

Construction and Integration of Teaching Mode of College Physical Education Courses

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Abstract: In the current development of physical education(PE), while strengthening professional talents, more and more attention is paid to the physical health of college students. In order to develop individuality, it is necessary to integrate and construct the current college PE curriculum, and design a new PE curriculum that is compatible with the current PE curriculum teaching mode according to the current situation. Therefore, this paper proposes the construction and integration of the teaching mode of college PE. In the end, the sports performance of the students in class A is obviously better than that of the students in class B. Of course, there are some students in class B who are more outstanding. However, there are more students in class B who are within 50-60 points, while the students in class A have more points. There are more students in the 90-100 points, the contrast is larger. The average score of class A students is 80.125, and the average score of class B students is 71.45. It can be seen that through the construction and integration of the new college PE curriculum teaching mode is correct, can achieve good results, and has a certain scientific nature.

1. Introduction

Judging from the results of physical examinations in the past few years, the health level of college students has declined significantly, the most prominent of which is the lack of physical activity and the increase in obesity. At the same time, there is also a large amount of data showing that the current physical fitness of college students generally declines, which brings serious problems to our education and teaching model[1].

In the process of higher education development and reform, people put forward higher requirements for the improvement of students' physical and mental health and ability[2]. Under this situation, the functions of PE courses are becoming more and more prominent, and the teaching mode of PE courses must be readjusted and adjusted, not only to adapt to promote the physical and mental development of students, but also to ensure students' individuality, and to fully implement and implement the "health first" principle. Policy, actively explore and innovate the classroom teaching methods of PE courses, make it adapt to school development, resource status and resource status, so as to promote the sustainable development of PE[3].

2. Discussion on the Teaching Mode of College PE

2.1. Teaching confusion

Due to the current educational situation and various problems in PE, the current PE reform has become a common phenomenon[4]. Although the universities in some countries do not have PE courses, the development of PE teaching and scientific research work is in the ascendant. In fact, some countries even admire and appreciate good PE methods. In China, because quality education has just begun, college students' sports awareness and sports foundation are still very weak, sports habits have not yet been formed, sports facilities are not perfect, and the teaching team needs to be further strengthened. To recognize this situation, we must establish new educational concepts, reform and integrate teaching content, and make PE an indispensable and important course for cultivating high-quality talents[5].

The key to comprehensively promoting quality education lies in cultivating and cultivating high-

quality talents with "creativity and practical ability"[6]. The vast majority of teachers currently engaged in education have grown up under the "exam-oriented education" system. Without creative and creative educators, it is difficult to carry out quality education[7]. For this reason, some teachers with urgency have participated or are participating in the advanced courses of the master's program in various ways. However, it is still uncertain whether the current postgraduate education curriculum system is an "innovative system" or an "exam-taking system"[8]. In fact, according to the requirements of the relevant documents of the Ministry of Education, even teachers of public basic courses should undertake 30%-40% of the work tasks, especially the investment in education and scientific research, especially the cultivation of students' "innovative consciousness". It is an effective method.

2.2. Analysis of the current teaching mode of PE in colleges and universities

(1) Basic PE teaching mode

Its teaching policy is: pay attention to stimulate students' interest, cultivate students' physical ability, pay attention to students' personality differences, and realize teaching according to their aptitude[9]. Its teaching organization is: basic PE courses and special PE courses for the first and second grades.

(2) Comprehensive PE teaching mode

Its teaching policy is to attach importance to the improvement of students' physical fitness and the development of exercise habits. Physical education is organized by combining PE, extracurricular sports activities and morning exercises. The practice effect is good, and it is a popular teaching method in PE at present.

(3) Interest-based PE teaching mode

Its teaching policy is to focus on cultivating students' sports interest and improving students' athletic ability. Its teaching organization methods are: one, two, three, four, five. However, it has a variety of different teaching methods, flexible teaching content, and rich teaching content, which makes it popular among PE teachers and college students.

(4) Step-by-step PE teaching mode

The guiding ideology of PE is to focus on the cultivation of physical ability, the improvement of physical foundation, and the development of regular physical exercise habits. College PE courses are divided into three stages: one, two and three. This model has been applied in many universities with good results.

