# Multi-dimensional and Three-dimensional Evaluation of Music Education Teaching Based on OBE Concept

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*Keywords:* Music Education and Teaching, Analytic Hierarchy Process, Fuzzy Comprehensive Evaluation, Outcome-based Education, Stereoscopic Analysis

*Abstract:* Music education and teaching have developed rapidly in the decades since the reform and opening up, and have made outstanding contributions to the development of China's modern society and economy. In the 21st century, great changes have taken place in the way of social and economic development and in the way of thinking, which puts forward higher requirements for the development of music education and teaching. Facing the global vision and a more open thinking environment, music education and teaching in China are facing more diversified challenges, so a reform of music education in colleges and universities must be carried out. This paper aimed to apply OBE (Outcome-based education) concept to music education and teaching, which is also a way to explore for music majors. This paper proposed a comprehensive evaluation method based on Analytic Hierarchy Process (AHP) and fuzzy comprehensive evaluation (FCE) to evaluate music education teaching. Through a reasonable and scientific evaluation of classroom teaching, it can promote the learning of music courses, and can timely obtain students' feedback, so as to grasp the teaching situation of music classes in real time, and provide useful reference for music education teaching. The experiment in this paper showed that before the experiment, there were 14 students with very strong learning ability and 39 students with very weak learning ability in Group B. After the experiment, there were 41 students in group B with very strong learning ability and 11 students with very weak learning ability. It can be found that the learning ability of Group B students before the experiment was not high, but the independent learning ability had been greatly improved after receiving music education based on OBE concept.

## **1. Introduction**

The development of music art in China is based on efficient music education and teaching. However, under the rapidly changing social environment, the music education in Chinese universities is still in a backward and rigid state. From schools, teachers to students themselves, they all show contempt for music to some extent, which makes the problem of music education and teaching more complex. At the same time, due to the negative impact of the industrialization of higher education on music education, a more comprehensive and three-dimensional music education teaching method is urgently needed at the current stage. The teaching of music education in colleges and universities should not only impart students' basic music skills, but also fully reflect the value of their education. Therefore, the educational ideas based on the OBE concept must be introduced. OBE concept includes capability-oriented education, goal-oriented education and demand-oriented education. OBE education is a student-centered education concept. All educational activities, educational processes and curriculum design are centered on achieving the expected learning results. This educational concept emphasizes student-centered to understand students' needs and clearly guide students' learning objectives.

#### 2. Related Work

With the idea of comprehensive development put forward, the importance of music education in the development of students' ability has gradually emerged. According to Muthivhi Azwihangwisi E, the development of music education and teaching in the basic stage of school is related to the development of students' reading skills. He made an empirical study of the advantages of music education and teaching in the successful cultivation of reading ability by using the progress of contemporary theory. The research results showed that participating in school music education and teaching can help teenagers develop early reading skills [1]. Burwell Kim found that students like to accept one-on-one music education and teaching. He particularly talked about music education and its basic principles and importance [2]. Taylor Donald M investigated the experience of music education students and discussed the curriculum practice and institutional factors. He aimed to provide more in-depth information to understand students' music education classroom experience and campus level, and take actions to promote music education teaching reform [3]. The above scholars found that the old music education and teaching system is difficult to adapt to the requirements of the development of quality education, and the reform of music education and teaching is imperative. This is due to the increase of music education and teaching exchange activities and the introduction of new music education teaching concepts and teaching systems.

Although the educational community has paid more and more attention to the OBE concept of music education and teaching, not all schools have fully adopted the OBE concept. Although Poblete Carlos' research recognized the value of OBE concept in music education and teaching, colleges and universities have not fully understood students' music learning methods at present. His goal was to analyze students' music experience and determine to link music education and teaching with OBE concept [4]. According to Montgomery Amanda P, OBE concept is a popular music education teaching method, which can help students learn by applying learning analysis. The results showed that the OBE concept is to improve the effectiveness of music education and teaching through the interaction between students and teachers [5]. English Helen J believed that due to the lack of educational resources, the resources of music education and teaching based on OBE concept [6]. The above scholars found that music education teaching under the OBE concept is more in line with the current era and breaks through the traditional way of teaching music education.

