

The Application and Development Prospect of Vocal Music Electronic Keyboard in Teaching

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Abstract: Electronic keyboard and piano are important teaching equipment in music teaching and artistic performance activities of schools. Students will learn songs or music through teacher's singing and playing. The electronic keyboard of vocal music is a further research and development of the ordinary electronic keyboard. It is to implant the single tone of vocal music into the tone chip of electronic keyboard. When playing, it will be like the music teacher singing the music score with do, re, mi, fa, sol, la and si. It has accurate pitch and wide range. It can be divided into male voice and female voice. 61 white keys and black keys can give out their own nomenclature of pitch, which can be played as a "fixed doh" or "movable doh". Instead of singing music by teachers, it has such functions as moving and adjustment, recording and storage, and U disk playing. It can sing all songs or music vocals. It improves students' interest in learning music and efficiency of music teaching. This was first created in China, which has a bright future.

1. Introduction

In music teaching of primary and secondary schools and colleges, electronic keyboard and piano are necessary teaching equipment. When teaching songs, teachers usually sing the music score first and then teach the lyrics. When appreciating instrumental music, teachers would sing the music theme as an example for students. On the Internet, it is easy to find music and video of the same one song by different singers with lyrics, but the music and video of singing songs and music score cannot be found. This electronic keyboard of vocal music implants the single tone of vocal music into electronic keyboard timbre library, so to make that "It can sing the music score as long as we play it" a reality, improving the efficiency of spectrum recognition and singing teaching. The invention content and the implementation mode of it have been described in detail in the invention of An Electronic Device Capable of Playing Vocal Music and Its Operation Method and the new practicality of An Electronic Keyboard Capable of Playing Vocal Music. The electronic keyboard of vocal music has greatly promoted the function of electronic keyboard, and it is also a great leap in the field of sight-singing teaching.

2. Sound Principles and Function Introduction

(1) Sound principles

The electronic keyboard of vocal music is to implant the single tone do, re, mi, fa, sol, la, si of different scales sung by different singers into the sound card chip of the electronic keyboard. When the electronic keyboard is played normally, it will sing out songs or music scores like a music teacher. Its pitch is accurate and its range is wide. Virtual human voice is used in its low register and high register. Among the 61 keys, black keys and white keys can sing music scores easily, the sound head is clear, the long tone has fluctuations, and the electronic keyboard panel has the function of fermata and trilling.

(2) Function Introduction

The appearance of the vocal music electronic keyboard is the same as that of the ordinary electronic keyboard, but once it is turned on, it will present the timbre of human voice and the force keyboard. Each key is the same width as the piano key. It has such functions as transposition, U disk plugged into it, recording and storage. All the demonstration songs on the electronic keyboard can be

sung by the timbre of human voice on the electronic keyboard. There are 128 kinds of rhythms, 130 kinds of timbres, 40 demonstration songs, including timbre preset, prelude insertion, endplay plus ornaments, single-finger chords, multi-finger chords, metronome, etc. There is headphone jack, audio input jack and microphone jack in front of the electronic keyboard.

3. Application and Effect in Teaching

3.1 Teaching Contents

(1) Teaching music theory

The electronic keyboard of the vocal music, with an advantage of singing 61 roll calls, can demonstrate the distinction of the sound, pitch names and roll calls, the height of sound, the notation of sound and the relationship between half tone and whole tone. When teaching the knowledge of vocal range, major and minor, first tone and transposition, and the production process of various key signatures, all above can be played and sung on the electronic keyboard of vocal music.

(2) Teaching interval chord and sight singing

When intervals are taught, students will quickly work out the scale and progression of intervals, because they will know roll calls as long as a teacher plays any sound. When listening to transposed chords, three or four notes can be made simultaneously, or they can be played successively in the form of arpeggios. In the teaching of solfeggio teaching, we can first use the timbre of the ordinary electronic keyboard, and then use the voice to sing the timbre, so that students can quickly improve their listening and distinguishing ability by comparison. In the teaching of sight singing, we can use first tone and fixed tone to perform as examples, or separately record and send them to the class network platform for students to learn and sing repeatedly after class.

(3) Teaching piano and other instrumental music

With the function of transposition adjustment, the electronic keyboard can play music with 15 kinds of tunes, such as the music scores of piano pieces as Alla Turca, Tea picking and butterflies chasing, Fur Alice and others. With the function of the music scores of the electronic keyboard, learners can easily make a breakthrough in the music score recognition, singing and recitation of solos of flute, cucurbit flute, erhu, guzheng, suona, trumpet, violin and other instruments.

