

Research on the Application of Digital Technology in the Inheritance of Piano Art

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Abstract: With the popularity and promotion of new piano products, a change in the traditional piano teaching mode is gradually unfolding, especially in the children's piano enlightenment education, intelligent piano teaching will gradually become the most important teaching method in this field. This paper will introduce how teachers use the intelligent piano's function. This paper will also analyze the application status of intelligent piano teaching method in teaching, put forward the advantages and disadvantages of intelligent piano teaching method, and put forward the corresponding countermeasures against the shortcomings of intelligent piano teaching method.

1. The function of the intelligent piano

- (1) Functions of automatic performance and live concert hall
- (2) Automatic rhythm calibration function
- (3) The following and tracking function of the indicator light
- (4) Recording, playback and suspension functions
- (5) Practice supervision and information exchange functions
- (6) Intelligent music function
- (7) Mute effect and piano sound conversion function
- (8) Intelligent large screen function

2. The application of intelligent piano method in teaching

2.1 Intelligent piano group lessons

Intelligent piano group class, because the students are roughly the same age and learning level, so the acceptance ability is similar. Intelligent piano group class in each class will first check the homework of the last class, such a form of inspection is an opportunity to show the students in the class, show their playing level, on the one hand, students can exercise strong psychological quality from childhood, so that they will not suffer from stage fright whether they participate in music activities or concerts in the future; On the other hand, the form of returning the class in front of everyone will create a contrast virtually, which will give students a certain pressure and motivation to practice the piano, so that the homework completion rate will be higher. The band ensemble class is also a highlight of the intelligent piano group class. In an ensemble class, each student has to play

a different role, with different instruments or different parts. In the ensemble class, students should divide the division of labor and cooperate. They should not only be familiar with their own melodies but also those of other students. While playing their own parts well, they should also pay attention to the harmony and order within the band. Cultivate students' collective consciousness and cooperative consciousness in the ensemble, and feel the three-dimensional sense, rich sense and integrated sense of music. This kind of class is interesting and efficient. It can not only capture students' attention in class, but also motivate them to practice the piano actively after class.

2.2 Lesson return mode of intelligent piano

After class homework is recorded and uploaded to the APP which can be linked with the intelligent piano. When the teacher opens the APP and connects to the intelligent piano, he or she can see the students' homework in return to class. He or she can not only see the hand shape and finger-pointing but also feel the strength of the students' fingers.

In the app of intelligent piano linkage, the teacher will timely upload homework after each class and upload relevant videos of homework, in which the key points and difficulties discussed in class will also be mentioned^[1].

2.3 The practice efficiency of intelligent piano

Cloud-based AI piano practice room, innovative one to one online training class and intelligent piano online one pair of piano practice room. All the touch keys and pedal movements demonstrated by the teacher can be accurately restored on the piano of the other side. Equipped with a large wide-angle camera, the 88 keys of the piano can be illuminated without distortion and the visual range can reach 360°. In this way, there is no blind corner in the whole course of performance demonstration.

After class, according to the students' classroom situation and practice situation, the teacher customized different ways for students to advance the practice, and focused on the weak links. During practice, teachers can mark the key points of practice, correct mispronunciation, missing notes, multiple playing, rhythm and other problems, and improve the efficiency of practice.

2.4 Music appreciation in intelligent piano teaching method

Compared with offline education, online education can break through the shackles of time and space, explore the teachers as much as possible, expand the coverage of high-quality education resources, and become a powerful weapon to promote the fair development and quality improvement of education. In order to enable children from all over the world to be taught by famous teachers and masters in person, Carod Piano applies the Internet of Things technology to provide a platform for famous teachers from colleges and universities and even top international educators, and can set up remote master classes anywhere in the world^[2]. In this way, a bridge is built between the famous teachers, masters and the children who learn the piano, so that the children can bring the famous teachers home.

Through watching the master's performance, the children can see how the master solves the problems in performance, from the most basic melody, rhythm, structure to the expression of emotion and the artistic treatment of the music, and guide the children to correctly understand the works, and practice the emotion and appeal in the performance, so as to improve their playing skills.

3. Advantages and disadvantages of intelligent piano teaching method

3.1 Advantages of intelligent piano teaching method

Teaching by stimulating students' interest, learning music knowledge, especially piano knowledge, in the process of playing the game allows the piano learners to immerse themselves in the enjoyment brought by music, so as to enhance their interest in piano learning, effectively cultivate the musical sense of the piano learners, so that the piano learners can learn in fun, and the musical quality of the piano learners can be improved through learning the piano. In the piano teaching for beginners, intelligent piano can not only improve their motivation and interest in learning, but also play a great role in effectively improving the learning efficiency.

Resource sharing and openness is also one of the advantages of intelligent piano. Nowadays, under the rapid change of Internet technology, only through the network, there will be an endless stream of piano lovers can learn the piano lessons of professional pianists. Good piano teachers are hard to find in most of the more remote areas, let alone good masters. However, now for this problem, the use of the Internet resource sharing can be perfectly solved. Resource sharing can transcend the distance and limitation of time and space, and build a bridge of free communication between students and teachers through multimedia teaching combining picture, sound and Internet. Besides, students can also have access to different teaching modes and styles of various teachers so as to choose teachers more suitable for them.

It can save teach resources and improve the efficiency of piano practice. Intelligent piano teaching method is very effective in improving the interest and efficiency of piano learners, and can speed up the teaching progress. In addition, we can apply the collective teaching mode of intelligent piano to the piano teaching of young learners at the beginning stage of learning, which can reduce the repeated teaching process, and save the teaching time to achieve the teaching efficiency of twice the result with half the effort. In the teaching of intelligent collective lessons, teachers can not only give collective lessons to many piano learners, but also use the function of intelligent piano, which can be mute by wearing headphones, to let piano learners practice immediately after learning new knowledge.

