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Innovation and Practice of Vocal Teaching Mode in Digital Environment

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Abstract: With the rapid development of information and digital technology, the teaching mode of vocal music is undergoing profound changes. The widespread application of emerging technologies such as multimedia, virtual reality (VR), and artificial intelligence has enabled vocal teaching to break through the limitations of traditional classrooms and gradually develop towards a blended learning model that combines online and offline teaching. The author explores the innovative application of digital technology in vocal teaching, analyzes its advantages in enhancing teaching intuitiveness, stimulating students' learning interest, cultivating students' music perception ability, and improving teaching effectiveness. Through digital means, students can better master complex vocal techniques, enhance their self-learning ability, and improve their understanding and expression level of sound. Digital technology provides a more flexible and personalized learning path for vocal education, which contributes to the sustained development and innovation of vocal education in the new era.

1. Introduction

In today's rapidly developing era of informatization and digitization, traditional vocal teaching models are facing new challenges and opportunities. With the widespread application of multimedia technology, virtual reality (VR), and artificial intelligence, vocal education is no longer limited to classroom teaching and face-to-face interaction between teachers and students, but is gradually developing towards online teaching, blended learning models, and personalized learning. This trend not only enriches teaching methods, but also provides students with more flexible and diverse learning resources, breaking the limitations of time and space [1]. Vocal music is a compulsory professional skill course for music majors. It is a very abstract teaching method that no longer has intuitiveness except for external singing and performance. As a vocal teacher, one should quickly apply and design various methods to develop students' intelligence in teaching, so that they can quickly master singing skills and greatly improve teaching efficiency. There are some drawbacks in traditional vocal teaching, such as the lack of intuitive reference points in teaching, students' inability to timely discover the shortcomings of singing, and the monotony of accompaniment. Students feel bored and monotonous listening to the teacher's singing or playing cassette recordings alone, which often makes them appear passive when learning songs and easily distracts their attention. Teachers' teaching also fails to achieve good results [2].

Digital teaching methods are essential teaching methods and technologies in modern education,

characterized by the electrification of equipment, the use of images or sounds to represent educational and teaching content, and the integration of images, text, sound, and imagery, resulting in intuitive and realistic sound effects. The organic and clever combination of multimedia teaching equipment and textbooks can produce a variety of expressive techniques, which can transform between size, distance, speed, abstraction, and concreteness, and vividly convey visual and auditory images to learners. The application of digital teaching methods in vocal music teaching can solve various problems that exist in traditional teaching. Therefore, using digital teaching methods in vocal music teaching can comprehensively and multi-layered expand the amount of information, promote the organic extension of classroom teaching, enrich teaching content, and improve teaching quality. The application of digital technology can enhance students' learning experience. For example, virtual reality technology can simulate real music performance and performance environments, enhancing students' practical abilities; Artificial intelligence can provide real-time feedback based on students' voice characteristics, helping them with personalized exercises and self-improvement. This technology-based teaching approach breaks through the limitations of traditional models, making teaching more precise and efficient. At the same time, digital teaching also puts forward higher requirements for teachers' technical application abilities, prompting them to continuously learn and master new teaching tools and methods. Therefore, the author will explore the innovation and practice of vocal teaching modes in the digital environment, analyze the impact of new technologies on vocal teaching, and explore how to effectively integrate traditional and modern teaching methods to enhance teaching effectiveness and students' learning experience [3].

2. The importance of using digital teaching methods

2.1 Beneficial for the reintegration of students' knowledge

In traditional vocal teaching, students only listen to the teacher's demonstration or tape recording alone, and their attention is easily distracted. They rely solely on their auditory and imaginative senses to feel the song, which is far less effective than using multimedia to appreciate music. By using digital teaching methods that combine text, images, and sound to assist teaching, students' perceptions of sound, melody, speed, and intensity are directly formed by the impression of beautiful sounds and interesting images on the brain. This stimulates students' learning enthusiasm and greatly plays its role in cultivating their comprehensive abilities from multiple aspects, which is conducive to the reintegration of students' knowledge [4].

2.2 Using digital teaching methods to stimulate students' interest and stimulate their initiative

The formation of a song is not only the combination of notes, but also the development and expression of musical ideas. Teachers use multimedia integrated information such as MDI music, text, images, animations, and videos that are full of beauty in the classroom. They use the advantages of combining multimedia sound and picture to learn and sing songs, broaden students' thinking, and immerse them in the music, allowing them to experience the high and low, long and short, fast and slow, pause and connect, worry and joy, etc. Then they imagine and process it, unconsciously being infected and inspired, and mobilizing students' enthusiasm and initiative to learn and sing songs; Under the guidance of the teacher, students actively feel the intensity, speed, and emotions of the melody. While enjoying beautiful scenes and MDI music, students will generate various vivid imaginations in their minds, as if they were there. This will stimulate a strong desire for musical expression and creativity, enabling students to grasp the image of art more deeply and accurately, and making teaching highly infectious [5].

