

Functional Construction and Practical Research of "Pharyngeal Technique" in Singing Training System

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ABSTRACT. *Pharyngeal technique is an ancient vocal training method in Italian bel canto. Voice expert Lin Junqing integrated this ancient vocal method into the research findings of physiology, physics, acoustics, medicine and other related sciences. In the process of practice, he established a set of rigorous and scientific pharyngeal training steps, which promoted the revolutionary change of vocal music practice and the perfect combination of singing art and science. Starting from Professor Lin's contribution to music-the eight steps of pharyngeal sound, this paper studies the theoretical connotation of pharyngeal sound technique and its theoretical construction in singing practice from the research methods of philology, philosophy and comparative studies, and explores the introduction of "pharyngeal sound technique" into vocal music teaching in colleges and universities so as to make it complement the traditional vocal music teaching method, to achieve the fusion of Chinese and western music, thus injecting new vitality into the research in this field of vocal music art in China.*

KEYWORDS: *Pharyngeal Technique, Singing System, Functional Construction, Practical Research*

1. Introduction

"Pharyngeal" vocalization techniques were brought to China by the famous Italian tenor in the 1930s and taught to Dr. Lin Junqing, a famous baritone singer and voice research expert in China. The term "pharyngeal sound" is a special vocal music training method, which originated from Italian traditional bel canto and has obvious acoustic characteristics. "Pharyngeal sound" is not only a professional term, but also includes a peculiar sound image and the potential meaning of its distinctive practice methods. In the late 1950s, Shanghai Vocal Music Research Institute was established in Shanghai, which takes Dr. Lin Junqing as the core, to teach pharyngeal sound training techniques and to conduct research on treating voice diseases. In the early 1960s, pharyngeal sound began to be used in artistic singing.

In 1961, sponsored by the Central Ministry of Culture, music colleges began to enroll students and a three-year postgraduate course was set, which aroused great response in the society. At the same time, many scholars and singers have been enthusiastic about the research in this field and have attained rich academic achievements.

There are many representative academic research findings on the technique of "pharyngeal sound" in China. Luo Rongju's "Magic Pharyngeal" explains the application of pharyngeal sound, a super-skill sound training method in vocal music singing, the magical effect of pharyngeal sound in treating voice diseases, and the fact that using pharyngeal sound training method is one of the shortcuts for many famous singers to acquire the ability to sing high notes. Jiang Jiexiang's "Vocal Music Theory and Teaching Practice", examines and interprets the "pharyngeal sound" technique from a contemporary perspective, drawing on the wisdom of predecessors and the historical experience in singing training, and seeks the agreement between the pharyngeal sound technique and modern singing training. Wang Baozhang's "On Singing Method" discusses the ideological method of vocal music teaching, expounds the theoretical system of singing art, tells the specifications and requirements of singing training, and at the same time discusses the practical application of the training and vocalization method of "pharyngeal sound" in modern singing training in considerable length and papers.

Besides, the representative results of foreign academic research on "pharyngeal sound" techniques are also abundant. Hobert-Kaisali's "The Song of the Heart" said that pharyngeal sound is a neglected function, which is used by the representatives of the traditional Italian school to distinguish a sound produced by a unique but obvious sound producing function, and it is in a functional state with the so-called falsetto function. The sound quality is not beautiful when strong, but when it is mixed with fundamental tone or falsetto, it plays a very important role. In Caruso's Singing Method by Maraffi Audi, it is mentioned that resonance plays an important role in enlarging and making sound. The resonance here is only the larynx between the real vocal cords and the fake vocal cords. The power of coordination is the result of the intensification and enrichment of vocal cords and resonance rooms. When Caruso was 30 years old, his volume was very low. When he mastered the vocal method of "pharyngeal sound", his singing caused a sensation and became a famous singer in the world. Shang Jiashang's "History of European Vocal Music" said that the 17th and 18th centuries were "the golden age of the American School of Vocal Music". At that time, teachers and singers were "using a unique method, but with obvious characteristics of the pronunciation function of the sound, it is between the true sound and false sound function". For a period of time, every teacher and singer trained by tradition can use this sound function and mix it with pitch and falsetto." Professor Wang Baozhang, an expert on artistic voice, has been invited to give lectures in various parts of the country for many times in order to promote and develop the learning and application of pharyngeal sound techniques. The practice teaching has proved the magical effect of "pharyngeal sound techniques" in both artistic singing and voice therapy. Under the impetus of the "four innovations" of new ideas, new theories, deep concepts and new techniques, the participants of each

pharyngeal singing class quickly defined the scientific vocalization concept, appropriately added pharyngeal components to artistic singing, quickly overcame some defects in singing, and completed the construction of singing function integrating true voice, pharyngeal voice function and true and false voice function.