3.2 Performance Features

(1) The timbre of vocal music when turned on

The vocal timbre is the most important feature of the electronic keyboard of vocal music. The 000 timbre of the first start-up is male C, 001 timbre is female F, and 002 timbre is female C. Such feature makes the function of the vocal music easy to operate, and through transposition, C and F can be made into sharp or flat with three half tone.

(2) Black keys and white keys can sing easily and accurately

Singing sheet music in tune of black keys and white keys, high and low pitches, temporary sharp and flat tones, first or fixed tones are easy and accurate. When singers can't sing high or low, electronic keyboard of vocal music can easily and accurately sing out, and can quickly make breakthroughs in the difficulty of songs or music, such as In the Night, Flight of the Bumble-bee and others.

(3) The first time to put forward the concept of two kinds of C

The scale of C is divided into sharp C and flat C when the staff music is played on the electronic keyboard. In the sharp C, all the black keys sing the roll calls of the white keys below; for example, the black keys between C and D sing the sharp do. In the flat C, all black keys sing the roll calls of the upper white keys, for example, the black keys between C and D sing the flat re. Use the sharp C tone to play the staff music in C, G, D, A, E, B, $\sharp F$ and $\sharp C$, and use the flat C to play the staff music in C, F, $\flat B$, $\flat E$, $\flat A$, $\flat D$, $\flat G$ and $\flat C$.

3.3 Performance Effects

(1)Free conversion of timbres of men and women

There are three virtual vocal singers, male and female. Male teachers can choose female voice to teach and sing songs and lyrics for female students. Female teachers can choose to use male voice to teach and sing songs and lyrics for male students. When learning the song *My Motherland and Me*, we can choose the timbres of male voice and female voice correspondingly, so that boys and girls can sing in the same degree.

(2)Automatically singing music scoreof demonstration music

Turn on the demand singing or continuous singing function on the panel, and the electronic keyboard will start to play the demonstration song. At this time, if you select the vocaltimbre of C, it will sing the music score in C;If you select F, it will sing the music score in F. Inautomatically singing music score, the key corresponding to each tone will turn on the red light synchronously with the rhythm, and the learners can adjust the speed of the music and play with the light.

(3)Simple and practical microphone function

Whether playing or not, the microphone can work. Ina large classroom, the microphone can be used to organize teaching or sing while playing the electronic keyboard, which is simple and practical.

4. Promotion Significance and Development Prospect

(1)The singing music score function as a leap of electronic keyboard

The electronic keyboard ends the history of not finding the vocal music on the Internet, and also ends the history of not being able to sing the instrumental music with human voice. Kindergartens, primary and secondary school students, college students and music examiners are the main groups for the application of vocal music electronic keyboard. At present, the electronic keyboard and music teaching board on the market do not have the function of vocal music. The electronic keyboard of vocal music realizes the integration of singing and playing. Playing is singing and singing is playing, with practicing singing with playing and promoting playing with singing.

(2)Perfect functions and the development of different types of products

Famous singers are invited to record scales of human voice, bringing the number of singers to more than ten. We will strive to develop different types of electronic keyboard, such as 34 keys, 49 keys, 51 keys, and 88 keys, which can also apply vocal music technology into hand roll piano or pedal electronic keyboard. To make each sound head clearer, we will contact well-known electronic keyboard manufacturers to improve the sound quality, increase the content of screen display, increase MIDI interface, etc.

(3)Broaden promotion channels to make products universal

We will actively promote the use of vocal music electronic keyboard to all kinds of schools, invite music teachers to participate in the promotion and improvement work, negotiate with the People's Music Publishing House to record through the vocal music electronic keyboard for the songs in primary school music textbooks, and print two-dimensional code on the book after uploading the network. We will actively promote the electronic keyboard of vocal music in various media to make more people understand and use it so as to improve the ability of singing music score and musical accomplishment.

5. Conclusion

In a word, the electronic keyboard of vocal music score has greatly promoted the function of the electronic keyboard, enhanced the students' interest in learning music, improved the efficiency of music teaching, and it will play an important role in music theory teaching, sight-singing and ear training teaching, and instrumental music teaching, with a broad development prospect.

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