

Research on the Construction of Healthy Vocalization System and Long-term Teaching Practice of Vocal Music Based on Age and Hierarchical Teaching

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Abstract: Vocal training needs to conform to the growth rules of human vocalization. Human vocal cords, respiratory muscles and resonant cavities change with age, so learners at different ages have distinct vocal conditions and voice endurance levels. Most current vocal teaching adopts unified training standards, blindly focusing on the improvement of singing skills while ignoring personalized voice protection, which leads to frequent vocal problems. Children tend to form bad shouting singing habits, teenagers are prone to vocal cord damage, professional learners face solidified vocal habits, and adult singers often suffer from throat tension. Based on four learning scenarios including children's initial vocal training, middle school art examination training, university professional study and adult chorus, this paper combines the physiological characteristics of human vocalization to construct a scientific teaching system covering error correction, hierarchical training, breath and resonance control, and voice maintenance, providing practical references for normalized and lifelong vocal aesthetic education.

Keywords: Vocal Music Teaching; Healthy Vocalization; Age-based Hierarchical Teaching; Vocal Cord Protection; Long-term Training; Aesthetic Education Practice

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Introduction

With the continuous reform of aesthetic education, vocal music teaching is no longer limited to technical training, but pays more attention to students' vocal health and long-term artistic literacy. Most current vocal courses adopt a unified training mode without taking into account the physical differences of learners in different age groups, which may easily cause vocal cord injury, stiff vocalization and poor expressive ability. Based on the age-based hierarchical teaching concept, this study optimizes the scientific vocal training system for different learning groups. It offers practical ideas for solving the problem of homogeneous teaching and promoting the sustainable development of lifelong vocal aesthetic education.

1. Significance of Constructing Age-based Hierarchical Teaching System for Healthy Vocalization in Vocal Music

1.1 Meeting the Scientific Teaching Requirements Based on Vocal Physical Development

Vocal production relies on the coordinated work of breathing, phonation and resonance systems. Human vocal organs develop gradually with age, so learners of different ages show obvious differences in vocal cord conditions, resonant cavity features and breath control capabilities. Traditional vocal music teaching adopts unified training modes that ignore individual physical differences and developmental rules, which often leads to compensatory muscle tension, vocal congestion and stiff tone quality. Customized age-based hierarchical teaching adapts to the vocal physical conditions of different groups, corrects the drawbacks of empirical teaching methods, and helps promote standardized and scientific development of modern vocal music teaching.

1.2 Solving the Utilitarian Dilemma of Contemporary Vocal Music Aesthetic Education

Vocal music teaching in China has long been stuck in fixed teaching modes and lacks proper vocal protection

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guidance, leading to obvious teaching flaws throughout different learning phases. Preschool vocal teaching overly focuses on interesting classroom experiences but pays little attention to standardized vocal practice. Middle school art test training is overly score-oriented, and prolonged repetitive practice may easily damage vocal cords during the adolescent voice change stage. College-level teaching puts too much emphasis on stage performance yet ignores the sustained development of students' vocal abilities. Adult chorus training pursues unified tone quality while overlooking individual vocal characteristics of learners. Teaching sorted by age and proficiency matches the physical vocal traits of learners at all ages, strikes a balance between skill training and vocal health protection, guides learners to form good singing habits, and promotes the sustainable development of vocal aesthetic education.

1.3 Improving the Teaching System of Lifelong Vocal Music Aesthetic Education

Against the backdrop of integrated aesthetic education development, vocal music teaching needs to follow the growth rules of learners of all ages and build a coherent and sustainable training system. Current vocal music teaching is carried out separately according to different learning stages, which divides children's enlightenment learning, middle school exam training, university professional study and adult chorus training into isolated parts. The disjointed training standards, vocal concepts and vocal protection methods prevent learners from forming stable and standardized vocal skills. The age-based hierarchical teaching mode optimizes training content according to physical characteristics and learning needs of different groups, unifies the teaching logic of all stages, makes up for the deficiencies in regular healthy vocal training, and promotes the steady development of lifelong vocal music aesthetic education.

2. Core Construction Dimensions of the Healthy Vocalization System for Vocal Music from the Perspective of Age and Hierarchical Teaching

2.1 Age-based and Hierarchical Adaptation System Based on Differences in Physiological Functions

Human vocal organs develop in distinct stages with age. Factors including vocal cord toughness, respiratory muscle strength and resonant cavity structure vary greatly across different age groups, which means vocal training must adapt to learners' physical conditions at different ages. Children have delicate vocal functions and are only suitable for gentle and basic vocal practice. Teenagers in the voice-changing period have fragile vocal cords, so vocal protection should be placed first.

College students with a good condition of vocal organs can be taught systematically by professionals. Adult learners have weaker muscle elasticity and need more relaxing and adaptive exercises. Learners of the same age have different learning bases and also require personalised training.