2. Application Value and Academic Value

2.1 Application Value

"Pharyngeal technique" is a fast and effective singing training method to improve students' sound quality. In China, this training method is generally only applied to professional singers engaged in singing, and few people apply it to vocal music teaching in normal universities. In the specific vocal music teaching, the author tried to use the pharyngeal sound training method to carry out the preliminary sound training for the students, so that they can find the usual naughty and wide-mouthed sound for training. Based on practice results, it is proved that the addition of "pharyngeal technique" training to the traditional singing training method is not only easy for all students to accept, but also makes the singing ability improved quickly, the treble station is particularly stable, and good results have been achieved.

(1) The training method of "pharyngeal technique" is very different from the traditional singing training method. The traditional training method is to squeeze the pharyngeal organ to emit high-pitched sounds, and the resonance point inside the pharyngeal cavity is a point. The training of pharyngeal sound is to adjust the pharynx into a tube, and make it into a tube. The tube is placed at the back, so that the resonance cavity is enlarged, and the pronunciation performance is changed like a wind instrument. After the thickness of the gas and tube are adjusted, the vibrating part of the vocal cords is different. Therefore, the pronunciation performance is greatly changed, and the efficiency is greatly improved. When Bernuolli invented air blowing, the air flow will generate suction to the side of the pipe. Bel Canto advocated "singing in the air". When the air blows, the vocal cords do not move closer to the pronunciation actively, but are breathed and sucked passively. Therefore, it is not laborious, and the muscles of the pharyngeal are not laborious, so it is not tiring to sing often. At the same time, the teaching and singing practice of "pharyngeal technique" is mainly implemented in the development of singing voice's potential, so as to make the voice strong, bright, concentrated, high in position and penetrating like metal. The relationship between "pharyngeal technique" and artistic singing, the "whole" and "parts", must be fully brought into play in vocal music teaching and singing practice. Thus, pharyngeal function in singing is like salt put in stir-frying dishes, to make the voice more wonderful.

(2) The learning and application of pharyngeal sound techniques can enable vocal music learners to acquire "true sound function, false sound function and pharyngeal sound function" actively after correctly developing voice potential. The pharyngeal technique can enable students to master better singing skills in a short period of time. By shaping a good pronunciation tube, the passage leading to high

overtone resonance can be quickly opened, and the ability of vocal fold expansion and contraction can be exercised, which has a positive effect on mixing true and false sounds and unifying sound areas, and can be combined with "falsetto" to enhance the ability to sing "mezzavoce", which is combined with "true sound" to help "true sound" enter "half sound" from "strong volume" as desired and can be combined with "true sound" and "false sound" at the same time so as to strengthen pronunciation ability. When high-pitched singers sing high notes, they should scale up and down gradually, that is, pp points out high notes, gradually strengthens, and then weakens to pp, which is relatively easy to do. In singing, depending on it, you can stretch and shrink freely, which can enhance the tenor's ability to raise high notes and can help to make the "arousal" sound clearer. Tenors need it when they want to "arouse" high notes, which can strengthen the vocal ability of vocal cords, maintain the health of vocal cords, and restore the incapacitated vocal cords (the same for any voice part) and can cure the problem of trembling voice. If tenor, soprano, mezzo-soprano and contralto have trembling or unstable pronunciation, they can be corrected by learning it.

(3) Pharyngeal technique is not only the technical basis of Italian classical bel canto and its development, but also, as an ancient tradition of voice training, its scientific principle, its positive effect on human voice health and its application value are worth further study, which can train and treat small voice and hoarse voice. This method can also be used to train voice workers (such as teachers) and strengthen voice health care. In the practice of voice training with pharyngeal technique, one can have the ability and method to train "dead voice" into "living voice". The training of "dumb voice" into "golden voice" is another great advantage of pharyngeal technique in artistic singing. In addition, some singers and vocal music workers broke their pharyngeal due to improper pharyngeal habits and methods, and strengthened their training with pharyngeal techniques. Many people have regained their youthful pharyngeal.