(5) Hierarchical PE teaching mode

Its teaching guiding ideology is: to strengthen college students to follow the basic laws of PE, according to the physical fitness, physiology and individual psychological characteristics of college students, under the guidance of the overall goals and principles of college PE, to build a variety of teaching organization forms, so that students can be more Lots of options. Its teaching method is to arrange the classes according to the students' physical condition and the difference of sports foundation, according to the students' comprehensive performance and basic sports quality. In terms of teaching methods, teaching arrangements, teaching objectives, etc., the implementation of teaching students according to their aptitude, teaching students according to their aptitude, and differentiated treatment highlights the differentiated adaptability and the pertinence of sports programs, and maximizes the potential and interest of students. At the same time, it also breaks the limitations of disciplines and majors, enabling students to make more friends in sports courses and improve their cooperation, self-discipline and social ability[10]. Its teaching effect has been widely used by relevant experts at home and abroad and some key universities, and has been unanimously praised by the majority of PE teachers.

Table 1 Advantages and disadvantages of each teaching mode

Teaching mode name	Advantage	Shortcoming
Basic PE teaching mode	Teaching students in accordance with their aptitude, while fully considering students' interests and interests, can not only adapt to and meet the individual needs of different PE students, but also give full play to their learning interests.	It is very difficult to work in classes and requires sufficient PE teachers, and it is difficult to synchronize the difficulty and progress of learning in real time.
Comprehensive PE teaching mode	Effectively promote the organic combination of extracurricular PE and PE content, strengthen the flexibility and integrity of PE teaching, enable students to gradually form regular physical fitness habits, and achieve the ultimate goal of improving students' physical quality.	The number of sports fields and equipment required for extracurricular sports activities greatly increases the work intensity and time of PE teachers.
Interest-based PE teaching mode	It can effectively increase the subjective initiative of students in learning sports, and enhance the enthusiasm and consciousness of students in learning sports.	At present, the number of schools adopting this teaching method is very small, which restricts the actual situation of the school itself, economic factors, traditional teaching ideas and existing PE teacher conditions.
A step-by-step model of PE	Pay attention to the cultivation of students' solid physical foundation, and strengthen students' healthy physique, excellent physical ability and good physical exercise habits.	It is very difficult for freshmen to specialize in sports, and to a certain extent, they prefer sports students with higher sports quality, which leads to differential treatment.
Hierarchical Physical Education Teaching Mode	It improves students' awareness of sports and competition, and lays a solid foundation for cultivating the concept of lifelong sports.	Management work is very complicated, and there are many classes in each grade, which puts forward higher requirements for venues and teachers.

2.3. The new PE teaching mode integration and construction ideas

(1) Changes in guiding ideology

In the new PE teaching mode, attention should be paid to the initiative of students, the autonomy of students, the cultivation of students' initiative, and the enhancement of students' initiative, so that they can actively participate in sports activities[11].

(2) "Teaching Club" mode

This model has also appeared in previous teaching practice, but in the new environment, students can be redesigned so that students can freely choose the subjects they want. At the same time, students can also freely choose the projects and teachers they want, and can freely choose their own class hours, so that students have more freedom to choose their favorite sports, and they can also allow students to make their own choices within a certain period of time., In this way, students can better develop their interests and will not lose interest in physical exercise.

(3) Increase exercise opportunities for seniors

In the past, most of the college PE teaching started from the freshman to the sophomore year. After the junior and senior years, it was mainly professional. Therefore, adding PE classes in senior grades, appropriately increasing the teaching time of the class, and holding various forms of competitive competitions can not only improve students' athletic ability, but also increase their interest in sports. At the same time, teachers should also realize that PE is the basic work of life, and they should pay attention to the long-term development of students, so that they can enhance their

physical fitness in physical activities, thereby promoting their mental health development.

2.4. Text representation model

Information in nature cannot be recognized by computers, and they need to use the expression technology of words to convert unrecognizable, unrecognizable, structured, recognizable, and structured sentences. In many applications, the expression of text is necessary, such as extracting user sentiment from news topics, extracting sentiment from user product reviews, intelligent question answering systems, etc. Therefore, it is very necessary to extract the features of the text. There are two main methods for extracting text features: vector space and topic.

1) Vector space model

The vector space model means that each document can be represented as a vector in the space. The features of the text can be expressed as:

$$d = (t_1, t_2, t_3, \dots, t_n) \quad (1)$$

The weight corresponding to each feature can be expressed as $(w_1, w_2, w_3, \dots, w_n)$, therefore, the entire text can be expressed as a text containing feature weights as follows:

$$d = (t_1, w_1, t_2, w_2, t_3, w_3, \dots, t_n, w_n) \quad (2)$$

At this time, the similarity between vectors can be equivalently expressed as the similarity between texts, as shown in the following figure.

