Innovative Research on the Teaching Mode of Piano Group Lessons under the Background of Big Data

Jing Wang\textsuperscript{1,*}

\textsuperscript{1}Mianyang Teachers’ College, Mianyang, Sichuan. 621000

*Corresponding author e-mail: 754090077@mnu.edu.cn

Abstract: Under the background of the era of big data, piano collective teaching has ushered in new developments and opportunities, and corresponding adjustments have been made in the innovation of college education and teaching models, so that the collective piano education curriculum model of colleges and universities can adapt to the era of big data. Based on the background of the era of big data, this paper researches innovative methods and paths suitable for collective piano teaching in colleges. This article discusses in depth how to propose new innovations to the piano collective lesson teaching model in the context of the social background, college curriculum education, and the teachers and students themselves, and on this basis, seek ways to develop the piano collective lesson teaching ability. Effectively improve the professional ability of piano education teachers in colleges and universities, thereby improving the level of piano education in my country. To carry out curriculum innovation from a diversified perspective, and at the same time to mobilize the enthusiasm of students to learn actively, the combination of the two can help students improve their academic performance, improve the quality of teaching, show the advantages of teaching in the era of big data, and make good use of Data technology provides good quality education and cultivates more outstanding talents for the country.

Key words: Big data, colleges and universities, group piano teaching, innovative education model

1. Introduction

The definition of big data The emergence of big data has brought major changes to people's lives, work styles and the operating mode of enterprises, and even fundamentally changed the scientific research model [1]. Because the content and aspects involved in big data are too extensive, there is currently no unified definition of big data[2]. Big data is neither a product nor a technology, but a phenomenon that appears in the digital age [3]. In the context of the big data era, there is the support of information technology and big data technology. Students and teachers in the Internet environment...
can enjoy targeted services and give full play to the value of individualization and intelligence of big data technology. At this stage, the application of big data technology has provided great assistance to the informatization construction of colleges and universities. The current Internet has integrated various technical support including big data application technology, which can provide ideal education, learning, and management. The construction of the environment provides strong support [4]. It can efficiently complete the collection, processing and application of data information, and make relatively accurate judgments about possible situations based on the results of data analysis.

At the same time, big data provides a good platform for people-to-person communication. The virtualized communication space can really open up people's hearts. The same applies to teaching. It can further strengthen the exchanges between teachers and students, and build harmonious teachers and students. Relationship [5]. In the context of big data, in the process of teaching reform of collective piano courses in colleges and universities, knowledge exchange and discussion can be carried out with the help of online platforms. Teachers can answer students' puzzles in a timely manner. Teachers and students continue to strengthen communication and exchanges, enabling teachers to recognize the current teaching. There are problems in models and methods, and then continue to adjust and optimize, and develop a perfect curriculum teaching reform plan [6]. The big data platform has shortened the distance between people, and the rigid teacher-student relationship in the traditional teaching model has been eased. Teachers can continuously refine the teaching content according to the dynamics and learning needs of students, and provide targeted guidance for piano students. The learning efficiency and quality of students will inevitably improve significantly [7].

Piano education has also become an important part of art education in my country's colleges and universities. After years of theoretical research and exploration and practical application innovation, my country's piano education and teaching have achieved many new results and discovered many new problems. If we want to continue to promote the healthy development of the reform and practice of piano teaching mode in my country’s colleges and universities, we must conform to the trend of the times, find a new path of characteristic piano teaching under the background of the times, and implement the new goals, new concepts and new models of art teaching in my country in the new era , To promote the integration of big data and piano collective lesson teaching, enrich the content system of piano education, open multiple piano teaching models, and constantly explore new ways of piano collective lesson teaching [8-9]. In the era of big data, the learning habits of college students have undergone great changes, mainly manifested in the changes in learning interest, learning time and location, and learning auxiliary tools. [10].