2.3 Utilize multimedia to cultivate students' abilities and make vocal teaching more visual and intuitive

Vocal teaching is different from other subjects in music education. It is a very abstract teaching method that no longer has intuitiveness except for external singing and performance. In traditional vocal teaching, students feel abstract and difficult to understand when listening to the teacher's singing or playing cassette recordings alone, which often makes them appear passive in learning. When using digital teaching methods, students can easily distinguish the intensity, speed, instrument, timbre, as well as the mood and emotions expressed in each piece of music when learning each song. From this, it can be seen that the appropriate use of multimedia has played a huge role, fully mobilizing students' various sensory organs, comprehensively accepting songs from the aspects of sight, hearing, and thinking, analyzing music from a narrative perspective, making vocal teaching more vivid and intuitive, greatly improving students' abilities to appreciate, feel, imagine, understand, and express [6].

3. The advantages of applying digital technology in vocal teaching

3.1 Digital technology can make vocal teaching more intuitive

Digital technology can change the traditional teaching methods of demonstration singing and listening to music tapes for vocal teachers, making abstract music teaching methods more intuitive and visual, and enhancing students' understanding of music theory knowledge. Vocal teachers should fully recognize the importance of digital technology in vocal teaching. When teaching students different types of songs, they should use digital technology's recording, editing, production and other functions to enable students to master the speed, instrument, timbre and other aspects of each piece of music in vocal music, and experience the artistic conception and emotions expressed by the music. Teachers integrate information devices such as computers, projectors, video recorders, and cameras into teaching activities to help students construct a complete music knowledge system, strengthen their practical abilities, and enable students to not only learn external vocal singing methods and performance forms, but also explore and practice singing details, such as the pivot of breathing, the high placement of sound, and the resonance obtained when the cavity is opened. As this singing state cannot be intuitively presented through traditional teaching methods, teachers can use digital means to change the situation where abstract singing content is difficult to understand [7].

3.2 Can stimulate students' enthusiasm for vocal learning

Teachers can use digital technology in vocal teaching classrooms to create a good learning atmosphere for students, presenting exquisite pictures, vivid videos, animations, and other content, allowing students to experience the high and low, fast and slow, emotions, etc. of the sound in the music through intuitive images. Students can use their own artistic aesthetics and creative thinking abilities to appreciate the artistic conception and emotions in the song, and stimulate their interest in vocal learning. Students can use digital technology to present the process of playing music, vocal practice, breathing rhythm, and the flow of sound through intuitive and vivid 3D animation forms, allowing students to clearly understand their vocal state when singing songs. Teachers can also evaluate and guide students based on their singing performance, and use digital technology simulation to highlight the key and difficult points of song singing. By playing the difficult parts of the song in slow motion, teachers can help students discover the correct singing style of the music, thereby improving the quality of classroom teaching and enabling students to develop new learning cognition of digital vocal teaching [8].

3.3 Helps students understand their own voice and improve pitch accuracy

In traditional vocal teaching practice, there is often a situation where the sound effects produced by the listener and the singer are not consistent, and the singer does not have a clear understanding of the sound they are singing. During training, relying solely on a few training sessions and corrections from teachers is difficult for students to master the essentials of vocalization and identify the shortcomings of their own voice. It is like having no reference point, which can create a feeling of having no way to understand the state of the object itself. Therefore, based on the learning problems of students, teachers can use the audio and video recording functions in digital technology, as well as the spectral waveform analysis technology, to draw the voice and state of students' singing into different frequency graphics. They can use spectral waveform technology to analyze and edit the voice. Through the display results of spectral waveform data, students can clearly understand the changes in the strength, intensity, and timbre of their singing voice. When students stand in the listener's perspective and hear their singing voice, they will discover which part has singing problems. At the same time, teachers can also help students adjust their vocal state from problem points based on their singing performance. With reference standards, teachers can objectively evaluate students' singing problems, strengthen vocal training, and improve the quality of vocal teaching.

