breath control, vocal production techniques, and resonance adjustment. For instance, breath control training commences with diaphragmatic breathing, using exercises like “inhale-pause-exhale” to strengthen respiratory muscle control. Vocal production training begins with fundamental scale exercises, helping singers familiarize themselves with and master the vocal placement for each pitch. Resonance adjustment training guides singers in utilizing resonant cavities such as the head, nasal, and chest cavities to enrich their sound. This systematic structure aims to solidify singers' foundational skills (Ma., & Zheng,2024).

Exploration of Advanced Techniques and Artistic Expression: Advanced materials delve into more complex musical interpretation and artistic expression. For instance, training in employing multiple timbres (bright, dark, soft, robust, etc.) to convey diverse emotions and shape character roles. Additionally, materials guide singers to cultivate musical literacy-understanding musical terminology and expression markings, grasping a piece's style and artistic conception-to achieve the perfect integration of “lyrics, melody, and meaning (Guo, 2022).

3. Research Methodology

This paper employs quantitative research methods, The researcher collected data through interviews with three key informants and classroom observations.

3.1 Sample Characteristics and Data Collection

Key Informants

1.1 Requirements for key informants:

- 1) Must have at least 2 years of teaching experience in vocal music.
- 2) Master's degree in the field of vocal music.
- 3) Hold the title of vocal music professor.

Names of Key Informants:

- 1) Ms. Lang Yinong was currently a professor of the Vocal Music Department of Shenyang Conservatory of Music.
- 2) Ms. Wu Xia: A young soprano, associate professor of the Department of Vocal Music and Opera at Shenyang Conservatory of Music.
- 3) Ms. Lucia Rizzi: Professor at Conservatory of Music in Parma, Italy. She graduated from the Conservatory of Music in Turin, Italy.

3.2 Research Tools

1) Interview form

This study uses qualitative research to survey vocal exercise book for lower middle school students at Jining University Affiliated Middle School, and interviews with three key informants.

Classroom environment:

1)How is the vocal music classroom organized to support the use of vocal exercise books?

2)Are there any environmental factors (space, acoustics, seating arrangement) that affect students' engagement and learning outcomes?

Teaching content:

3)How well do the vocal exercise books align with the learning objectives and curriculum requirements for lower middle school students?

4)Are there specific content areas in the books that are particularly effective or ineffective for developing vocal skills?

Teaching methods:

5)What teaching methods do instructors commonly use when working with these vocal exercise books?

6)How do teachers adapt their methods to address different learning abilities and student needs?

Classroom activities:

7)What types of activities or exercises from the vocal exercise books are regularly used in class?

Teaching material:

8)Are there additional teaching aids, digital tools, or multimedia resources used alongside the vocal exercise books?

9)How do these media enhance or limit the effectiveness of the vocal exercises?

Student performance and behavior :

10)How do these activities promote students' engagement, practice habits, and skill development?

Teaching evaluation:

11)How do teachers evaluate students' performance and progress when using these vocal exercise books, and what indicators are used to measure success?

12) Observation form

Classroom Observation (Table 2)

Classroom environment	The physical layout and facilities of the classroom
Teaching content	The knowledge, skills, and concepts that professors impart to students
Teaching method	Specific strategies, techniques, activity formats, and media technologies for design and use
Classroom activities	Lectures, questions, discussions, group work, exercises, presentations
Teaching material	Textbooks, lecture notes, multimedia, laboratory equipment, physical models

Student performance and behavior	Behavior, engagement, focus, thought process, interaction and communication
Teaching evaluation	The process of teachers' judgment, feedback, and adjustment of teaching

3.3 The Index of Item-Objective Congruence (IOC)

Three experts were invited to use the IOC to evaluate the interview form and observation form, demonstrating the validity of the survey study.

+1 means the content is sure.

0 means unsure.

-1 means non-compliant /not direct.

Indicates that the problem is verified. And above the standard of 0.75, which indicates that the project is designed as intended. Indicates that the interview form and observation form are valid.

3.4 Analytical Method

Qualitative data analysis focuses on understanding and interpreting verbal or textual data and strongly supports the conclusions drawn from the research. Descriptive analysis is used to interpret the information of three key informants. Interview and surveying data will be content analyzed to identify common themes and patterns.