The piano practice and the main lesson may closely combined^[3]. After class, the piano learners can use the sparring function of the intelligent piano, so as to follow up the works played by the piano learners in real time and correct mistakes, so that the piano learners can make timely corrections. It solves the separation of teaching process and practice process, and connects the institution with the family, the main class with the practice class.

The change of teachers will not affect the teaching progress. In the process of piano learning, there is always the possibility of changing teachers for various reasons. In the traditional one-to-one piano teaching mode, due to the different growth experience and learning experience of each teacher, the teacher has a distinct personal style, teaching methods and characteristics, and the understanding of the repertoire and the emphasis of knowledge are different. Under such circumstances, it is not a good thing for students to change the teacher. Because different styles of teachers and different teaching methods may not be self-consistent with students, each change of teacher, teacher and students need a certain mutual adaptation process and run-in period. However, in the intelligent piano collective class, the impact of changing the teacher can be neglected. The teachers of the intelligent piano collective class will go through strict pre-job training, so that they have certain standards in class. In addition, teachers will prepare lessons together, make adjustments to the shortcomings of the curriculum, and share ideas with each other. Of course, each teacher still has his own unique characteristics and will be more or less integrated into the classroom during the teaching period.

3.2 Disadvantages of intelligent piano teaching method

First of all, it is difficult to take into account the individuality of each student. Although the piano group class creates a good learning atmosphere for students, the teacher is therefore limited by the teaching form and class hours, unable to give one-to-one guidance to students' problems. This teaching method makes it impossible for each student to be fully understood by the teacher, let alone provide detailed and targeted comments and guidance for each student's problems. In the intelligent piano collective class, there is usually a teacher and three or four students. The teaching guidance of the intelligent piano collective class can only point out the common problems that exist in the majority of students, and the solutions to the common problems are also general. It is difficult to provide guidance applicable to students according to the different situations of different students.

Secondly, it is difficult to fully mobilize the learning passion of all students. The teaching content of intelligent piano group class should be consistent with the progress, which is undoubtedly a challenge for students and teachers, because some students are highly efficient in learning, if the progress of the class is slow, it will not only lead to their progress, but also discourage their learning enthusiasm in the long run. Emotional communication between teachers and students is a necessity for piano learning^[4]. In the process of teaching, teachers' understanding, care and encouragement for students are also essential. It is difficult for teachers to take care of a large number of students in the process of learning through intelligent piano. Not being able to take care of each student's understanding and not being able to have a deep emotional connection with each student.

Thirdly, the lack of understanding and innovation of the work. Each person is different in his or her experience and understanding of piano works. If students become dependent on intelligent piano, express the piano works like cats and dogs, and perform the piano works mechanically, although the notes and rhythms are particularly standardized in playing, there is no mistake, and they just copy others without injecting their own thinking and emotions into the performance of the works. There is no own understanding of the work, not to mention innovation.

4. Countermeasures are put forward to solve the shortcomings of intelligent piano method

First of all, in teacher training, we should not only strengthen the hardware ability of teachers to make their teaching more professional and scientific, but also strengthen the soft power of teachers. In the course of teaching, teachers should have a comprehensive understanding and mastery of all functions of intelligent piano to complete efficient teaching in class, so as to avoid wasting time on equipment debugging in class. Only the combination of strong professional ability and skilled teaching equipment can deal with all emergencies that may occur in class^[5].

Secondly, the traditional one-to-one piano teaching mode of "teacher-led" into a student-centered teaching method, intensive teaching and more practice, save time. The teaching form of intelligent piano collective class should break the previous model of teacher authority and student obedience, because it is very important to have emotion and imagination in art education, teachers should give students some space for free development, after all, students are the main body of piano learning, the understanding and mastery of piano skills are realized through their own learning and practice activities. Therefore, when teaching skills, teachers should respect the principal position of students and try to explain in class, that is, explain the key and difficult points accurately in the teaching process. Practice more, that is, try to give students more time to practice in class.

Thirdly, improve teachers' teaching skills with the help of intelligent functions. Although intelligent piano has many intelligent functions, but in the final analysis, the improvement of teaching quality mainly depends on whether the teacher is excellent enough, whether there is a high enough level and teaching skills. Advanced equipment can only be a means of auxiliary teaching, teachers are the decisive factor of the progress and efficiency of piano teaching. In the course of

teaching, teachers should reasonably combine their own teaching characteristics with the advantages of intelligent piano. Only by combining the intelligent function of the intelligent piano with the teaching skills of the teacher can the teaching results be maximized.

Fourthly, you can set up phase testing. Tell students at the beginning of the course that after each book, there will be a stage test to determine whether you can continue. The advantage of doing this is that students can not only be full of expectations for the piano, but also have a certain sense of tension for the test. This sense of tension will promote the efficiency of students' learning and practicing the piano, which is conducive to students' piano learning.

Fifthly, the combination of one to one and group lessons, intelligent piano group lessons only rely on the one-to-many teaching mode is far from enough, one-to-many mode teachers cannot pay attention to the dynamics of each student in time, nor for each student's personalized problems to explain and guide. Therefore, the teaching form of one intelligent piano collective lesson and one traditional piano one-on-one can be adopted in the course setting. In the intelligent piano group class, common problems and knowledge that students can understand and accept are taught, while in the one-on-one class, individual problems of each child are guided. This teaching mode enables each student to maintain their own unique personality, but also can perfectly integrate into the cooperative learning with others.

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