Music education and teaching play an important role in cultivating students' ideological and moral character, positive and optimistic attitude, comprehensive aesthetic taste, strong interpersonal communication ability, and the OBE concept has sublimated the original monotonous music education and teaching [7-8]. Music is an important part of the field of education. It plays a very important role in promoting the comprehensive development of students' body, mind, morality, intelligence and body [9]. This paper first introduced the OBE concept, and put forward how to better apply the OBE concept in the new music education teaching. By improving teaching practices and other effective measures, a new music education teaching model has been explored to

guide and educate music education teaching, thus improving the effectiveness and overall quality of music education in colleges.

## 3. Music Education and Teaching under OBE Concept

As the oldest, most universal and most infectious art of human beings, music is the transmission tool of human thoughts and emotions in a special acoustic way, and is an important part of human spiritual activities. It meets people's spiritual and cultural needs with its unique artistic charm and human development. Perception, expression and creation of music are the embodiment of people's basic quality and ability. As an important link in education, music curriculum is also an important means to achieve aesthetic education.

In the context of the Internet, music education informatization has become the trend of education development [10]. To carry out the reform of music education and teaching and strengthen the construction of professional curriculum resources are the inevitable requirements for students to develop steadily and healthily. The significance of music education and teaching is shown in Figure 1.

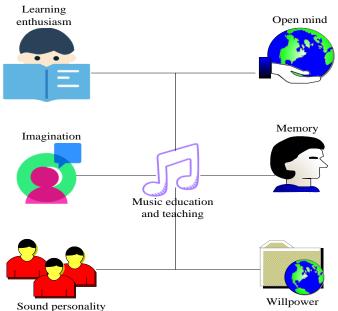


Figure 1: The significance of music education and teaching

In Figure 1, music education plays an important role in education. It can not only stimulate students' enthusiasm for learning, but also cultivate sound personality, imagination, memory, willpower and open mind to study the world. Music education and teaching have laid a solid foundation for students' study and life. At the same time, students can also learn some cultural knowledge from music, so as to improve their own quality and enhance their artistic accomplishment [11].

The essence of music education and teaching is to cultivate students' understanding of music, their aesthetic awareness, their aesthetic outlook and their ability to create beauty [12]. Multi-dimensional and three-dimensional music education is not simply a simple integration of existing teaching methods and ideas, but should be carried out by teachers' wisdom [13]. China's inherent mode of thinking, the long-term tendency of industrialization, popularization of education have made all the methods of music education in China at this stage relatively single, rigid and lacking practical significance.

#### **3.1 OBE Concept**

The training of music professionals based on the OBE concept is a systematic construction, which requires teachers to carry out reforms in teaching design, teaching implementation, teaching evaluation system and other aspects.

The OBE concept is concerned with methods rather than objectives, which is its basic feature. The traditional teaching methods of music education mainly focus on how teachers impart knowledge to students, while students passively accept knowledge, which would inevitably affect the learning effect of students, thus making it difficult to adapt to the changing society and industry. The teaching content under the OBE concept is shown in Figure 2.

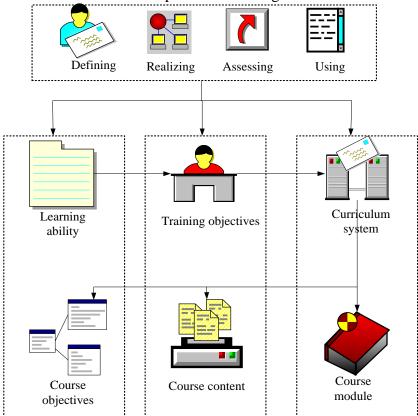


Figure 2: Teaching content under OBE concept

In Figure 2, the teaching content under the OBE concept includes learning ability, training objectives, course system, course objectives, course content and course modules. As a new educational concept, OBE is organized and implemented based on pre-defined learning outcomes. The implementation of OBE is mainly through four steps: defining learning outcomes, realizing learning outcomes, evaluating learning outcomes and using learning outcomes. Defining learning output is the characteristic of OBE and the most important step in the whole concept. According to the special needs of students and teachers as well as the dynamic development needs of the industrial field, it adjusts the level of learning output in time, and refines the established learning output, thus realizing the concretization and operability of learning output.