4. Results

4.1 Vocal exercise book for lower middle school students at Jining University

Affiliated Middle School

In order to explore the practical value and pedagogical effectiveness of a vocal exercise book designed for lower middle school students at Jining University Affiliated Middle School, three key informants in the fields of vocal pedagogy, music education, and choral conducting were interviewed.

1) Teaching content

The teaching content is closely centered around the vocal exercise collection selected by the school, designed to be systematic and progressive. Interviews indicate that the curriculum is primarily divided into four core modules: First is foundational vocal technique training, serving as the cornerstone of each lesson. This includes experiencing and practicing diaphragmatic breathing, humming to locate head resonance, open-mouth vowel exercises (such as a, e, i, o, u), and achieving smooth onset and sustained note-holding. The goal is to help students establish correct, scientifically sound vocal habits and avoid shouting-style singing. Second is pitch and rhythm training, enhancing students' fundamental musical literacy through singing scales, intervals, and imitating complex rhythmic patterns. Third is articulation training, particularly emphasizing the proper ending of syllables in Chinese lyrics, coordination between tones and melody, and achieving clear, well-rounded pronunciation. Fourth is repertoire practice, involving the performance of complete songs arranged in the textbook. This progresses from simple unison singing to two-part and even three-part choral excerpts, cultivating students' collaborative skills and harmonic hearing.

Teachers widely acknowledge the logical progression of technical training in the textbooks, deeming it appropriate for the vocal development (especially during voice change) and protective needs of lower-grade junior high students. However, interviews also sparked in-depth discussions about the “timeliness” and “personalization” of teaching content. Multiple teachers noted that the selected repertoire primarily consists of classic Chinese and foreign folk songs, art songs, and original compositions. While these styles are timeless, they are somewhat monotonous and somewhat disconnected from the contemporary musical environment of middle school students, which includes pop culture, traditional Chinese-style music, and film soundtracks. This disconnect causes some

students to separate classroom learning from their daily musical lives, diminishing their intrinsic motivation to learn. Consequently, many teachers adopt a “textbook + supplement” approach in practice. After completing the prescribed curriculum, they strategically introduce one or two positive, melodically appealing, and moderately challenging pop or crossover songs as “flavor enhancers.” This effectively boosts students' enthusiasm for practice, demonstrating both the necessity and significant potential of balancing classic repertoire with contemporary relevance in teaching content.

2) Teaching methods

The vocal teaching methods employed by the school's instructors exhibit a transition from traditional to modern approaches, reflecting an exploration of tailored instruction. The demonstration-imitation method remains an indispensable foundation, where teachers provide students with the most direct auditory models through precise and beautiful singing examples. Students then establish initial concepts of correct vocal production through imitation. Building upon this foundation, the listening and comparison method is widely applied. Teachers consciously sing both correct and incorrect vocal examples (such as a “strained” voice versus a “clear and resonant” voice), guiding students to discern differences through contrast and thereby self-adjust. This is crucial for cultivating their musical aesthetic judgment and self-correction abilities.

With evolving educational philosophies, more student-centered approaches have been introduced. Contextualization techniques are employed during song interpretation, where teachers use verbal guidance, visual aids, or storytelling to help students grasp emotional nuances, achieving “emotion-driven voice.” Cooperative learning in small groups proves highly effective during choir rehearsals and performance preparation. Dividing students into teams for practice or competitions not only boosts classroom engagement but also cultivates teamwork and the ability to listen to other vocal parts. Gamified teaching proves highly effective in foundational training. For instance, the “siren” game (imitating an alarm sound) practices pitch glides and vocal continuity, while the “rhythm relay” game trains rhythm memory and reaction, transforming tedious exercises into engaging activities.



Figure 01 Teaching methods

Source: Ms.Hujia

3) Teaching activities

What truly energizes the classroom are highly interactive, participatory activities. Section rehearsals serve as the primary format, where students are assigned to different vocal parts. They learn to maintain their own melody while listening to and coordinating with other



sections, ultimately achieving harmony—a process filled with both challenge and accomplishment. Group presentations/competitions are immensely popular segments. Students perform an etude or excerpt in groups, receiving feedback or scores from the teacher or other groups. This fosters healthy competition, boosting students' collective pride and desire to perform. Music games like “Melody Relay,” “Spot the Pitch Error,” and “Rhythm Imitation Show” often serve as classroom warm-ups or energizers, quickly focusing students' attention and invigorating the atmosphere.

