Application Analysis of Computer Music Production in Composition Teaching

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Abstract. Computer music composition is the music created by using computer related software and matched digital sound generator and sound effect processor. It also includes the participation of computers in all activities in the music field in a broad sense. Although the development of computer music technology is not long, but the impact and scope of influence is amazing. It can be said that computer music production is everywhere in our music life. [1]

Keywords: Computer, Music Production, Composition, Application

1. The development and influence of computer music production technology

With the rapid development of science and technology, computer has become an indispensable tool in today’s society. In our music field, also by the impact of computer technology, computer music came into being. In the late 1980s, with the continuous development of Chinese and western music lovers and electronic music, it has begun to penetrate into Chinese and western music. This has also brought great influence to the whole Chinese music field. Computer music is the product of the times. Since it came into being, it has impacted and expanded the traditional music expression techniques with new sound source, timbre and sound quality. With the continuous development of computer music technology, the popularization and application of computer music production technology will also make the traditional music education and teaching system produce a huge amount in terms of concept, content, means and methods Big changes. The era has given music education a new mode and a new opportunity for development. At the same time, it makes life-long learning inevitable for teachers and educates. (see figure 1)
2. Advantages of computer music composition

2.1. Computer music production is flexible in composing music

It can provide students with a variety of feasible creation schemes. It should be based on the traditional composition principle, but also has its special production rules. It is different from the traditional composition in terms of the concept of timbre, performance and texture. For example, when making an orchestra with computer music, if we copy the traditional orchestra orchestration method, we will not get the full effect similar to the orchestra, and the computer will not be able to read the music correctly because of the large amount of information. Therefore, we should have an understanding of computer music production techniques. After mastering certain operation skills of MIDI production software, we can better try to learn from simple to deep learning from music sketch and folk song adaptation to simple orchestral music and pop music production, or gradually be able to make a certain level of accompaniment music to meet the needs of music teaching and art practice in primary and secondary schools, so as to realize teaching and learning. It is a new creative idea that man and machine, theory and practice interact and complement each other. [2]

2.2. Computer music composition can provide a variety of sound effects

As early as in the late Romantic period, special sound effects were concerned by composers. Music master Strauss once added a blower to his band to simulate the wind to better highlight the image of music. Some musicians also placed stones in the piano to create special sound effects. With the gradual development of MIDI hard and soft sound sources, it is no problem to make a large-scale Symphony ensemble with a computer, and even can produce the sound effect that is impossible to perform. As the German composer Schumann famously said: technology is valuable only when it serves a noble purpose. The emergence and development of electronic music, to a great extent, has directly affected the composers’ creative thoughts, breaking the traditional creative concept and affecting the traditional music creation. Moreover, computer music production will be faster in music from music score to sound.
presentation, and the so-called “one computer, one studio” equipment also reduces the cost of traditional music production, and improves the efficiency of music production into finished products.

To sum up, computer music production and re composition with its unlimited ability to change, expand and combine, has brought new essentials and ways of thinking for traditional composition teaching and music creation, and opened up a new way for learners to actively and creatively create music. Of course, we should also fully realize that computer music production is only a tool and production technology, and can not create music by itself. A person who does not understand composition theory, traditional harmony and traditional orchestration method, and can't compose music with paper and pen, will not create wonderful music by means of high-tech technology and produce it through computer virtual sound. Because of the lack of rich and delicate emotional changes of the actual performers, the music lacks of humanization and authenticity, so it can not and will not replace the traditional musical instruments or symphony music.

In a certain sense, computer music production is not only the way and technology of making music repertoire, but also a way of thinking, which is conducive to enriching and improving the innovation consciousness of the Chinese nation. It is of great practical and historical significance to deepen the reform of music composition and even the whole traditional music teaching in normal universities and realize the modernization of music education. (see figure 2)

![Sound software](image)

**Figure 2.** Sound software

### 3. The wide application of computer music production technology in composition

Nowadays, computer music production technology is becoming more and more mature, which has been widely used in music creation, music score production, music education and other work.