The goal of OBE concept is to focus on students' knowledge understanding and analyze their core competence in order to better adapt to the needs of education, aiming at the shortcomings of traditional music education. The element structure under the OBE concept is shown in Figure 3.

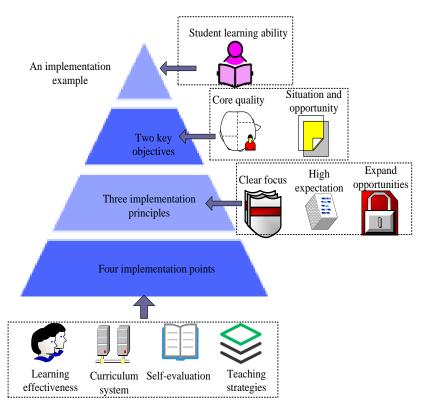


Figure 3: Element structure under OBE concept

In Figure 3, the element structure under the OBE concept includes an implementation example, which is the learning ability of students; the two key objectives are core literacy, situation and opportunity; the three implementation principles are clear focus, high expectation and expansion of opportunities; the four implementation points are learning effectiveness, curriculum system, teaching strategies and self-evaluation. The OBE concept differs from the traditional music education teaching concept in the following aspects:

(1) Compared with the current situation, the OBE concept is more concerned about the future. Compared with traditional teaching, OBE pays more attention to the future development of students. Students majoring in music must adapt to the needs of the society. OBE concept can make music education related personnel react quickly under the new situation of social industry development, so as to continuously think and adjust to meet the needs of the society.

(2) The focus is not on teaching, but on learning. Under the OBE concept, music education pays more attention to whether students can achieve their goals rather than how teachers impart knowledge.

(3) The OBE concept is not only about the learning process, but also about the learning effect. Compared with "how to learn", music education teachers pay more attention to the non-structural level of OBE middle school students. In the past, music education emphasized the cultivation of knowledge or skills rather than structural, while modern music education needs multidisciplinary comprehensive knowledge and comprehensive practical ability.

#### 3.2 Multi-dimensional and Three-dimensional Music Education Teaching

Music education is an important means to improve students' comprehensive quality. Music teachers should grasp teaching from three aspects: teaching content, teaching mode and teaching form to achieve three-dimensional teaching and maximize teaching effect [14]. Traditional music

courses focus on learning music skills, such as spectrum recognition, rhythm, tone and singing, which are generally achieved through demonstration, explanation, practice and other methods. At present, the goal of music education and teaching has changed. It is no longer simply to impart music knowledge to students, but to improve students' comprehensive quality through music education and teaching.

In the teaching process, teachers should adopt various teaching methods to make the teaching process full of fun, passion and vividness, so that students can enter the music world full of passion. For example, students can sing and dance in the classroom. By guiding students to cooperate with their body movements, they can achieve musical emotional input. Multi-dimensional and three-dimensional music education teaching is shown in Figure 4.

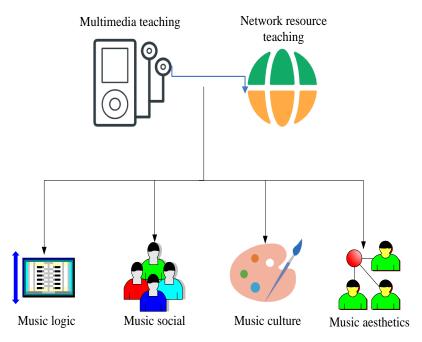


Figure 4: Multi-dimensional and three-dimensional music education teaching

In Figure 4, the multi-dimensional teaching of music education includes multimedia teaching and network resource teaching, which specifically includes music culture, music logic, music social interaction and music aesthetics. Music education teaching is not limited to simple training. It needs to reconstruct the traditional music teaching method to meet the new teaching requirements. In teaching, various subjects can be combined to form a multi-dimensional and three-dimensional sound education teaching mode. Multimedia teaching can be used to present works with various music themes to students, so that they can get specific thinking from the pictures when listening to music.