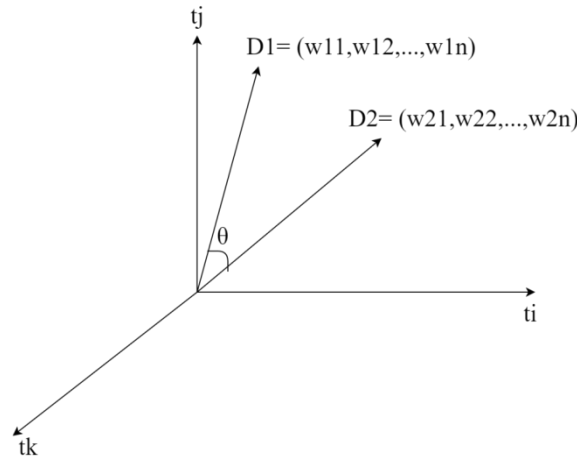


Figure 1 Representation of the vector space model

The following D1 and D2 respectively represent two documents, $(w_{11}, w_{12}, w_{13}, \dots, w_{1n})$ which are the feature vectors corresponding to the first document and the feature vectors corresponding $(w_{21}, w_{22}, w_{23}, \dots, w_{2n})$ to the second document. but:

$$D_1 = d_1(w_{11}, w_{12}, w_{13}, \dots, w_{1n}) \quad (3)$$

$$D_2 = d_2(w_{21}, w_{22}, w_{23}, \dots, w_{2n}) \quad (4)$$

To express the similarity between them, the cosine formula of the following vector can be used.

$$similarity = \cos(\theta) = \frac{A \cdot B}{\|A\| \cdot \|B\|} = \frac{\sum_{i=1}^n A_i \times B_i}{\sqrt{\sum_{i=1}^n (A_i)^2} \times \sqrt{\sum_{i=1}^n (B_i)^2}} \quad (5)$$

2) Theme model

Topic model is a mathematical model based on text semantic analysis and mining, and it is a representative unsupervised learning method. PLSA mode is also called PLSI mode, namely PLSI

mode. Each article generally includes several topics, but their weights are different. There are several words under each topic, and each has a different weight. The following table is represented by several mathematical symbols:

Table 2 Formulas corresponding to mathematical symbols

Mathematical Symbol Name	Formula
Document collection	$d = (d_1, d_2, d_3, \dots, d_n)$
Collection of words	$w = (w_1, w_2, w_3, \dots, w_n)$
Theme collection	$z = (z_1, z_2, z_3, \dots, z_n)$

But:

$$p(w_j|d_i) = \sum_{k=1}^K p(w_j|z_k)p(z_k|d_i) \quad (6)$$

Since the $p(w_j|d_i)$ document-word matrix is known and can be obtained by calculating the text, what is needed in this paper is the text-topic matrix and the topic-word matrix, and the EM algorithm is used to solve the parameters.

3. Analysis on the Construction and Integration of the Teaching Mode of College Physical Education Courses

The following is an example analysis based on the construction and integration of the new college PE curriculum teaching mode. The research group has also opened a PE teaching platform for the A course that has been guided by the new teaching mode and an old PE teaching platform for the B course. The research group divided students into two groups I and II: group I had a total of 717 students who were assisted with physical exercise through PE teaching, and group II, a total of 734 students, who exercised through traditional PE teaching mode. 36 students were randomly selected to test the effects of A and B PE courses.

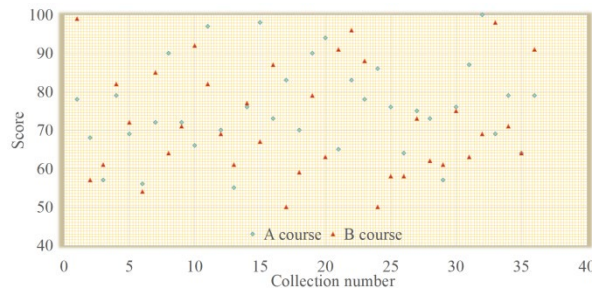


Figure 2 Comparison of the grades of the A course and the B course

As can be seen from the above figure, the average scores of students in the two PE courses under the two different teaching modes are similar in general, both within the range of 50-100 points. However, there is still a certain difference in the scores of the students' A and B courses. Most students' grades in A courses are higher than those in B courses, up to 36 points higher, and most are more than 10 points higher. There are also students who do it the other way around, with grades B higher than grades A, up to 29 points higher. Due to the randomness of randomly selected students, they will be divided into A and B classes for investigation. However, this result is also explanatory to some extent, and it reflects the certain advantages of the new college PE curriculum teaching mode through construction and integration.