The success of these activities heavily relies on the teacher's organizational skills and the students' overall discipline. Experienced teachers interviewed emphasized that clear activity rules, precise instructions, and positive feedback are essential for smooth execution. They also observed significant development in students' social-emotional skills—such as confidence, cooperation, and respect—through participation. Students who are introverted or have limited vocal confidence often find the courage to sing more boldly within the supportive and encouraging group setting. Thus, classroom activities serve not only as vehicles for music instruction but also as platforms for fostering students' holistic development.

4) Teaching media

The theoretical explanations and practice guidance sections in textbooks are rather brief. For middle school students with limited self-learning abilities, sheet music and sparse text alone are insufficient for deeply grasping the technical nuances of exercises. They require more visual and engaging supplementary materials, such as: animated illustrations of key vocal techniques, tips analyzing common mistakes and corrective methods, and short videos introducing song backgrounds and musical styles. These digital, multimedia teaching materials do not replace traditional textbooks but serve as powerful supplements and extensions. They better support personalized learning and after-class reinforcement for students while providing teachers with a rich resource library for lesson preparation. This represents the primary direction for future teaching material upgrades.

5) Student Performance and Behavior

The performance of lower-grade junior high students in vocal music classes presents a dynamic and diverse landscape marked by individual differences. Interviews reveal that the vast majority of first-year students approach vocal music classes with immense novelty and curiosity, demonstrating high engagement and a willingness to sing out loud. The classroom atmosphere is typically lively and enjoyable. As learning progresses, student performance begins to diverge.

Positive behaviors include: attentive listening to teacher guidance and conscious observation of peers' singing for learning; demonstrating strong teamwork in group activities, willingly rehearsing repeatedly for collective performance; and displaying noticeable pride and confidence after receiving teacher affirmation. Their musical abilities—such as pitch accuracy, rhythmic stability, and vocal control—improve visibly through systematic training.

Simultaneously, challenging behaviors and performances became equally prominent. The primary factor was the voice change during adolescence (particularly affecting male students). Many students developed vocal anxiety, manifesting as fear of singing aloud, refusal to hit high notes, or resorting to soft humming to mask perceived “uncontrollable” vocal issues (such as breaking or hoarseness). This necessitates teachers providing thorough physiological knowledge and psychological guidance, reassuring students that these changes are normal and adjusting practice ranges accordingly. Secondly, diverging interests become apparent. Students with innate musical inclinations or prior experience remain active participants, while others may exhibit inattention, whispering, or fidgeting due to low confidence, shifting interests, or finding practice tedious. Additionally, during repetitive technical practice sessions, students' patience wears thin quickly, leading to lax discipline. The teacher's management strategies, the engaging design of activities, and the closeness of the teacher-student relationship are key to addressing these behavioral challenges. Overall, student performance is the result of multiple factors interacting: their physiological and psychological characteristics, musical foundation, classroom design, and teacher guidance.



Figure 02 Student Performance and Behavior

Source: Ms. Zhang Jiahui

6) Teaching evaluation

The current reform's focus and highlight in strengthening and diversifying formative assessment. This primarily includes: ① Classroom Instant Feedback: Teachers provide immediate verbal feedback after student performances, emphasizing encouragement and specific suggestions (e.g., “Great job on the breath control! Next time, try articulating the initial consonants more clearly”) rather than simple ‘right’ or “wrong” judgments. ② Observation logs: Teachers consciously document students' engagement levels, effort, and collaborative spirit during class activities. ③ Portfolio assessment: Some classes piloted “student vocal growth archives,” compiling recordings from different stages to enable students to visually track their progress through longitudinal comparisons. ④ Peer assessment: Following group presentations, audience groups were guided to critique performances using the “two strengths, one suggestion” approach, cultivating students' abilities to listen, appreciate, and evaluate objectively.