Multimedia teaching and network resource teaching enable students to visualize and concrete songs in their hearts, thus enabling students to have a deeper understanding of the feelings of music. Teachers can stimulate students' emotional involvement by analyzing songs or reciting texts related to the music environment. It is more appropriate to use multimedia to play music scene pictures, organize music scene plays, and music games in teaching.

#### 3.3 FCE Based on AHP

The evaluation of the teaching quality of music education can test whether the teaching work is carried out according to the predetermined schedule. In order to make the teaching staff scientifically managed and improve the quality, a set of scientific evaluation indicators must be formulated. The evaluation of teaching quality should reach an objective and fair conclusion, and should be carried out according to the guiding ideology of modern education evaluation, scientific evaluation standards, and the educational purpose of the school and the work needs of teachers. Through the qualitative evaluation of music education teaching and the implementation of teaching and learning evaluation, it is found that effective evaluation plays a certain role in promoting music learners who often participate in music learning.

In terms of teaching quality evaluation, this paper proposed to use AHP and FCE to analyze the teaching quality. By quantifying the fuzzy language and using statistical methods to analyze and process the fuzzy description, the evaluation results would be more accurate. The fuzzy comprehensive teaching quality evaluation based on AHP is shown in Figure 5.

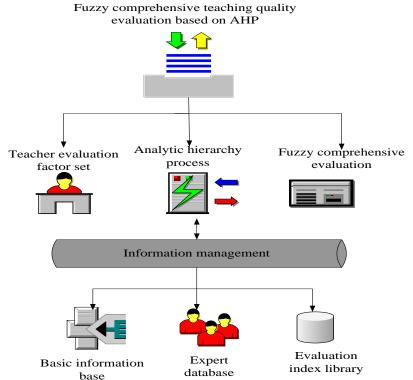


Figure 5: Fuzzy comprehensive teaching quality evaluation based on AHP

In Figure 5, the fuzzy comprehensive teaching quality evaluation based on AHP includes AHP, FCE, teacher evaluation factor set and information management. The information management also includes basic information base, expert base and evaluation index base.

In the evaluation of teaching quality, the evaluation factors can be divided into three levels: the target level refers to the teaching quality of the teachers; the main criteria level refers to the main element categories of the evaluated object; the standard criteria level is composed of specific single factors in each main factor category. The weight of each factor in each level can be determined by using AHP on this basis.

First of all, all the factors are put together for comparison. The comparison results show the importance of teaching content for teaching attitude. Therefore, the evaluation factors are compared and the judgment matrix A is constructed:

$$A = \begin{bmatrix} a_{11} & a_{12} & \dots & a_{1m} \\ a_{21} & a_{22} & \dots & a_{2m} \\ \dots & \dots & \dots & \dots \\ a_{n1} & a_{n2} & \dots & a_{nm} \end{bmatrix}$$
(1)

In the judgment matrix,  $a_{nm}$  represents the importance of factor *n* relative to *m*. The determination of the relative importance of each unit in each standard layer is determined by the expert review team. According to the proportion of different teaching quality evaluation elements, the experts compared various elements of the same set of standard levels and belonging to the same type of teaching quality evaluation.

Each row vector of judgment matrix A is weighted averagely:

$$\overline{W} = \begin{bmatrix} \overline{w_1, w_2, \dots, w_n} \end{bmatrix}$$
(2)

After normalization, the approximate value  $\tilde{W}$  of W can be obtained:

$$\tilde{W} = \begin{bmatrix} \tilde{w}_1, \tilde{w}_2, \dots, \tilde{w}_n \end{bmatrix}$$
(3)

The required feature vector refers to the importance of each teaching evaluation factor at its corresponding level, that is, the weight of each teaching evaluation factor at the corresponding level to be obtained.

When using the above judgment matrix to calculate the maximum eigenvector, it can only be said that its value is estimated scientifically. Therefore, the consistency of the judgment matrix must be checked. In the consistency test CR of the judgment matrix, Formula (4)can be used:

$$CR = \frac{CI}{RI} \tag{4}$$

*RI* is called the average random consistency index of the judgment matrix. When  $CR \prec 0.1$ , the consistency of the judgment matrix can be considered satisfactory, that is, the distribution of the weight coefficient is reasonable. If not, the judgment matrix must be adjusted until satisfactory.