The old model of uniform training is not suitable for vocal instruction. Based on the age of the students and their learning bases, teachers should give differentiated and focused training. For young children learning to sing, the teaching aims to help them feel breath and the natural habit of singing through observation, rather than forcing them to sing loudly. Teenagers in the vocal change period should pay more attention to their voices. They can learn some exam-oriented singing skills and reduce the intensity of their vocal training. College students studying vocal music are required to learn how to coordinate breath and resonance in their singing more precisely. Adult choir students are taught to relax their vocal cords so that they can meet the performance requirements of group singing. Individualised training can meet the different physical vocal characteristics of learners, avoid vocal fatigue caused by improper practice, and help them develop regular, scientifically sound singing habits.^[1]

2.2 Hierarchical Error Correction System Based on the Rectification of Vocal Misconceptions

Learners of different ages and abilities in vocal music instruction have many different vocal flaws. Young children with weaker cognition often sing in a strained voice with tension in their throat. Students who are in the mood to take the art exam often raise their vocal range and, as a result, have irregular transitions between true and falsetto notes and abnormal breathing. Undergraduate vocal learners often use too much muscle power in their

singing and have an inflexible tone. Adult singers usually have shallow breathing and a flat tone because of a long-term bad singing habit and gradual physical decline. Standardised correction methods cannot meet the needs of different people for fixing their voice and thus perform poorly. Tiered training can be used for different groups of students to correct their wrong singing habits and help them identify and correct the mistakes in their own singing.

2.3 Hierarchical Breath Regulation System Oriented to Long-term Vocal Development

Breath serves as the core power source for vocal singing. Human respiratory muscles develop gradually with age, so learners in different age groups show great differences in breath control ability. Young kids mostly rely on natural chest breathing, while middle school students are able to master basic abdominal breathing. College vocal majors can skillfully use combined chest and abdominal breathing, and adult learners need targeted exercises to activate their respiratory functions. The unified breath training methods used currently fail to match the physical characteristics of different learners. Such training brings little improvement and may trigger vocal problems including compensatory breathing. Carrying out graded breath training based on learners' age and physical conditions can effectively fix personalized singing weaknesses, avoid vocal damage caused by improper practice, and help learners form a stable and scientific breathing and vocalizing habit.

2.4 Hierarchical Resonance Adjustment System Based on Timbre Optimization

People's vocal resonance spaces grow and mature gradually as they age. As a result, learners of different ages have distinct physical conditions and varying abilities to adjust vocal resonance, which means they all need personalized resonance training. Children have narrow cavity spaces and only suit light head resonance practice, instead of heavy chest resonance training. During the voice change period, vocal cavities remain unstable, so learners should maintain natural vocalization without deliberate timbre modification. College students with fully developed cavities can receive systematic training on multi-cavity mixed resonance.

Adults have a relatively stable cavity function but lack flexibility; therefore, the goal of their training is to unify timbre and adjust basic resonance so as not to have a stiff tone and poor expression due to uniform training mode.

Vocal resonance training should be in line with the development rules of human cavities at different ages, and the focus of training will be adjusted accordingly. As they have underdeveloped vocal cavities, children mainly learn to use soft head resonance to maintain a pure and natural tone. Middle school students are learning to connect the head and pharyngeal resonance in their singing. The professional training in college is flexible, and it can switch between multiple cavities to meet the needs of various singing works. Adult learners adjust the proportion of resonance to improve thinness and dullness in their voice. Such a reasonable hierarchical training will help maintain the voice and expressiveness of singing.

2.5 Hierarchical Vocal Cord Protection System for Sustainable Vocal Development

Vocal cord conditions change throughout a person's growth process, and vocal tolerance and maintenance needs vary significantly across different age groups, which explains why targeted voice protection is essential in stage-based vocal training. Young children have delicate vocal cords that cannot withstand heavy practice loads, so intensive vocal drills are not suitable for them. Adolescents are in the voice transformation phase, where vocal tissues are prone to congestion and sensitivity, making vocal protection a top priority. College students majoring in vocal music have fully developed vocal cords, yet long hours of continuous singing may lead to chronic vocal fatigue and strain. Adult singers experience reduced vocal elasticity, often feeling dryness and tiredness after vocal practice. Most current vocal training focuses merely on technical skills while neglecting systematic voice maintenance tailored for different learners, which may result in irreversible vocal damage. Implementing age-based voice protection plans based on physical vocal features, reasonable practice intensity and standardized vocal habits can effectively avoid training-related vocal problems and sustain long-term vocal health for all learners.

3. Long-term Teaching Practice Strategies for the Age-based and Hierarchical Healthy Vocal System in Vocal Music

3.1 Building a Gradient and Hierarchical Teaching Content System

Vocal music curriculum design should align with the age characteristics, cognitive levels and vocal physical conditions of learners, according to the principle of progressive learning^[3]. Traditional vocal teaching has the same course and fixed training rhythm for everyone; it cannot meet the needs of learners at different stages and often results in disconnected teaching and unreasonable difficulty settings. The age-based hierarchical teaching method solves the problems of uniform teaching. A step-by-step curriculum system has been constructed for four groups of people: children and beginners, middle school students preparing for exams, college majors and adults, etc., meeting their different learning requirements to promote continuous and sustained improvement in vocal skills.

