Retraction

Retraction: The Innovation of Music Teaching Mode Under the Background of Big Data (J. Phys.: Conf. Ser. 1852 032028)

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This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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The Innovation of Music Teaching Mode Under the Background of Big Data

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Abstract. Technological progress, that is, large data scale, fast data extraction and analysis speed, and data structure diversity are the essential characteristics of big data. Big data is the key historical factor to promote the current development of the times. Facing the future education reform and development, information technology has become an innovation. With the support of big data technology, MOOC centered teaching mode and computing research paradigm are gradually becoming mature and become an important development trend of teaching research. Develop learning modules and suggest specific core courses in which their coverage may find the right context. In this paper, we study the participatory teaching method and record our classroom experience in these interventions. Specifically, we discussed learning outcomes, module content, their design and implementation, student assessment results and lessons learned.

Key words: Music Education, Teaching Mode, Big Data, Curriculum Innovation

1. Introduction

With the continuous development of science and technology, network technology has become an indispensable part of our life, integrated into all aspects of our life, the development of Internet technology provides a lot of convenience for our life, but also makes some new industries gradually rise. The Internet not only affects the development of China's social economy and people's daily life style, but also quietly changes our inherent traditional way of thinking, thus breaking our original social ecological structure to the maximum extent. Traditional industries will be impacted by the Internet in an all-round way. Every step of the development of traditional industries will face new opportunities and challenges.

Due to the continuous improvement of information technology, many experts have studied the music teaching mode under the background of different big data. For example, some teams in China have carried out research on "big data + music education", taking relevance learning theory and ecological education concept as theoretical basis, combining practice and examples, applying "big data" technology to music education, striving to provide a new perspective of reform and innovation for current higher music education through the power of science and technology. MOOC has brought fundamental changes to music education. MOOC teaching mode has become a new learning method outside the traditional classroom. It is believed that education is the support and service for learners.
This paper attempts to combine the emerging technology with music education. By using the methods of literature research, historical research, comparative research and interdisciplinary research, this paper discusses the relationship between traditional music teaching mode and "big data + music education" mode, and proposes to actively try to create the connection between learning and teaching, break the closed, fault of traditional music education teaching mode\[1\]. Some teams have studied the combination of music education theory and teaching practice, investigated the current situation of music teaching mode in higher vocational colleges, and found that the traditional mode generally has the problems of single teaching method, random teaching content, low quality of music teaching and low satisfaction of students to music teaching. This paper constructs a new mode of music teaching in higher vocational colleges, enriches the teaching means of music course, constructs the "driving force guidance" mode combined with the characteristics of music education in higher vocational colleges, puts forward the idea of "internal driving force guidance", and innovates the "driving guidance" mode in the course teaching reform. The combination of music education theory and teaching practice improves the music curriculum teaching system in higher vocational colleges, and tries to construct music teaching mode, which further enriches the teaching means of music course and improves the teaching effect. Three presentation modes are designed: training inquiry teaching presentation mode based on professional needs, autonomous learning guidance teaching presentation mode based on network resources, and experience practice teaching presentation mode based on music popularization \[2\]. Some experts have studied the core literacy of music discipline, discussed how to implement the core literacy into the music education, how to adhere to and improve the professional development of music teachers, continuously improve the music teaching models and teachers' teaching skills, think about how to optimize and promote various existing traditional teaching modes, and sort out and summarize the development of the current discipline core literacy At present, we should speed up the positioning of music discipline training objectives from the perspective of core literacy, and improve the professional development of music teachers. Experts believe that the teaching ideas, ideas and principles closely related to the core literacy of music discipline penetrate into the specific teaching process. By using music micro teaching, flipped classroom and MOOC, we can draw a conclusion that the three teaching modes are consistent in the direction of educating people, which greatly enriches and improves the learners' ability in the process of internalizing knowledge, mastering and strengthening skills. Although the research on Internet technology is abundant, there are still some deficiencies in the integration of Internet and education.

In order to study the innovation of music teaching mode under the background of big data, this paper studies the environment of big data, finds the support degree of learning objects for knowledge points, and concludes that participatory teaching method can improve the teaching quality of music course.

2. Method

2.1. Big Data Environment

Big data refers to the massive and diverse information generated in structured and unstructured form by social networking sites, biomedical equipment, financial companies, Internet and websites, scientific sensors, agricultural engineering resources, etc. In the context of the development of big data, science and technology continue to make progress. The traditional data processing system and technology can not handle such a huge amount of data \[4\]. In the era of big data, the huge amount of data information has brought great industrial value, but the problem of network security is becoming more and more prominent. Big data analysis is the process of examining information and patterns from large amounts of data. Therefore, the process needs a system architecture for data acquisition, transmission, storage, processing and analysis as well as visualization mechanism. Data environment is a branch environment in the information environment. Carrying out intelligent teaching mode in this environment is the climax stage of the development of information-based education. At the same time, it has set off a heat in the field of education. Using big data technology to construct the ecological
environment of music education is the main means to improve the quality of music teaching. Educational big data can directly reflect the current situation of teaching and effectively promote teaching; educational big data can correctly grasp the individual needs of learners and accelerate the development of personalized education; educational big data objectively presents teaching reality and helps educational decision-making to be scientific; educational big data changes the technology and method of education evaluation, providing thinking support for teaching evaluation; educational big data promotes intelligent education, it has a positive impact on the realization of wisdom education. With the increase of the number of applications used by big data, the field of big data use is becoming more and more extensive. The generation of educational data has become an important wealth and resource for the development of education information. By gathering multi-dimensional, multi-user and multi-access teaching data, and then conducting comprehensive sorting and analysis through data analysis methods, real-time analysis of teaching behavior and providing optimization decision-making for education can generate intelligent education \[5\]. In the big data environment, enterprises must absorb big data knowledge and private knowledge through multiple knowledge transfer. The best opportunity of knowledge transfer is one of the important aspects to improve the efficiency of knowledge transfer. Based on the analysis of the complex characteristics of knowledge transfer in the big data environment, a variety of knowledge transfer are divided into two categories. One is the simultaneous transfer of all kinds of knowledge, and the other is the transfer of multiple knowledge at different time points \[6\]. The combination of data and education is the inevitable requirement of the development of the times. The combination of big data and education plays an increasingly important role in teaching practice.