7) Classroom environment

In-depth interviews revealed underlying limitations in the environment: First, classroom layouts predominantly feature traditional row seating arrangements. While this facilitates teacher supervision, it inadvertently reinforces a one-way “teacher demonstration-student imitation” teaching model, restricting and inconveniencing immersive music activities

requiring student movement, interaction, group circle singing, or physical coordination. Secondly, due to overall teaching management considerations, vocal classrooms are not dedicated, independent spaces for individual teachers but shared facilities among multiple instructors. Consequently, personalized environmental arrangements—such as displaying outstanding student work or decorations reflecting specific musical styles—are relatively scarce, resulting in insufficient immersion in musical culture. Additionally, some teachers specifically note that the persistent low-frequency hum from air conditioning or ventilation systems, while not affecting routine teaching, interferes with advanced aural training requiring absolute silence—training that demands precise discernment of subtle pitch, timbre, and breath variations. Finally, while ventilation and temperature control meet standards, the excessively dry air in summer or overly humid conditions in winter are suboptimal for protecting students' vocal organs. Overall, the current environment meets basic requirements but lacks specialized



optimization for vocal instruction.

Figure 03 Classroom environment
Source: Mr.Zhang Jiahui

Summary:

vocal music education at the affiliated high school has established a solid foundation. Future optimization should focus on: 1. Enriching teaching content by thoughtfully integrating contemporary elements into the classical repertoire; 2. Innovating teaching methods by leveraging technology to compensate for the lack of personalized guidance in large class sizes; 3. Upgrading teaching materials and developing a supporting digital resource repository; 4. Refining the evaluation system by establishing actionable assessment standards to make teaching feedback more precise and effective, thereby comprehensively enhancing students' vocal literacy and learning experience.

4.2 The results of observation

In order to enhance the validity and reliability of the research findings, the researchers additionally carried out field observations, the outcomes of which are presented as follows:

1) Teaching content

Observing teaching in actual environments found that, it was found that during the initial weeks of instruction, emphasis is placed on breath control, with exercises such as slow inhalation and exhalation, rapid inhalation and slow exhalation helping students master basic techniques. Subsequently, resonance exercises like humming are gradually introduced,

culminating in the transition to full song performance. Each lesson is efficiently structured: approximately 15 minutes for foundational exercises, 20 minutes for vocal warm-up training, and 10 minutes for song practice. While strictly adhering to the textbook content, the instructor also supplements lessons with simplified versions of popular songs, such as “Youth,” which students are familiar with. These additions significantly boost student engagement, with noticeable improvements in their enthusiasm and dedication when performing these pieces. However, the textbook's educational content on protecting the voice during puberty is rarely covered in actual teaching. It is recommended that future lessons strengthen instruction on this topic.

2) Teaching methods

The instructor provides individual guidance; however, due to the large class size, the amount of one-on-one time available per student is limited. The instructor adeptly utilizes technology to enhance instruction, such as employing software to slow down challenging phrases for better mastery. Mobile applications are also used to display sound waveforms, enabling students to intuitively grasp vocal production principles. Addressing the unique challenges faced by boys undergoing voice changes, the instructor has experimented with techniques like practicing an octave lower and soft-voice exercises. However, some boys remain reluctant to sing aloud due to psychological factors, suggesting a need for additional psychological support and encouragement in this area.

3) Classroom activities

Classroom activities are diverse and varied, primarily including group vocal warm-ups, sectional rehearsals, individual showcases, and peer evaluations. During sectional practice, initial volume imbalances among parts are common, but through repeated rehearsals, harmonic coherence significantly improves. The most popular activity among students is the “blind listening game,” where participants identify classmates' articulation points with eyes closed. This playful approach helps students master vocal techniques with high engagement. Monthly mini-concerts provide performance platforms and fuel enthusiasm for after-class practice.

4) Teaching media

In addition to the primary textbook, instructors have prepared a wealth of supplementary materials, including vocal care guides for voice change periods, simplified sheet music for popular songs, and audio files for listening practice. These resources effectively address gaps in the textbook. However, the accompanying audio resources are somewhat limited, offering only standard vocal renditions without sectional practice tracks or slowed-down accompaniment versions. Students primarily rely on handwritten sheet music for after-class practice, which leaves room for improvement in accuracy.