*CI* is the general consistency index of the judgment matrix:

$$CI = \frac{1}{n-1} \left( \lambda_{\max} - n \right) \tag{5}$$

Among them,  $\lambda_{max}$  is the largest characteristic root.

By determining the factors of each influencing factor index, the weight of each index is calculated by using AHP, and then the FCE is used to determine the corresponding fuzzy membership relationship between each index and each index, which is also called membership degree.

In the concentration of factors to evaluate the teaching quality, the subordinate degree of each factor and each level on the indicator level is obtained, thus forming the evaluation matrix of each factor and each level on the indicator level, namely the fuzzy relationship matrix  $R_k$ :

$$R_{k} = \begin{bmatrix} r_{11} & r_{12} & \dots & r_{li} \\ r_{21} & r_{22} & \dots & r_{2i} \\ \dots & \dots & \dots & \dots \\ r_{k1} & r_{k2} & \dots & r_{ki} \end{bmatrix}$$
(6)

The weight value  $W_k$  obtained by the fuzzy relation matrix  $R_k$  and the maximum eigenvector of the criterion layer  $r_{ki}$  is fuzzy operated, and the membership relationship of the membership vector  $B_k$  is obtained. The membership vector  $B_k$  can be expressed as:

$$B_{k} = W_{k} \bullet R_{k} = \begin{bmatrix} w_{k1}, w_{k2}, ..., w_{nk} \end{bmatrix} \begin{bmatrix} r_{11} & r_{12} & ... & r_{1i} \\ r_{21} & r_{22} & ... & r_{2i} \\ ... & ... & ... & ... \\ r_{k1} & r_{k2} & ... & r_{ki} \end{bmatrix} = \begin{bmatrix} b_{1}, b_{2}, ..., b_{n} \end{bmatrix}$$
(7)

The total evaluation matrix can be formed by the membership relationship obtained after the first level FCE of teaching quality, that is, the membership vector  $B_k$  of the criteria level teaching quality evaluation factor set to the teaching quality evaluation level set. After that, the weight value  $W_k$  in the total evaluation matrix is calculated by fuzzy matrix, and finally the subordinate vector of the teaching quality evaluation target layer to the teaching quality evaluation grade set can be obtained.

On the basis of AHP, the fuzzy evaluation problem is dealt with scientifically and quantitatively. In the fuzzy comprehensive teaching quality evaluation, AHP is used to rank the weight of each evaluation factor. Through the comparison of evaluation factors, a judgment matrix is formed, and the consistency test method is used to ensure that the weight value of each index is selected more accurately.

#### 4. Problems and Countermeasures in Music Education and Teaching

At present, music education and teaching are mostly carried out by means of multimedia. With the rapid development of the Internet, multimedia has rapidly occupied the classroom with the characteristics of gorgeous pictures and vivid demonstrations, and gradually become the main teaching method. The use of multimedia in music education can optimize the teaching process and improve the learning efficiency of students, thus achieving high-quality teaching objectives. Multimedia technology is a teaching aid tool with irreplaceable advantages. However, if teachers only pursue formal blindness and ignore the actual connotation, the opposite result would be produced. Therefore, this paper analyzed the problems faced by music education and teaching, and selected 200 students from a music college to conduct an investigation.

#### 4.1 Problems in Music Education and Teaching

#### (1) Single teaching mode

With the development of the times, music education would inevitably encounter some problems in the implementation process. From the reality of teaching, in fact, the most important part of music education is teaching. The music curriculum and examination methods in different schools are single, and most of them are in accordance with the regulations of the Ministry of Education. The existing music education teaching mode focuses more on the knowledge and ability of students than on the characteristics of different students. The single degree of teaching mode is shown in Table 1.