2.2 Academic Value

To study the application of pharyngeal sound technique in singing training system from physiological aspect, Some training methods of pharyngeal sound techniques are different from our common practice methods in terms of form and sound effect, and their purpose is more clear, which stresses the overall training and adjustment of vocal organs, emphasizes the sound consciousness and control centered on the establishment of the upper resonance cavity, and thus lays a solid foundation for freely emitting the beautiful metallic timbre with unified upper and lower parts, wide freedom and penetrating power. According to the research of modern voice science, the application scope of pharyngeal technique has gone far beyond the category of American singing. In the practice of pharyngeal training, bel canto, ethnic singing, popular singing and original singing are all used. Pharyngeal technique can be used in many fields of vocal music teaching. It will play an important role in deepening professional music education, especially in the teaching reform of "vocal music major". Strictly speaking, "pharyngeal function" is a skill

and technique topic related to the teaching of "vocal cord" (i.e. voice) function in vocal music performance specialized courses in music and art colleges. The strict scientific training system of "pharyngeal voice" training method can effectively improve the voice ability with various voice conditions in a short period of time, and it is one of the magic weapons for professionals using voice. Especially, the 8 steps studied by Dr. Lin are very effective basic skills for artistic singing, which can generally improve the endurance of the singer's voice and keep it young, and can also be used to treat many voice diseases, and has good therapeutic effects on vocal cord congestion, edema, vocal nodule and polyp.

Study on the application of pharyngeal sound technique in singing from the aspect of acoustics. The pharyngeal sound training method is a method of forming inverted funnel-shaped vocal tubes for vocal singing by training the larynx organ and the surrounding parts for main vibration after the day after tomorrow. In the process of practicing the formation and pronunciation of gene tube, the skills and abilities of lengthening, shortening and thinning vocal cords were also trained. Pure vocal cord vibration sound is very weak, beautiful sound is obtained after vocal cord (pitch) vibration, and then through the compound vibration of human body cavity. The practice of the basic skills of the pharyngeal sound technique can not only rapidly expand the sound range, but also expand the energy of the pitch sound production, expand the energy field, and open up a channel for generating high overtone sound wave resonance channels, so that it is easier to construct a sound production method with perfect integration of true sound function and false sound function, smooth the sound trace of the so-called sound change point, and quickly obtain the singing ability with high overtone resonance. It is easy to produce the phenomenon of "sliding stroke" or "crack" when the true sound is combined with the false sound if the "pharyngeal sound" is connected with the "true sound" after the separate method of pharyngeal sound function training is fully developed. By this time, it can be practiced with a small part of "falsetto" (by thinking a little "mention" in my heart and letting "falsetto" be combined). The simple "pharyngeal sound" is not pleasant to hear, while the simple "falsetto" is useless because it is empty and weak, like a person without a spine. However, if it can be properly combined with the developed "pharyngeal sound", it will get solid from the "pharyngeal sound" and soften the "pharyngeal sound", as the Italian traditional school said: "falsetto" is the wool of the felt of "pharyngeal sound". Pharyngeal" can give "falsetto" and "true voice" due vitality, luster and strength. This is especially true when tenors sing high notes. The effect of "falsetto" on "pharyngeal sound" is like putting velvet coat on the steely sharpness of "pharyngeal sound". On the other hand, "pharyngeal sound" can give "falsetto sound" a solid foundation.

3. The Basic Contents and Objectives of the Study

3.1 The Basic Framework of the Study

Overall framework: The overall technical route will be "asking questions → theoretical construction → practical training → comparative study → discussion and

summary → construction of training system". First of all, the following questions are asked: What are the disadvantages in the singing system of modern music education? How to find effective methods to solve these problems quickly and efficiently? At present, many students trained by traditional singing methods have weak voice, empty voice, mute voice and non-uniform voice area, which greatly affect the further development of students' singing. The scientific concept of pharyngeal sound technique training is put forward; Practice guides the training and learning, and the pharyngeal sound technique is used to train the singing function, and multi-party discussion are carried on. By comparing the "pharyngeal technique" with the traditional singing methods, we can find out the place where pharyngeal technique is superior to the traditional singing training methods, and appropriately add pharyngeal technique into the academic singing system to finally achieve the ultimate goal of perfect, natural and natural singing, which is a beneficial supplement to the vocal music teaching in normal universities.

3.2 The Focus and Difficulty of The Study

The key points to be solved in this project are as follows: (1) in the training of singing system, the pharyngeal technique is used to enable singers to master correct and scientific vocalization techniques quickly, to solve the problem of changing sound points quickly, and to avoid detours; (2) use the pharyngeal technique to quickly and effectively expand the singer's vocal range, increase the volume, enhance the durability of singing, and obtain high notes with metallic timbre as soon as possible; (3) treat many voice diseases such as vocal cord congestion, edema, vocal cord polyps and the like through pharyngeal sound technique training to restore voice youth; The difficulties and key problems to be solved are as follows: (1) rapidly and effectively expand the singer's vocal range, acquire the ability to transform the vocal region without trace, find the overall singing channel, enhance the volume, enhance the singing ability and durability, and acquire the treble with metallic timbre as soon as possible; (2) To treat many voice diseases such as vocal cord congestion, edema, vocal cord polyps and restore the youth of voice through pharyngeal technique training.