4. Application Strategies of Digital Technology in Vocal Music Teaching

4.1 Reasonable selection of teaching content with the help of digital technology

Teachers can optimize the teaching content, understand the value of Chinese art songs, dig out the artistic elements of music from Chinese traditional culture, and present them to students by using digital transmission technology with the help of Internet, information technology, intelligent devices and other digital manifestations. For example, there are many poems in traditional Chinese culture that have the characteristics of music transmission. With the development of the times, modern technology and music aesthetic needs have been used to adapt ancient poems into music that meets modern people's tastes. For example, Su Shi's "Shui Tiao Ge Tou" has been adapted into the current "Wishing for a Long Life", and the overall style and artistic conception of the adapted song also convey Su Shi's emotional and artistic conception when he created "Shui Tiao Ge Tou", presenting a leisurely and graceful feeling. Teachers can collect relevant information through digital technology and information devices, teach the creative background of this poem in the form of video and audio, and play music content to enable students to have a deeper understanding of the poem, appreciate the melancholy and longing for a better life conveyed by the song. Then, the teacher asked the students to sing the song along with the rhythm and melody of the music. In addition, vocal teaching in normal universities can draw inspiration from Chinese art music and experience the profound cultural heritage [9].

4.2 Utilizing digital technology to enhance students' cognitive ability towards sound

Digital technology can enhance students' cognitive ability towards their own voice in vocal teaching, help them identify problems with their voice, and adjust their singing voice state. Teachers can make full use of the intuitive technical advantages of digital technology to enhance students' ability to identify problems with their singing voice state and singing techniques. They can use digital devices to record the singing of each piece of music, compare it with the correct singing style, and gradually find the musical sense and performance state of vocal singing. Only in this way can students improve their vocal singing skills through comparative analysis teaching. Taking the song

'Yellow River Lament' as an example, using digital technology to enhance students' cognitive ability towards sound in vocal teaching. Teachers can use digital technology to correct students' singing states and timbres through comparative analysis and physical collaboration teaching methods. The teacher is teaching the sound characteristics of different vocal regions in "Yellow River Lament" to help students find the sound entry point. For example, when practicing in the high pitched area, teachers should have students undergo breath training to adjust their throat state. Then, when students sing "Yellow River Grudge," they should record their song in the high pitched area and play it repeatedly for the students to listen to. At the same time, teachers can slow down the playback speed of the recording to help students find their voice state until they understand the problem with their own voice. This type of training can be repeated, constantly recording and identifying sounds, so that students can know their problems with rhythm and pitch accuracy. Then, teachers can provide targeted guidance to help students adjust their breath, sound position, and other aspects, enabling them to quickly find their own singing state [10].

4.3 Combining information tools to inspire students' emotional perception of music

With the rapid development of digital technology, many information tools and Internet platforms have emerged in daily study and life, providing diversified scientific and technological support. Due to its complexity and practicality, vocal teaching cannot rely solely on classroom teaching to enhance students' singing ability. Students also need to engage in extensive self-directed training during their spare time. Digital tools such as mobile phones, communication software on computers (such as WeChat, QQ), and online video teaching modes provide great convenience for this demand. Through these online platforms, teachers can more conveniently impart the concepts and technical guidance of vocal teaching, and students can also receive feedback and suggestions from teachers more flexibly. With the help of these digital tools, students can further understand the vocal knowledge difficulties encountered in the classroom. Through online communication with teachers or consulting courses recorded by vocal experts online, students can learn and review independently, enhancing their mastery of key concepts. At the same time, the development of digital technology also provides students with rich vocal learning materials. Whether it is music theory or performance skills, students can access a large number of high-quality learning resources through the internet. Teachers can also make full use of these abundant resources, flexibly adjust teaching content, gradually guide students to better understand and express emotions in music, and cultivate their artistic expression.

5. Conclusion

The rapid development of digital technology has brought new opportunities and challenges to vocal teaching. By introducing multimedia, virtual reality (VR), artificial intelligence and other technological means into teaching, vocal music teaching is no longer limited to traditional classroom modes, but has achieved a blended teaching method that combines online and offline. This innovative teaching model in the digital environment greatly expands students' learning channels and resource acquisition methods, making learning more flexible and efficient. The application of digital technology in vocal teaching not only improves the intuitiveness and fun of teaching, but also helps students better understand and master abstract vocal techniques. At the same time, teachers can more accurately discover and guide students' problems in speaking and singing through digital means, promoting the development of personalized learning. With the help of multimedia tools, students' interest and initiative in learning have been greatly stimulated. They can have a clearer understanding of their own voice characteristics, improve their intonation and expressiveness. In the future, innovation in vocal teaching models will continue to rely on the

development of digital technology, and build a more efficient and personalized teaching system based on it. This will not only enhance students' comprehensive abilities and artistic expression, but also inject new vitality into the long-term development of vocal education.

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