Single degree	Number of people	Percentage
Very rich	11	5.5%
Relatively rich	19	9.5%
Generally rich	32	16.0%
Single	66	33%
Very simple	72	36%

Table 1: Single degree of teaching mode

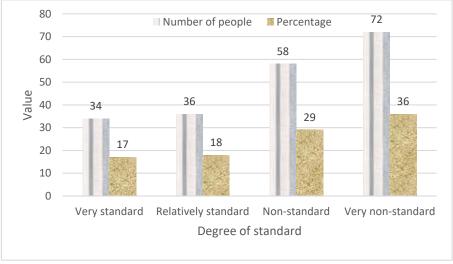
In Table 1, 11 students thought that the teaching mode was very rich, accounting for 5.5%; 19 students thought that the teaching mode was rich, accounting for 9.5%; 32 students thought that the teaching mode was generally rich, accounting for 16.0%; 66 students thought that the teaching mode was single, accounting for 33%; 72 students thought that the teaching mode was very simple, accounting for 36%.

Many colleges and universities take elective courses as the auxiliary of music education and teaching, and it is difficult to formulate specific teaching mode implementation standards. Most of the teaching models are unified, which makes the music education teaching that should respect individuality lose its due significance.

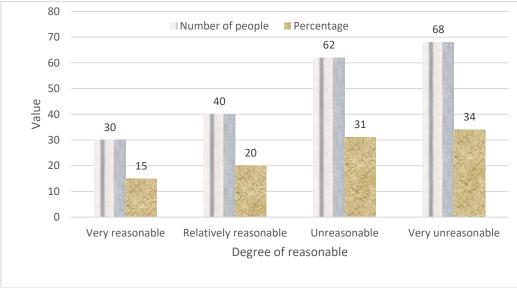
Music is originally a diversified discipline, and each country's music culture has its own history. Therefore, how to solve the current limitations of music education and teaching in Chinese universities in a short time and change people's cognitive concepts is an urgent problem to be solved.

(2) Lack of standardization and rationality of music curriculum

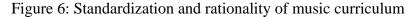
It is well known that colleges and universities pay less attention to music education and have lower requirements for music curriculum. Colleges and universities lack restrictions on students, and teachers' evaluation of music lessons is relatively single, which can not fully reflect the actual situation, resulting in the poor effect of music education and teaching. The standard and reasonable degree of music curriculum is shown in Figure 6.



(a) The standard degree of music curriculum



(b) Rationality of music curriculum



It can be seen from Figure 6 (a) that 34 students thought that the music curriculum in traditional music education and teaching was very standard, accounting for only 17%; 36 students thought that the music curriculum was relatively standard, accounting for only 18%; 58 students thought that the music curriculum was not standardized, accounting for 29%; 72 students thought that the music curriculum was very irregular, accounting for 36%. It can be concluded that the music curriculum in traditional music education and teaching lacks standardization.

It can be seen from Figure 6 (b) that 30 students showed that the music curriculum in traditional music education and teaching was very reasonable, accounting for only 15%; 40 students said that the music curriculum was reasonable, accounting for 20%; 62 students said that the music curriculum was unreasonable, accounting for 31%; 68 students said that the music curriculum was very unreasonable, accounting for 34%. Therefore, the music curriculum in traditional music education and teaching is not reasonable.

The nonstandard and unreasonable curriculum has brought a lot of constraints to the current music education and teaching, and objectively increased the teaching burden of music teachers in colleges and universities. Teachers do not have clear teaching objectives and strict teaching plans, and some teachers do not even have fixed music textbooks. For students, they choose whether to listen carefully or not depending on their personal preferences and interests. Therefore, it can also be seen that the omission in the curriculum makes the music knowledge gained by students in the music class greatly reduced. It also shows that the standardization and rationality of music curriculum setting is crucial to the smooth development of music education and teaching activities.

(3) Lack of innovation in teaching methods of music education

The "cramming" teaching mode has increasingly become a common contradiction in today's educational circles. In today's society, advanced music education teaching methods emerge in endlessly. Cooperative teaching, network teaching, inquiry teaching and other teaching methods are increasingly popular, and have been widely concerned by teachers. However, at present, music education in Chinese universities is still basically the traditional simple classroom teaching method. Most teachers are lecturing on the platform and students are seated. This teaching method can not fully exert the artistic appeal of music, nor can it fully exert the initiative and participation of students. The degree of innovation of music education teaching methods is shown in Table 2.

