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Research on the Flipped Classroom of Online Open Courses Driving Piano Foundation Courses in Colleges and Universities: A Case Study of Piano MOOC

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Abstract: *In recent years, with the rapid development of Internet and new media technology, the undergraduate teaching mode has shown new characteristics such as networking, interactivity, generative and fragmentation. Due to the continuous heating up of "piano fever" in China in recent years, the expansion of the music departments of major music colleges and normal colleges, and the strong demand for piano performance and teaching staff in the society, the traditional one-to-one piano teaching mode can no longer meet the needs of piano teaching in various music colleges, and the basic piano courses came into being. At present, most of the piano courses in colleges are large class teaching, the form of online "MOOC" in the teaching of piano basic courses can not only promote students' independent learning, greatly alleviate the shortage of teachers, but also make an important supplement and expansion of traditional classroom learning.*

Keywords: *piano MOOC; flipped classrooms; drive*

1. Introduction

Due to the late start of piano basic courses in Chinese universities, the effect of piano basic courses in many colleges and universities is not ideal. Most students still cannot master the various skills and teaching methods of piano after one to two years of study, which is not conducive to students' employment and examination. Therefore, it is of great significance for us to find new ways out in teaching, actively use the Internet and multimedia technology and international standards: it is of great significance for us to use piano online open courses to drive the reform and innovation of the teaching content, methods and means of piano basic courses[1].

2. The current situation of piano MOOC

2.1 Current situation abroad

Flipped classroom is a new teaching mode originated in the United States in 2007.Traditional teaching is to teach first and then learn, and flipped classrooms are to learn first and then teach with the help of electronic teaching. So far, more than 20 states in the United States have implemented flipped classroom teaching practices. From the perspective of the teaching status of flipped classrooms around the world, flipped classrooms have many outstanding advantages, and MOOCs are one of the most important teaching methods and models in the process of developing flipped classrooms. The three most influential MOOC operators in the US, Coursera, Udacity, and edX, have developed their own platforms, and MOOC platforms in other countries continue to be launched, such as OpenupEd in Europe, OpenCourseWorld and Iversity in Germany, FutureLearn in the UK, Miriada X in Spain, Alison in Ireland, and Open2Study in Australia[2].

2.2 Current situation in the country

Since the Internet technology entered China, the flipped classroom teaching mode based on AI environment has attracted great attention from educators. Primary and secondary schools in major cities have successively carried out pilot experiments on "flipped classroom" teaching. A large number of educators have carried out many research on the theory and teaching experiment of "flipped classroom",

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and formed a large number of theoretical research results. As a major country in higher education, especially a developing country that implements a catch-up strategy, the innovation boom of MOOCs has naturally attracted great attention in the field of higher education in China. Since 2012, the Ministry of Education has paid close attention to the development trend of international MOOCs, and has effectively promoted the construction and application of online open courses in China[3].

(1) The construction and application of MOOCs have shown explosive growth. Relevant universities and institutions have independently built more than 10 domestic MOOC platforms, and the Academy Online and Love Course Network have ranked among the leading ranks at home and abroad. More than 3,200 MOOC online course platforms built by more than 460 colleges and universities, and 55 million college students and social learners choose courses[4].

(2) The construction and application of MOOCs have achieved a wide range of high-quality resource sharing. Western universities receive high-level university teaching support and share 2,400 high-quality courses. More than 6 million university students have received MOOC credits. The coverage of MOOC alliances in various forms such as cross-regional, cross-school, interdisciplinary, and subject specialization has gradually expanded, and sharing and application models such as cross-school, cross-regional online learning, flipped classrooms, and online and offline blended learning have emerged according to local and school conditions[5].

(3) MOOCs have gained increasing acceptance in the higher education sector. In recent years, it has become more and more widely used in music majors[6].

(4) The construction of MOOCs in China has entered the forefront of the world. The number of MOOC in China has ranked first in the world. More than 200 MOOCs have landed on internationally renowned course platforms, and Chinese MOOCs such as "Tsinghua Chinese" have entered the forefront of internationally renowned course platforms in 2016. The construction and application of MOOC in China provides a Chinese solution for the development of MOOC in the world and creates a Chinese model.

