

## *Retraction*

# **Retracted: Construction of 3D Model of College Public Physical Education Class Based on Text Mining Model**

### **Wireless Communications and Mobile Computing**

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

### **References**

- [1] C. Chen and X. Gao, "Construction of 3D Model of College Public Physical Education Class Based on Text Mining Model," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 2490960, 7 pages, 2022.

## Research Article

# Construction of 3D Model of College Public Physical Education Class Based on Text Mining Model

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The responsibility and mission of higher education is to cultivate high-level talents needed for the development of society. The contemporary society has undergone great changes. The modern society characterized by the globalization of the knowledge economy has put forward social demands for higher education, and the development of science and technology with information and biotechnology as the core has put forward social demands on higher public physical education. Higher public physical education should creatively set new functions according to the development needs of the globalization of the knowledge economy and must cultivate people around the world, so that college courses can be adapted to the development needs of information technology, so as to meet the challenges of new technological revolutions. This research uses the literature research method, information research method, and observation method, uses text mining technology, and takes some ordinary colleges and universities as the survey objects. There are many problems in public physical teaching, and the corresponding feasible countermeasures and suggestions are put forward.

## 1. Introduction

The international competition in today's world is essentially the competition of human resources and the speed of economic and social development. All countries in the world regard the development strategy of education informatization as the primary choice for promoting education reform and enhancing national comprehensive competitiveness. In the context of this era, the education in China has achieved fruitful results, and the market demand for educational technology talents is growing. From distance education to offline training, from enterprises and institutions to private companies, and from personnel training to corporate performance, educational technology graduates are all involved and actively promote the development of educational informatization [1–3].

Higher education is a critical period for people to receive systematic education in one's life, and physical education in higher education is an important part of educational activities. As an indispensable part of quality education, it plays

a very important role in promoting students' physical and mental health and improving students' ideological and moral quality. Therefore, physical education in colleges and universities should firmly establish the guiding ideology of "health first" and take the cultivation of students' lifelong sports awareness and the development of sports habits as the ultimate teaching goal to provide qualified builders for socialist construction [4–6].

In recent years, under the guidance of quality education, health first, and lifelong physical education, physical education teaching in general colleges and universities across the country aims to cultivate the awareness, habits, and ability of college students to engage in physical exercise for life. Active and effective exploration and reform have been carried out in aspects such as assessment and evaluation, and certain results have been achieved. However, looking at the current situation of physical education teaching in ordinary high schools, there are still some urgent problems to be solved according to the requirements of the new "Outline." The teaching method is single, the teaching form changes,

and the measures are correspondingly lagged, the teaching evaluation orientation is unreasonable, the venues, equipment, and facilities are outdated, and the needs of physical education cannot be met. For a long time, college students lack the habit of physical exercise, especially the continuous decline of some physical fitness indicators of students, which has become a hot issue of social concern [7–9]. Gen Zheng consulted the literature and learned that some students who did not receive good physical education in school went out of school, and most of them did not develop a good sense of physical fitness and the habit of consciously participating in physical exercise nor did they acquire enough physical skills and physical fitness.

The research on physical education abroad started earlier than ours. The US education law does not stipulate that physical education is a compulsory course nor does it stipulate a unified teaching syllabus and requirements, but each state and district education law stipulates it by itself. In some other developed countries, physical education classes are firstly chosen by students to choose physical education items, and physical education teachers teach the lessons according to the number of students who choose the item needs, interests, and satisfaction to offer different physical education classes [10–13]. This foreign form not only gives students more freedom and flexibility but also prompts physical education teachers to continuously strengthen their physical ability to meet the needs of students. In addition, it is also found that there are many types of foreign sports elective courses, the projects are relatively complete, and the classification is more detailed and constantly trying to open some new sports projects, such as leisure, entertainment, adventure, tourism, and marketing [14–16].

The physical education in China has undergone many reforms and has achieved great achievements. Strengthening students' physical fitness is the goal of common struggle; physical education has played an important role in promoting the improvement of students' physical fitness. A relatively standardized and perfect physical education curriculum management system has been established, and the selection of teaching materials has been increased, reflecting that the diversification of teaching materials has gradually improved the quality of teaching materials. Great progress has also been made in the research of physical education in colleges and universities, and successful reform experience has been accumulated in teaching practice [17].