Degree of innovation	Number of people	Percentage
Very innovative	15	7.5%
Relatively innovative	22	11%
Generally innovative	36	18%
Obsolete	60	30%
Very obsolete	67	33.5%

Table 2: Innovation degree of music education teaching methods

In Table 2, there were 15 students who thought that the teaching methods of music education were very innovative, accounting for 7.5%; there were 22 students who thought that the teaching methods of music education were relatively innovative, accounting for 11%; there were 36 students who believed that the teaching methods of music education were generally innovative, accounting for 18%; there were 60 students who thought that the teaching methods of music education were outdated, accounting for 30%; there were 67 students who thought that the teaching methods of music education were very old, accounting for 33.5%.

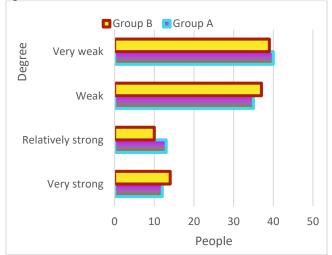
The lack of innovation in the teaching methods of music education limits its development. Due to the limitations of objective conditions, music teachers can only follow the traditional and outdated teaching methods. This outdated teaching method would not only affect the teaching effect of music education to a certain extent, but also be detrimental to the overall development of music education. Compared with other basic courses, music education requires more teaching methods to cultivate students' interest in music, so that they can better experience the artistic experience brought by music.

#### 4.2 Comparison between OBE-based Music Education and Traditional Music Education

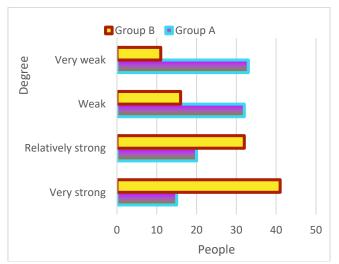
In view of the current situation, in order to understand the different effects of students under OBE-based music education and traditional music education, this paper divided 200 students into Group A and Group B, with 100 people in each group. Group A students were taught by traditional music education, and Group B students are taught by OBE-based music education for two months. Five teachers were selected to grade the two groups. Through the effect analysis of the two groups, this paper analyzed the effect of music education and teaching based on OBE.

(1) Analysis of autonomous learning ability

The comparison of autonomous learning ability between the two groups before and after the experiment is shown in Figure 7.



(a) The autonomous learning ability of the two groups of students before the experiment



(b) The autonomous learning ability of the two groups of students after the experiment

Figure 7: The autonomous learning ability of the two groups of students before and after the experiment

According to Figure 7 (a), before the experiment, there were 12 and 14 students with very strong learning ability in Group A and Group B, and 13 and 10 students with relatively strong learning ability; there were 35 and 37 students with weak learning ability, and 40 and 39 students with very weak learning ability. It can be seen from the results that the autonomous learning ability of the two groups of students before the experiment was not much different, and most college students' autonomous learning ability was not high.

Figure 7 (b) shows that after the experiment, there were 15 and 41 students in Group A and Group B with very strong learning ability, and 20 and 32 students with relatively strong learning ability; there were 32 and 16 students with weak learning ability, and 33 and 11 students with very weak learning ability. It can be seen from the results that there was a gap between the two groups of students' autonomous learning ability after the experiment.

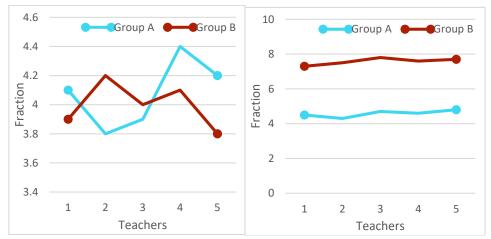
OBE is a student-centered, student feedback-driven teaching and learning process that focuses on student learning outcomes and continuous improvement of learning capabilities. Under the OBE concept, music is a participatory activity, and students can recognize that they are the real masters of learning.

(2) Comparison of learning effects

The OBE concept allows for the use of technology to add interactive features for the purpose of better motivating students, which allows students to be truly engaged in the classroom and improves student performance. The comparison of the academic achievements of the two groups of students before and after the experiment is shown in Figure 8.