Vocal Music teaching should have various training plans based on the different stages of learning for students. Beginners in childhood focus on breath awareness and intonation practice to develop a good singing habit. Students are getting ready for the art examination, so they are honing their singing skills and protecting their vocal cords during the voice-changing period to balance exam preparation with vocal health. College professional learners focus on refining the details of singing and perform various repertoires to build a strong foundation in their studies. Adult chorus members are more conscious of throat relaxation and coordinated performance of vocal parts. The problem of a single teaching mode can be addressed by dividing it into several stages to help the students improve their singing skills gradually.

3.2 Establishing a Scientific Hierarchical Teaching Evaluation Mechanism

Teaching evaluation sets the overall orientation and quality standard for vocal music courses. Traditional vocal assessment mainly focuses on singing techniques and stage presentation, overemphasizing final performance results while ignoring key elements such as standard vocal habits, vocal protection awareness and long-term ability development, which makes vocal teaching overly utilitarian. With the support of diversified evaluation concepts, teachers can formulate differentiated assessment criteria based on personalized training goals for different learners. This approach balances learning procedures and final outcomes, standardizes overall teaching arrangements, and supports the sustainable and scientific development of regular vocal music education^[4].

The old-fashioned vocal assessment system is based on singing techniques and stage performance; due to its single indicator, the training style has become too hurried and practical. Set up different graded evaluation norms for the various groups of learners to solve this problem. For young children, the main evaluation content is their vocal condition and typical use of the voice. In the evaluation for art exam candidates, standard singing skills and the preservation of vocal health are given equal weight. Professional students need to master singing techniques and maintain a stable voice over a long period. Tonal stability and the expression of art are the main criteria for judging adult amateur singers. Improving the dynamic process evaluation can correct the current problems in teaching and help students develop good singing habits for life.

3.3 Establishing Systematic Teacher Training and Teaching Research Mechanisms

Professional ability and teaching skills of teachers are necessary conditions for carrying out age-based and graded scientific vocal education. Many vocal music teachers are still using old-fashioned teaching methods, do not have a deep understanding of the physical characteristics of the voice and voice-protecting skills, and cannot provide differentiated teaching for students of different ages. Therefore, it is not possible to meet the individual learning needs of students and conduct standardised scientific vocal training. Therefore, to strengthen the construction of a good teacher training and teaching research system will help optimise the whole vocal teaching framework and improve the quality of aesthetic education in classroom teaching.

Colleges and universities can work with the art departments of primary and secondary schools, as well as social art institutions, to construct all-round research and development bases for vocal education. Regularly hold teacher

training courses that focus on age-differentiated instruction, management of vocal health, scientific singing skills, etc., to help practicing teachers keep up with changes in education and learning. Based on typical teaching problems in daily teaching, teachers can develop specific teaching plans and vocal protection standards for learners at different stages of development. Continuous teaching research has improved teachers' graded teaching abilities to a certain extent, raised the overall standard of vocal courses, and created an environment that can promote the continuous operation of healthy vocal teaching modes.

3.4 Optimize Full-cycle Teaching Connection and Vocal Maintenance Mechanisms

High-quality vocal teaching needs to cover all learning stages of practitioners and bridge the teaching gaps between different learning phases, so as to make up for the missing part of daily vocal maintenance training. From the perspective of lifelong aesthetic education, the cultivation of vocal competence does not rely on short-term skill cramming, but demands long-term practice and gradual accumulation. Instead of merely focusing on technical improvement at a single stage, teachers should establish consistent training standards and vocal protection awareness, enabling students to make steady progress at every learning stage and sustain stable long-term singing growth. Vocal courses can serve learners ranging from children and teenagers to college students and adults with unified standardized vocal training and voice protection rules. Teachers can create their own vocal training files to record the singing problems and improvements of students over time. In conjunction with targeted after-class relaxation and vocal recovery plans, the integrated training system has solved the problem of fragmentation in traditional courses, steadily improved learners' singing ability, and cultivated their awareness of scientific use of the voice in all aspects of life.

4. Conclusion and Prospect

This study integrates vocal physical mechanisms with contemporary aesthetic education concepts, aiming at typical problems in current vocal courses such as rigid teaching routines and overemphasis on technical drills at the cost of vocal health. It builds a complete all-age vocal teaching system that covers physical vocal rules, breathing techniques, timbre resonance and vocal cord care. It also offers operable teaching solutions including tiered classroom design, multi-dimensional assessment and teacher competency training to resolve common problems in phased vocal teaching. Future research can leverage digital tools to optimize vocal training modes and real-time vocal monitoring, so as to continuously upgrade the lifelong aesthetic education system for vocal learning.

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