3.3 The Main Objectives of the Study

The scope and age span of the research subjects of this project are relatively large. The research and application of the technique of "pharyngeal sound" covers a wide range of subjects, from the initial professional singers to the groups of voice therapy, to the application of children's chorus rehearsals, to the health care of voice. At present, the study on the application of singing and pharyngeal techniques in singing training can rapidly enhance the singing function. These scholars should not only discuss it at the individual level of singing, but also examine it in the whole singing field, the field of medical voice health care, music lovers and the broader social and cultural background. In addition, the research thinking needs to be changed. At present, the practice and application of the pharyngeal technique have a

certain proportion between social music groups and singing lovers. How to add appropriate pharyngeal training to the singing system of music education in normal colleges is relatively a new topic.

4. Research Ideas and Innovation

Literature analysis. It is mainly reflected in the representative research results on pharyngeal sound techniques. The representative works of pharyngeal sound techniques in music practice and the current research form a good documentary basis for the research. Secondly, it collects all academic documents on the research of pharyngeal sound techniques and music and art through relevant reference book purchasing and documentary consulting, so as to form important reference and enlightenment for the development of this topic. The third is the first-hand literature collected through investigation and interview, which is the important evidence and analysis basis for the research.

Comparative research method. How can pharyngeal technique be better combined with common singing training methods? As the core part of China's higher quality education, music education in colleges and universities plays an important role in improving the artistic quality of the whole people and promoting the development of national culture. It is still a long way to go to learn how to combine Chinese and western music and how to use the "pharyngeal technique" in singing.

Research Plan. To collect information on the different levels of learning status of the students currently taught in the college, to collect first-hand data for the research on the functional establishment of pharyngeal sound techniques in singing practice and the construction of singing training system, so as to ensure the quality and quality of the research.

The main innovations are the characteristics and innovations in academic thoughts and viewpoints. The essential difference between the training system of pharyngeal sound and the traditional singing training method; The important role of pharyngeal sound in solving voice diseases; The pharyngeal sound improves the vocalization ability and can develop the singer's voice potential to the greatest extent. The special function of pharyngeal sound is in artistic singing.

Features and innovations in research methods and practices. Combine theory with stage practice and conduct systematic empirical research on the basis of in-depth and detailed case studies; practice the pronunciation method and mouth shape of initials and finals with special methods; practice the positioning and fixing of pronunciation, and train several dynamics of speech function; raise the standard of voice singing and enhance the singing ability; Develop voice potential by tone sandhi reading. Teaching students the theory of voice physiological function;

Make a series of training on "pharyngeal function" to obtain high overtone resonance channels and develop the vocal range of artistic singing; Training students to quickly acquire the singing ability of high overtone channel with pharyngeal

technique, expanding the singer's vocal range rapidly, and at the same time better acquiring the beautiful voice with integral channel with consistent up and down and no snag. In addition, the curative effect of "pharyngeal skills" in voice occupational diseases can also be practiced. Through the study of "pharyngeal skills", it is learned that occupational voice diseases can be treated without drugs. Those who suffer from hoarseness and loss of voice due to unscientific use of voice can be treated and their voice can be revitalized. All these are innovations of pharyngeal skills inside and outside artistic singing.

"Pharyngeal" has been debated and divided in the vocal music session. This scientific method was only popular with the folks for a long time, and was not recognized by the Conservatory of Music. Practice makes real sense. Beijing Vocal Music Institute has used this scientific method to improve the singing ability of a large number of singers and opera actors such as Hu Songhua, Ma Yutao, Peng Liyuan, etc. [6]. In January 2019 and July 2019 respectively, the author participated in two 20-day workshops and advanced training courses on pharyngeal sound techniques and artistic singing held by the Chinese Vocalist Association and conducted by Wang Baozhang, a famous singer and the inheritor of pharyngeal sound, who is also the author of the book , Pharyngeal Sound Techniques and Artistic Singing. During the continuous learning process of pharyngeal sound techniques, the author deeply realized that pharyngeal sound techniques are really valuable. Therefore, the resolution is made to start a series of studies on pharyngeal singing training. In the near future, with more and more researchers studying pharyngeal singing techniques, this ancient and magical vocal singing training method is bound to bring forth lively youth.

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