According to Figure 8 (a), the learning achievements of Group A before the experiment were 4.1, 3.8, 3.9, 4.4 and 4.2 respectively, and the learning achievements of Group B before the experiment were 3.9, 4.2, 4, 4.1 and 3.8 respectively. It can be seen that the academic performance of the two groups of students before the experiment was not very good and the difference was not big.

According to Figure 8 (b), it can be found that the learning scores of Group A after the experiment were 4.5, 4.3, 4.7, 4.6 and 4.8 respectively, and the learning scores of Group B after the experiment were 7.3, 7.5, 7.8, 7.6 and 7.7 respectively. It can be seen that after the experiment, the academic achievements of the two groups of students differed greatly. After the experiment, the academic achievements of Group B had been greatly improved, but the academic achievements of Group B had been greatly improved, but the academic achievements of Group B had been greatly improved.



(a) Academic achievements of the two groups of students before the experiment (b) Academic achievements of the two groups of students after the experiment

Figure 8: Comparison of learning achievements of the two groups of students before and after the experiment

In the OBE concept, educators should have a clear understanding of students' learning ability and level, and grasp their goals, basis and process in time, so as to develop appropriate teaching structures for them according to different needs.

# **4.3 Development** Countermeasures of Multi-dimensional and Three-dimensional Music Education and Teaching

#### (1) Three-dimensional teaching thinking

Music education and teaching should be student-oriented and centered on teachers' teaching ideas. It is necessary for every teacher to make differentiated teaching plans according to the personality and characteristics of each student. However, in the traditional exam-oriented education, teachers' teaching methods are mostly based on theory and in a single way, and students' learning initiative and learning needs cannot be fully strengthened and met. This training mode of music talents makes colleges and universities unable to cultivate music professionals who truly adapt to the international perspective. This requires colleges and universities to carry out innovation in teaching practice under the guidance of OBE concept and highlight the importance of students. Colleges and universities need to attach importance to the two-way improvement of knowledge and ability, and advocate the development of heuristic, exploratory, cooperative, interactive and other music education teaching modes.

Teachers need to further improve their information literacy, and use information technology to develop online and offline mixed education mode, so as to guide students to rely on modern technology to enhance their independent learning ability. Teachers should pay attention to participating in diversified teaching and research training activities and grasp the profound spirit of OBE concept in time. It is necessary to treat the individual differences of students equally, and strengthen the integration and optimization of teaching resources for music majors based on teaching objectives and music learning knowledge points. Colleges and universities should build shared resources for music majors and attach importance to the development of innovative education models, so as to ensure that the implementation of their curriculum teaching design can meet the generality and particularity of music courses.

(2) Three-dimensional teaching methods

At present, the teaching methods of music education in colleges and universities are very single and one-sided. The correct teaching method should be to guide students to understand the laws and characteristics of the historical development of music, and combine the creative experience and manifestation of the typical characters they show to study and analyze the characteristics of their evolution and the reasons of the times, so as to arouse students' anticipation and possibility of the development of contemporary and future music art. From this point of view, teachers must reform the traditional teaching mode, such as the guided, communicative and exploratory teaching mode.

Music learning scores can be changed from standard answers to free discussion, or can be replaced by written tests, interviews and even extracurricular surveys. This can not only stimulate teachers' ability, but also improve students' learning ability, teamwork ability, information collection and analysis ability. This multi-dimensional and three-dimensional teaching method, which comprehensively inspects the comprehensive quality of students, is a practical activity with practical significance.

#### **5.** Conclusions

Under the guidance of OBE concept, the curriculum model of music education and teaching must change the traditional teaching concept. It needs to focus on the development of students and take the training of students' knowledge, ability and quality as the main content. Through the implementation of effective music curriculum reform, students' knowledge, ability and quality can be further improved. The teaching idea under the OBE concept focuses on the ability of students after receiving education. In the experiment, this paper analyzed the problems existing in the current music education and teaching through the investigation of students and combining with the actual needs, and put forward some countermeasures, with a view to contributing to the development of music education.

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