3. The content and objectives of the research

The basic piano course is a comprehensive and operable course combining theory and practice, which is one of the important reform courses for music education in colleges and universities in China to implement the scientific outlook on development and deepen teaching reform, which is in line with the goal of talent training in colleges and universities. It is completely different from the traditional piano one-on-one lessons, both theoretically and practically. We should expand the thinking mode and learning mode of teachers and students in colleges and universities through the effective use of computer networks, wireless communication networks, satellites and other channels, as well as new technologies and new media such as computers, mobile phones, and digital televisions, and stimulate students' interest and enthusiasm in learning piano.

The framework and basic content of this paper are mainly as follows:

(1) Through piano MOOCs, students can use the three steps of pre-class, classroom learning and after-class review to achieve proficiency and application of basic piano content in colleges and universities, and improve the efficiency of classroom teaching. Reform the one-on-one teaching mode of traditional piano basic classes, flexibly design the teaching activities of piano basic classrooms, combine group lessons with flipped classroom modes, and incorporate multi-person cooperation models into teaching.

(2) Reform the boring and single teaching content of the traditional piano basic course. Make full use of the advantages of the Internet "+", choose new and interesting MOOC teaching content in the flipped classroom mode, and improve students' understanding and interest in piano learning. Through the flipped classroom of the piano basic class, the popular education model is realized, and students are cultivated into comprehensive and application-oriented musical talents with rapid response ability, classroom organization ability, improvisational accompaniment ability, arrangement and creation ability and innovative spirit.

(3) Use MOOCs in the flipped classroom of basic piano lessons to give full play to students' main role in piano teaching, and promote the improvement of students' thinking and skills in piano improvisation accompaniment learning through pre-class thinking, classroom problem answering and after-class interaction.

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(4) Reform the teacher-student interaction relationship in the traditional piano basic classroom, and change the guest in the flipped classroom of the piano basic class to enhance students' learning initiative.

(5) Pay attention to teacher training, improve the ability of technical teachers to produce new technologies such as micro-videos, promote the rational distribution of high-quality teaching resources in various schools, and strive to let more students receive better education through intelligent distance teaching.

4. The key issues to be solved

Under the background of quality education, the situation of primary and secondary schools and teacher music education is eager for application-oriented graduates with strong comprehensive ability. This application type is concentrated in the comprehensive music quality and piano comprehensive application ability. Therefore, the goal of the reform of the piano basic course driven by AI technology should be to fully express students' imagination and creativity, and to maximize the performance, accompaniment and teaching of piano basic courses in work and life, so as to further stimulate learning enthusiasm and piano practice consciousness, so as to achieve the purpose of comprehensively improving students' comprehensive music quality. Students are required to learn to play the piano, everyone can use the piano, scientifically combine basic theoretical knowledge courses such as music theory, harmony, and composition with practical courses such as piano improvisation accompaniment and improvisation, implement a mass education model, and adopt a new teaching method of "one-to-many". Through the teaching and learning of piano basic courses, students are cultivated into secondary music education talents with rapid response ability, classroom organization ability, improvised accompaniment ability, arrangement and creation ability and innovative spirit, rather than cultivating students into single professional talents and performers.

(1)The feasibility of flipped classroom teaching in college piano basic courses.

(2) The feasibility of MOOCs for piano teaching and how to realize flipped classrooms for basic piano courses in colleges and universities through MOOCs.

(3) How to make high-quality piano teaching MOOC teaching videos. How teachers can overcome the technical difficulties of MOOC video production and how to use a variety of new media to effectively promote the promotion, broadcasting, transmission and storage of MOOCs.

(4) How to avoid increasing the after-school burden on students and teachers because of MOOCs.

(5) How to evaluate the teaching effect of MOOCs in the flipped classroom of basic piano courses in colleges and universities.

(6) How to integrate school resources and build a digital learning environment to meet the basic conditions for the effective operation of piano MOOC applications.