2. Method

2.1 Innovative methods of collective piano teaching in colleges and universities

In order to better meet the development requirements of the current era, teachers should continue to reflect and summarize the piano teaching, better find the problems in the teaching process, and then take correct and effective measures, so as to enhance the piano collective The effect of lesson teaching. In addition, teachers should also clarify and respect the student's dominant position, fully mobilize students' learning enthusiasm, adopt scientific and reasonable teaching methods, such as positive hints, etc., help students find confidence in piano learning, actively encourage students, and make students bold Practice and play, find out the most suitable learning method, and effectively improve your piano playing level.

2.2 Adopt diversified forms of collective piano teaching in colleges and universities

Under the background of the continuous deepening of teaching reform, teachers are required to keep up with the pace of development of the times and to constantly innovate and improve the form of collective piano teaching in combination with the actual teaching situation. In the form of collective piano teaching in colleges and universities, teachers can develop in a diversified direction, effectively
alleviating the problem of too single teaching form. For example, group teaching is carried out in class, students of similar level are divided into groups to start teaching, so that students can promote each other in this process; teachers can set different repertoires according to the actual learning needs of students, which will improve students' piano playing ability Has a very important role and significance. At the same time, online and offline teaching can be carried out simultaneously, which is convenient and flexible. It can not only teach across time and space, but also share high-quality resources, so that students have more ways to obtain high-quality teaching content and learn and practice anytime, anywhere.

2.3 Enriching the content of piano collective teaching in colleges and universities
In the teaching of piano collective classes in colleges and universities, teachers should choose textbooks that meet the needs of students in all aspects, including not only piano practice repertoires, but also more classic Chinese and Western practice repertoires, and increase the emphasis on students' classic piano works. Better carry forward and inherit our excellent national culture. In addition, teachers should also effectively cultivate students' improvisational accompaniment and the ability to play songs. In the actual college piano collective class teaching process, the students' improvisational accompaniment ability and song playing and singing ability have a non-negligible effect on their future development, and can also reflect the students' comprehensive practical ability, which is an essential skill for college piano students one.

3. Experiment

3.1 Subjects
The subjects of this experiment selected 100 students from a certain university as the subjects of research and investigation. There are 50 males and females out of 100 selected students. Through the form of questionnaires to students, to understand students' learning situation. The content of the questionnaire is mainly about the teaching methods of students learning the piano major, the time spent by students after class, the results of students' learning, etc., through the investigation of these aspects, the integration of data and analysis are used to study piano in colleges and universities. Where can the group class teaching mode be innovative? What are the points worth keeping? Those bad aspects need to be improved so that students can do more with less energy during the learning process.

3.2 Experimental design
Paper questionnaires were used in this survey to compile the "Questionnaire Survey on the Teaching Status of Piano Group Courses" and distribute it to the subjects to be studied. A total of 100 questionnaires were distributed in this experiment, and 100 valid questionnaires were actually recovered. Then the collected questionnaires are collected and sorted out, using statistics and comparison methods to get the status quo of college students' views on the collective piano lessons, and from this, the development problems encountered by the collective piano lessons in the context of big data are drawn Based on these problems, we can find new breakthroughs in the teaching mode of piano collective lessons in colleges and universities.

4. Results

4.1 Experimental investigation results
As shown in the data in Figure 1 and Figure 2, Figure 1 is a research survey on piano lessons, and Figure 2 is a survey report on whether college students spend enough time to consolidate their knowledge after class. According to the data in Figure 1, most college students like the combination of online and offline teaching, which is also in line with the teaching methods of colleges and universities in the current era. Through the combination of online and offline, teaching content is enriched, high-quality resources are shared, and learning across time and space is realized. The data shown in Figure 2 shows the students’ degree of personal attention to the course after class, which can reflect the students’ learning attitude to a certain extent. Most students can still devote their energy to the study after class, while a few students study after class. Slightly insufficient. From the data in the figure, we can see that there are some current teaching problems. The enthusiasm of students has improved a little. We must carry out curriculum innovation from a diversified perspective, and at the same time, we must mobilize the enthusiasm of students for active learning. It is conducive to improving students' academic performance, improving the quality of teaching, showing the advantages of teaching in the era of big data, making good use of big data technology to run high-quality education, and training more outstanding talents for the country.