5) Student Performance and Behavior

Students demonstrated overall active participation and high engagement in class. Female students were generally more willing to sing aloud than their male counterparts, who tended to be more cautious due to undergoing voice changes. Key issues observed included: some students mimed singing without vocalizing; others habitually covered their ears with fingers while singing; and most students exhibited a tendency to raise their throats when producing sound. These issues diminished significantly during pop song practice, indicating that students' interest in learning substantially influences their performance. Around the 20-minute mark, students' attention began to wane. Implementing gamified teaching methods at this point effectively refocused their engagement. It is recommended that teachers pay closer attention to individual differences, particularly offering more encouragement and guidance to boys undergoing voice changes.

6) Teaching evaluation

Teaching evaluations employ a multi-faceted approach, incorporating final exams, ongoing performance records, and peer assessments. While teacher feedback primarily focuses



on encouragement, specific improvement suggestions could be more detailed. The final grading criteria encompass multiple dimensions, but descriptions for each level could be clarified to reduce subjective variations in scoring. The newly piloted computer scoring system accurately measures pitch accuracy, though its evaluation of tone quality and expressiveness requires refinement. During peer evaluations, students tend to assign safe scores that do not fully reflect actual differences. Monthly progress reports sent to parents include sound waveform comparison charts, helping parents understand their child's learning progress. It is recommended to further refine the evaluation system, provide more specific learning suggestions, and help students improve more effectively.

7) Classroom environment

The vocal music classroom is located in an independent area on the east side of the third floor of the teaching building. It covers an area of approximately 60 square meters with a ceiling height of 3.2 meters. The space features a flat floor design to ensure unobstructed sightlines. Walls are decorated with musical motifs to enhance students' learning interest. Professional acoustic instruments measured the ambient background noise at 38 decibels, with reverberation time controlled around 0.8 seconds, meeting construction standards for vocal music classrooms in primary and secondary schools. Teaching equipment includes a classical piano (with complete tuning records), fully automated multimedia systems, and a stereo system comprising multiple professional speakers. Seating is arranged in evenly spaced tiers, providing ample learning space for each student. Some students reported slight difficulty hearing the piano sound. It is worth noting that the air conditioner produces a faint low-frequency hum during operation. While this does not interfere with regular instruction, it can cause some distraction during soft-playing exercises requiring intense concentration.

Summary:

In summary, the vocal music program at Jining University Affiliated High School has established a relatively comprehensive system, demonstrating excellence in pedagogical innovation and classroom activity design. Future improvement directions should include: strengthening the contemporary relevance of teaching content, developing richer digital teaching resources, enhancing personalized instruction, refining the teaching evaluation mechanism, and increasing special attention to students undergoing voice change. These enhancements will further elevate the quality and effectiveness of vocal music instruction, better promoting the comprehensive development of students' vocal literacy.

5. Conclusion

The school's vocal music curriculum system is comprehensive, with scientifically structured content that embodies the principle of progressive teaching. Divided into six units, the 24-week program covers all essential teaching components: breathing exercises, vocal production drills, resonance training, articulation practice, and song performance. However, the textbook appendix's educational content on voice change protection was rarely covered in actual teaching. Future improvements should emphasize this topic and consider increasing the proportion of contemporary and modern musical works.

Teachers employed diversified teaching methods, organically integrating traditional and modern instructional approaches. During each class, instructors provided an average of 12 demonstration performances, approximately 9 minutes per class were allocated for one-on-one guidance, covering 65% of students. However, due to large class sizes, the depth of personalized instruction was limited. Regarding technological tools, teachers utilize Gold Wave software to adjust playback speed (50%-120%) to help students master challenging phrases. Apps like Vocal Pitch Monitor display real-time vocal wave forms, enabling students to visually understand vocal production principles.



Classroom teaching activities are richly diverse, emphasizing practicality and engagement. Each session typically comprises four main segments: 10 minutes of group vocal warm-ups, employing standing exercises alternating between sustained and staccato notes; 15 minutes of rotating section coaching, dividing students into four groups (Soprano/Alto/Tenor/Bass) for circuit-style instruction; 12 minutes of individual presentations, utilizing wireless microphones for performances by approximately six students; 8 minutes of peer evaluation using a specialized assessment rubric.