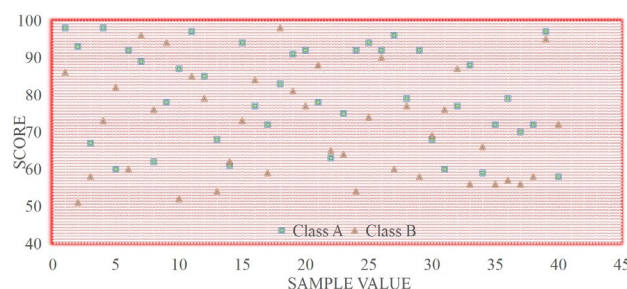


Figure 3 Course grades of Class A and Class B

As can be seen from the above figure, the general trend of the average scores of the students in the two classes is quite different. The students in class A have significantly better sports scores than the students in class B. Of course, there are individual students in class B who are more outstanding. However, there are more students in class B who are within 50-60 points, while students in class A have more students who are within 90-100 points, the contrast is large. The average score of class A students is 80.125, and the average score of class B students is 71.45. The highest score for A can be as high as 98, the lowest score is 58, and the lowest score in Class B is 51. It can be seen that through the construction and integration of the new college PE curriculum teaching mode is correct, can achieve good results, and has a certain scientific nature.

4. Conclusions

All in all, the adoption of this new PE teaching model can improve the sports interest of students of all grades, enhance their sports interest, promote their sports activities, and promote their all-round development. However, on this basis, colleges and universities should pay attention to the construction and improvement of sports infrastructure, and lay the foundation for the promotion of the new PE model. And has the following advantages:

(1) Realized the transition from "teacher-centered" to "student-centered"

People-centered is a concrete manifestation of the university's "people-oriented" educational philosophy. The most basic function of education is to develop and improve people. The subjectivity of people is a comprehensive evaluation of people's initiative, initiative, autonomy and creativity. Education is an important way and tool for human self-development. In the process of cultivating people's quality and building a new cognitive system, we must pay attention to the cultivation of individuals. The teaching process is designed from the perspective of cultivating students' intelligence and ability, starting from cultivating students' knowledge and ability, and starting from students' understanding of the laws and characteristics of PE textbooks, and arranging teaching steps. The teaching of elective courses and teaching clubs fully reflects the concept of "student-oriented", allowing students to truly participate in sports activities and enhancing their enthusiasm for learning.

(2) More opportunities for senior students to participate in physical exercise

The physical activity time of senior three students is less, and their physique has a certain downward trend. After the implementation of the new teaching model, the PE courses will be extended from the first year to the second year to the first year to the third year without changing the total credits. Some people may think that "changing the PE class of the second year from 100 minutes to 50 minutes, and using the remaining 50 minutes for the third year of the senior year will definitely affect the students' exercise time and weaken the exercise effect. In fact, it is not. It enhances students' physical fitness. Health. Physical education is certainly one of the ways. But relying on PE once a week cannot enhance students' physical fitness. As Comrade Ji Keyi said, "Some comrades believe that PE in schools can improve their physical condition, but it is impossible to improve their physical condition by only two PE classes a week." Therefore, extending the PE curriculum from the first to the third grade can promote the participation of students in the upper grades in physical activity.

(3) Promote the improvement of teachers' teaching quality

Teachers are synonymous with new educational ideas and educational reform and development. Education is a creative process, which requires students to have a creative spirit. First of all, teachers must have a creative and innovative spirit. Whether it is teaching organization, understanding and imagination of teaching materials, or teaching process, teachers should have their own unique opinions and put them into practice. These concepts run through the practice of PE, so as to improve the quality of teaching. Online course selection is actually a two-way choice. It is mainly for students to choose teachers themselves. Objectively speaking, it can improve and ensure teachers' teaching quality, effectively mobilize teachers' enthusiasm for teaching, and stimulate teachers' innovative potential. The role and the main role of students are fully reflected.

(4) Make full use of sports venues and equipment

With the expansion of college enrollment, sports venues, equipment and other issues have become an important factor restricting the development of college sports. After the implementation of the new teaching mode, the venues and equipment will be fully utilized, the students' learning needs will be fully utilized, and the school's sports resources will be fully utilized. At the same time, create conditions for the construction of sports and health courses, strengthen the construction and development of sports venues and fitness equipment, and keep up with the pace of school sports modernization teaching reform as soon as possible.

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