2.2. Music Core Literacy of Learning Objects

The learning object has a direct effect on the cultivation of learners' music core literacy, and different learning objects have different degrees of support for the core literacy. After associating the learning object with the core literacy, we can comprehensively consider and push the learning content in combination with the learners' core literacy and knowledge points, and characterize the support of the learning object to the core literacy as follows:

\[
RC(m) = (mid, vec10)
\]

Among them, mid is the number of the learning object, vec10 is the support degree of the learning object m to the core literacy, and the greater the component, the higher the support of the learning object to the music core literacy cultivation represented by the component.

3. Experience

3.1. Extraction of Experimental Objects

Learning objects, including learning resources and tools, are the basic elements supporting knowledge learning \[7\]. The types of learning objects are diverse, such as text, video, animation, pictures, games, personalized learning tools, etc. diversified learning objects can provide learners with different learning preferences with more suitable learning choices \[8\]. Knowledge model is the knowledge about domain knowledge. Domain model is the teaching structure of domain knowledge. To define a domain means to determine its entity and the relationship between entities. According to the theory of multiple intelligence s, the same learning resources will produce different learning effects due to learners' learning preference, intelligence tendency and learning development state \[9\]. Learning object has a direct impact on the training and cultivation of learners' music core literacy and the generation of learners' wisdom. Therefore, music core literacy is included in the attributes of learning objects.

3.2. Experimental Design

The design of the problem is used to test the learning effect of learners on knowledge points, and a problem is often comprehensive and needs more than one knowledge to solve, and the support degree of different knowledge for problem solving is not the same. Therefore, it is necessary to establish the
relationship between knowledge points and problems. The support degree of knowledge points to problem solving is represented as follows:

\[ RC(q,k) = (qid, kid, deg\_ree) \]  

(2)

Among them, Q ID is the problem number, kid is the number of knowledge points, and degree is the support degree of knowledge point K to solve the problem Q. the greater the degree of support, the greater the probability of solving the problem after mastering the knowledge point.

4. Discussion

4.1. Comparison of Music Basic Knowledge Before and After Test

In the process of music appreciation, the performance and creation of music are reflected in many aspects of music teaching. Group motivation theory is closely related to participatory teaching. Individuals and groups in the field are also based on the fact of existence. Individuals and groups interact and depend on each other to form the essence of field[10]. The theory of group dynamics provides an important theoretical basis for the form of group cooperation in participatory strategy. In the participatory teaching method, not only the growth of each individual, but also the change of each individual can promote the overall growth of the group. In group discussion, the communication and learning of group members not only affect the development of other individuals, but also promote the overall growth of the whole group. This paper adopts the participatory teaching method to test students' basic knowledge of music, and compares the results of pretest and post-test in participatory music appreciation teaching. As shown in Table 1.

| project | Total number of people | average | Standard deviation |
|---------|------------------------|---------|--------------------|
| Number of people | 150 | 52.74 | 21.46 |

![Figure 1. Pre test of music knowledge](image)

It can be seen from the above that 150 students were selected for the pre test of basic music knowledge, with an average of 52.74 and a standard deviation of 21.46. At the same time, we conducted a test for these students after receiving the participatory music appreciation teaching, combined with the pretest of basic music knowledge, as shown in Table 2.

| project | Total number of people | average | Standard deviation |
|---------|------------------------|---------|--------------------|
| Number of people | 150 | 60.68 | 32.75 |
| Pre test value | 150 | 52.74 | 21.46 |
It can be seen from the above figure that after receiving the participatory music appreciation teaching, the average number of students is 60.68, which is 7.94 higher than that of the pretest average of basic music knowledge, and the standard number is 32.75, which is 11.29 higher than that of the pretest standard number of basic music knowledge. It shows that the participatory teaching method can improve the quality of music teaching. We can use participatory teaching method in music teaching.

4.2. Computer Music Teaching Mode
Traditional mathematical statistics and current data analysis under the background of big data are helpful to improve the effectiveness of our work and make more accurate and reasonable decisions. However, massive data needs efficient data analysis technology and architecture. From the perspective of education, in order to better adapt to the development trend of big data era, we should train data analysts of data processing, data analysis and data mining. The new technological revolution has brought about extensive and profound changes in the mode of social production. To promote the high integration of new media technology and ideological and political courses in Colleges and universities, the use of micro image multi micro paradigm, micro film, micro video, micro story based on micro technology, is conducive to stimulate the learning interest of learning subjects, provide a variety of carriers to mobilize their learning enthusiasm.

5. Conclusion
With the development of the times, more and more attention has been paid to the quality education of students in the process of education reform. Only by constantly improving the comprehensive quality of students in the process of education can students adapt to the development of the times and become talents needed by the society. Music education plays an important role in quality education. Music education is of great help to the improvement of students' quality. It is closely related to quality education. This paper discusses the relationship between music education and students' quality education from the function and significance of music education and students' quality education. In the era of big data, in order to cultivate qualified talents to meet the needs of the society, colleges and universities across the country have made appropriate adjustments to talent training programs. The adjusted major is closely related to big data, and there are few fields for students. Reform the curriculum, introduce the concept of big data, and cultivate students' big data thinking ability. They will have a profound impact on their social sectors in the future.

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