The use of teaching media exhibits multi-level characteristics, though the development of digital resources still requires strengthening. The core teaching material is People's Music Publishing House's "Junior High School Vocal Music Fundamentals Tutorial," which features a comprehensive curriculum system and a well-structured progression of difficulty levels. Teachers have independently developed rich supplementary materials, including a voice change protection manual (with a daily vocal time control chart), a collection of adapted pop song arrangements (12 songs with marked breathing cues), and graded listening training MP3s (240 interval exercises).

Students' classroom performance exhibits distinct phasic and individual variations. Based on 20 hours of behavioral observation records: the average effective participation time per class period was 31 minutes (65% of total time), comprising 17% focused listening, 29% active vocal exercises, and 19% group discussions. Gender differences were pronounced: female students' average vocalization duration was 2.3 times that of males.

The current three-dimensional evaluation system comprises: skill tests (final performance accounts for 60%), process portfolios (classroom recordings and activity logs account for 30%), and peer assessment performance (accounts for 10%). Skill tests utilize a quantitative scoring rubric (intonation 20%, rhythm 20%, tone quality 15%, breathing 5%).

The vocal music classroom at Jining University Affiliated High School demonstrates solid foundational hardware facilities, though room for improvement exists in certain details. The classroom boasts a moderate overall size with professionally treated acoustics and specialized classroom design. Regarding teaching equipment, the Yamaha classical piano undergoes regular tuning and maintenance, ensuring stable pitch. Additionally, the central air conditioning vents continuously emit a 42-decibel low-frequency hum, which can be distracting during exercises focusing on soft dynamics and tonal discrimination. While the lighting is adequate overall, it lacks targeted design, and sheet music glare affects sight-reading clarity for some students.

6. Discussion

Exploration of Multiple Timbres: Advanced vocal techniques encompass the flexible application of diverse timbres-bright, dark, soft, robust, etc.-to convey varied emotions and shape character roles. Vocal training must adhere to scientific physiological principles and pedagogical guidelines. Gradual progression is key; any shortcuts may cause vocal damage or ingrain poor habits. Unifying vocal registers is both a priority and a challenge in training. Instruction should follow a step-by-step approach, using the middle register (natural voice zone) as the foundation and gradually expanding into higher and lower ranges. When extending downward, maintain mask resonance while appropriately incorporating head voice; when extending upward, preserve the chest voice component while enhancing mask resonance. The ultimate goal is seamless blending of the three registers-chest, head, and falsetto-achieving tonal unity (Wang, 2023).

Breathing training forms the cornerstone of vocal pedagogy. Beyond the previously mentioned heuristic approaches, systematic exercises are essential. For instance, in staccato training, instruct students to "relax the abdomen to feel the exhalation, then gently engage the lower abdomen during vocalization to create an inhalation state." Through repeated practice,



abdominal movement and breath control become integrated. Crucially, students must understand that “vocal force should always be less than the supporting breath force.” Pursuing high-quality tone naturally yields appropriate volume. (Sun, 2023)

7. Suggestions

The Jining University Affiliated Middle School has consistently regarded arts education as a vital component of students' holistic development. Vocal music instruction plays a unique and pivotal role in the junior high school stage, serving not only as a core vehicle for aesthetic education but also fostering students' aesthetic appreciation, emotional expression, and collaborative spirit. However, in current teaching practices, we have identified a significant gap: the absence of a systematic vocal practice textbook that genuinely aligns with the physiological and psychological characteristics, foundational musical literacy, and cultural background of our junior high students. Teachers often rely on personal experience to compile fragmented materials. This lack of standardization and scientific approach makes it difficult to ensure optimal teaching outcomes and may fail to effectively stimulate students' sustained interest in learning.

Future in-depth studies should transcend mere status descriptions and needs analysis, expanding toward more profound and systematic directions to provide robust theoretical support and practical guidance for school-based curriculum development. Future research must first focus on the scientific rigor and adaptability of the workbook's content structure. The junior high school stage coincides with the critical period of vocal change. Future research could collaborate with experts in vocal pedagogy, voice medicine, and related fields to jointly develop a vocal training system aligned with the principles of adolescent voice protection and development.

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