Table 1. Student performance
Table 1. Statistics of students' teaching methods to teachers

| Grade | Excellent | Good | General | Failed |
|-------|-----------|------|---------|--------|
| Male  | 16        | 22   | 8       | 4      |
| Proportion | 32% | 44% | 16% | 8% |
| Female | 28        | 16   | 4       | 2      |
| Proportion | 56% | 32% | 8% | 4% |

Table 2. Statistics table of students' teaching methods to teachers

| Degree | Interested in | General | Good | not interested |
|--------|---------------|---------|------|----------------|
| Male   | 30            | 7       | 11   | 2              |
| Proportion | 60% | 14% | 22% | 4% |
| Female | 36            | 10      | 4    | 0              |
| Proportion | 72% | 20% | 8% | 0% |

As shown in the data in Table 1, in the student performance survey, the overall performance of girls is higher than that of boys. Whether it is reflected in the number of excellent or failing numbers, it shows that girls have achieved in piano lessons. The grades are better than boys. As shown in the data in Table 2, we can know that the new teaching method will cause a small number of people to feel uncomfortable and a little uninterested because they are familiar with the changes in the teaching method for decades, or think that the so-called new teaching method introduced by it It's just a gimmick. Of course, the data analysis from the survey shows that most people are still full of interest in new teaching methods, so we believe that the new teaching methods make a bold innovation, and we should support it.

In the process of cultivating music talents in colleges and universities, students' professional courses must not be left behind, and the piano course is also a top priority. We must combine the resources available at the moment to give students as much help as possible, and train students from multiple aspects and perspectives. We must not only teach as much knowledge as possible in the classroom, but also give students enough attention after class. Provide students with favorable learning conditions, so that students have more ways to learn. We can't just stay in classroom teaching, actively participate in the guidance of student internships, change the traditional internship guidance method, strengthen interaction and communication with students, help students better integrate theory into practice, and consolidate the campus learn.

4.2 Challenges faced by college students

The rich and diversified network information has increased the difficulty for students to obtain effective information. The network information generated under the background of the big data era is massive and diverse. College students are faced with a huge amount of online information, and the quality of information is uneven. College students must dig out effective information and discard meaningless information in the process of acquiring information. It is more difficult to accurately obtain effective information related to learning. Take the essence and remove the dross. Although the big data era can promote college students' understanding and learning of different knowledge to a certain extent, it also interferes with the speed and time of college students' effective learning.

Information entertainment and fragmentation make it easy for college students to be deviated in the process of seeking knowledge, and college students are likely to be obsessed with online information because of insufficient self-control. While obtaining effective information, college students have
insufficient self-control and are impacted by entertainment information, which can easily lead to the stifling of attention, memory, creativity and reading ability, and the concentration of learning gradually disappears. Due to the extensiveness and diversity of information, and the randomness of college students in obtaining information, the unearthed information is scattered and lacks systematic fragments. In the learning process, college students will be replaced by other homogenized information before they have time to distinguish. The patchwork of various fragmented information leads to confusion and "buried" their own independent thinking ability.

5. Conclusion

Big data is inseparable from the background of the current big data era. Big data teaching marks the advent of an unprecedented era. Big data teaching opens a new era of smart education and meeting personalized learning. It is not only to provide teachers with teaching Space and a platform that collects massive learning data are also an ecosystem of open data streams that can assist students in correctly choosing learning routes and methods. In general, learning and analysis through big data has benefited decision makers, students, and teachers. The value and potential impact of big data have been recognized by the education community. With the diversification of learning content and technical means, the combination of big data and courses has become more diversified. With the cooperation of multiple disciplines, new technologies will be incorporated in many aspects to study the internal mechanism and deep level of big data learning. The reasons for this, reveal the law of learning, so as to provide learners with a more optimized learning environment. Accurate academic diagnosis based on network information technology, personalized learning analysis, and intelligent decision support can greatly improve the quality of college students' learning. It plays an important role in improving the quality of learning and optimizing learning methods. It has become indispensable in the learning process of college students. Important means.

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