5. The feasibility of using MOOC in the teaching of basic piano courses

(1) The subject nature of the basic piano course provides operability for MOOC teaching

Although the piano basic course emphasizes students' ability in piano practice, for beginner piano students, piano and related theoretical knowledge are indispensable, and the teaching of piano basic course needs the support of theoretical knowledge. Curriculum teaching should pay attention to the horizontal connection and mutual penetration between disciplines, music theory, sight singing, harmony, composition, music analysis and other music courses are integrated into the actual piano playing, so that students can quickly play their favorite songs, enhance their understanding of music, let their interests go ahead, and quickly apply them in practical teaching through comprehensive learning of theoretical knowledge. Through simple harmonic explanations, different students can change the harmony and texture and play different sound effects with the same ditty, allowing students to give full play to their creativity.

(2) Students' learning habits provide a guarantee for the implementation of MOOC teaching

Modern university students are not limited to textbooks and classrooms, they will actively learn through libraries, the Internet, and media, which provides the premise for online video learning in MOOCs. Secondly, some students already have a certain degree of independent learning ability and can carry out independent learning according to the requirements of teachers. Thirdly, the piano basic course

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uses innovative techniques to improve the ability to play song accompaniment, improvised accompaniment, and simple song arrangement in a short time. With the use of MOOC-style teaching, students can watch these videos in advance through the teaching website before class, so that students can open the website in dormitories, piano rooms, etc., and MOOC-style teaching relies on the campus network platform for targeted learning, and the classroom becomes a place for concentrated Q&A and joint practice. Students can control their own learning pace, and after-class review and practice can also be selected according to the level of difficulty, and the biggest benefit is that it can be watched again and again at any time.

(3) The campus data network provides hardware support for the implementation of MOOC

MOOC are implemented without the Internet and computers, which can be achieved in ordinary universities, and students in classrooms and dormitories can easily access the Internet for learning. The vast majority of college students have mastered a certain degree of information technology ability. MOOC offer students a new mode of class learning with the advantage of perceptual intuitiveness, spontaneously establishing connections and building learning network groups. Use a variety of social networks to allow online interactive discussions between teachers and students and between classmates. Promote learning activities in the form of group cooperation, students can grade each other online, and establish a student learning network grading mechanism. The piano basic course can quickly improve students' professional application ability, and can enable students to master the ability to play (staff, simple notation), accompaniment, improvisation and so on in a short period of time. The combination of the two truly realizes the transformation of teaching mode, reflecting the advantages of students' initiative, interaction, autonomy, interest and effectiveness.

6. The scope of application and benefits of the research

In the traditional teaching model, teachers of general university public courses can only teach a maximum of 2 classes, and only 100 students benefit at most. Piano lessons benefit even more narrowly. But with open online courses like MOOCs, this notion is challenged. We can hire the best and best teachers to plan and design the scripts, and then come up with the best teaching resources after brainstorming and co-creation. "MOOC" videos are carefully arranged and repeatedly deliberated, what to say, what not to say, what to talk about first, what to talk about later, all to the best state, so that the teaching resources obtained must be the most "refined", and the teaching effect must be the best. "Boutique" and "refined" resources can not only benefit their own students, but also benefit students in the whole school, the province and even the whole country. Therefore, piano "MOOCs" will also become a booster for the balanced allocation of high-quality educational resources like other disciplines.

In addition, from a technical point of view, the supporters of the "MOOC" teaching model are mainly universities and network information technology companies. Universities provide corresponding courses, information technology companies are responsible for a series of teaching links such as course platform improvement and background maintenance, and cooperation with well-known "MOOC" platform support companies is an important means for universities to improve the brand awareness of courses, and if the MOOC platform support company can launch piano courses with high brand awareness, the trust and dependence of the platform will be higher, and the two sides can achieve mutual assistance and win-win cooperation.

7. Conclusion

This paper studies the feasibility of MOOC teaching mode in the teaching of flipped topics in basic piano courses in colleges and universities. The implementation of the MOOC teaching mode into the teaching of piano basic courses in colleges and universities can change the original teaching mode, pay attention to the differences of students, realize personalized teaching, and improve students' application ability and creativity. Using hybrid teaching and giving full play to the advantages of online teaching, the classroom content has changed from knowledge explanation to online teaching problem exploration. The MOOC teaching mode can not only enhance teacher-student interaction and personalized communication, cultivate students' independent learning ability, but also have important practical significance in improving teachers' teaching skills, improving students' interest and effectiveness in learning, and realizing the sharing of educational resources.

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