Computer music production has the characteristics of low cost, high efficiency and high standard in composing music. Its appearance has a huge impact on the traditional music production mode. Compared with the traditional manual production of music score, score and orchestration, computer
music production can complete these steps by using a computer. It only needs to master one or two recording software and several sound sources. [3]With the rapid development of music resources, more and more musicians choose to use computer software to compose music. Moreover, the computer music production software has rich sound source, the free score music, orchestration to produce a variety of music effects, greatly stimulating the inspiration of music creators.

In music education, we often see that in the classroom, the teacher points to the score on the blackboard and tells us how to compose music, what the composition of music score is, and how to write. The teacher speaks very seriously, but there are still some students like listening to the book of heaven. In fact, this is a drawback in the teaching of traditional music theory. In the teaching process of music composition, it is difficult for all students to understand by relying on a chapter of music score, a paragraph of text and a few words. In addition, music composition itself is abstract and not easy to understand, which leads to the above-mentioned phenomenon. When the computer music production into the classroom, this phenomenon will be changed. When the teacher tells the class content, he can play the audio that has been made at any time. Students can hear the teacher's explanation in class, but also can hear the sound effect repeatedly. And through the help of the corresponding software, teachers can explain the difficulties encountered in class to students at any time, and solve the difficulties of students' learning in time and effectively. [4]

Computer made music can digitize the recorded sound and present it in the form of sound wave. This kind of audio visualization technology directly affects the product of modern and contemporary music field. In computer music production, the recorded sound can be added to any piece of music as material, and more importantly, it can be modified by the computer. For example, when we record a human singing melody, but can not guarantee the accuracy of its pitch, we use the computer to analyze the frequency, resonance amplitude and other audio data, and then modify and adjust the data information to get the accurate pitch. Whether it is recording mixing production or MIDI production, these computer technologies directly affect all aspects of the music field. The production of music can no longer require a large number of performers, but can directly use the computer to make, which reduces the cost of contemporary music production, expands the composer's creative space, simplifies the process of music production, facilitates the use of music lovers, and presents the audience with better sound quality.(see figure 3)
4. The requirements of using computer music production technology for teachers

4.1. Continuously improve their professional quality through learning

Computer music is a specific application of computer technology in music teaching. It requires teachers not only to have solid professional knowledge of music, but also to be familiar with the operation of computer system, such as window 98 / 2000 / XP system; Familiar with the hardware structure of the computer; be familiar with the computer music production skills, such as the music production software Cubase, sonar, jammer, composer and other skilled operation and related hardware equipment such as MIDI interface, sound source, efficacy, mixer operation. This requires teachers not only to seriously prepare lessons, but also to strengthen their own computer knowledge learning, to meet the requirements of the times. [5]

4.2. The combination of computer music and traditional music teaching

Computer music production technology into the traditional music class, is to serve music teaching more effectively. Teachers should combine the practical application of computer music technology, not all rely on the computer, otherwise the classroom will become mechanical knowledge indoctrination, teachers just act as "player" and "projectionist", which is more unfavorable to music teaching. Therefore, computer music production technology can only be a major auxiliary tool for music teaching. Teachers should make use of this scientific and technological teaching aids to carry out music teaching reasonably. The primary and secondary should be clear. The combination of traditional music teaching and modern science and technology can make music teaching more scientific, vivid and efficient.

5. Conclusion

To sum up, in the analysis of the introduction of computer music production technology into composition class, we can find that it is very necessary to introduce computer music production technology into composition class. This new teaching mode will change the disadvantages of traditional teaching, such as fixed teaching thinking, boring teaching and empty teaching content, greatly enriching students' learning content and improving their learning interest. The convenience of teaching also makes teachers like this teaching mode more and more. [6] With the maturity of computer music, computer music will gradually enter the classroom of universities, and the convenience and welfare it brings to teaching also makes people pay more attention to computer music production technology. The development of computer music production technology in composition teaching will be better and better.

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