This paper takes text mining as the technical route. In order to complete the research content, it adopts literature research method, information research method, and quantitative analysis method and takes some ordinary colleges and universities as the survey objects. It finds many problems existing in the teaching of public physical education in ordinary colleges and universities and puts forward corresponding feasible countermeasures and suggestions [18].

## 2. Methods and Theory

*2.1. Text Mining.* Text mining technology includes text clustering, classification, correlation analysis, and association analysis. Text clustering is a typical unsupervised learning

method, which aggregates into several categories according to the internal feature relationship between the main text information and the document without specifying the division standard in advance. Text classification is to formulate classification rules according to existing research. On the basis of this rule, text categories are divided by identifying text subjects, which is a typical supervised learning. Common algorithms for text classification include SVM, KNN, and AdaBoost. Correlation analysis is used to measure the degree of matching between words with high word frequency and corresponding documents. When the correlation value exceeds 1, it means that this or such words need further analysis. The higher the correlation value, the greater the degree of discrimination, indicating that such words are in much higher demand in this position than in other positions. The role of text association analysis is to discover the relationship between high-frequency words in the text set and find interesting association patterns.

*2.2. Data Collection.* This article mainly uses the statistical data of some universities' official websites and the published literature data of CNKI as the source data. The crawling tool uses Python's own Scrapy toolkit. Scrapy is a web crawler framework designed to traverse crawling websites and decompose and obtain data. It is widely used in data mining, information processing, and other fields. The required information is not completely in one page, such as job description and other information can only be captured by entering the recruitment detail page, and deep crawling rules should be set to ensure the integrity of the data. In addition, because recruitment information is composed of structured data and unstructured data, data such as salary, company nature, work location, and work experience are all structured data, which can be directly stored in excel. The job description belongs to unstructured data, and for the convenience of subsequent analysis, it is directly saved in txt format.

*2.3. Text Preprocessing.* When the information is embedded in the HTML webpage, the text data will inevitably be mixed with impurities such as special symbols. The first-hand text information obtained by crawling with Scrapy tools and XPath rules cannot be used directly. Then, classify and count the data through office software, and then, analyze the sorted data.

## 3. Results and Discussion

*3.1. Analysis of the Current Situation of Physical Education Teachers.* Physical education teachers are the concrete executors of curriculum teaching. The school shall, within the total number of teachers approved by the higher administrative department, teach in accordance with the physical education curriculum plan, carry out extracurricular sports activities, complete the training task of cultivating outstanding talents, and equip a corresponding number of qualified physical education teachers. It can be seen from Figure 1 that there are a total of 200 physical education teachers and about 96,000 students in the 8 colleges and universities surveyed. The average teacher-student ratio is about 1:480. The

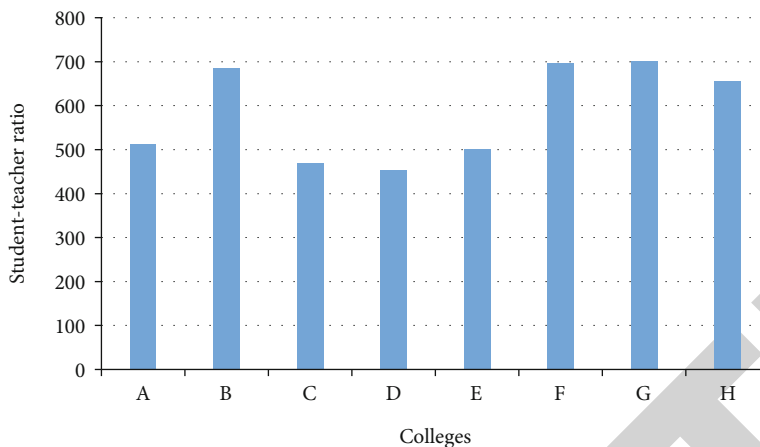


FIGURE 1: Student-teacher ratio of physical education teachers in 8 colleges and universities.

standard is 1:300; the number of physical education teachers is significantly lower than the teacher-student ratio standard issued by the Ministry of Education. The shortage of teachers is serious.

As can be seen from Figure 2, among the physical education teachers in 8 colleges and universities, there are 3 doctors, accounting for 1%, 50 masters, accounting for 25%, and 147 undergraduates, accounting for 74%. This shows that the proportion of doctors and masters in the educational structure of college physical education teachers is obviously low.

As can be seen from Figure 3, in the survey on the specialty distribution of physical education teachers in 8 colleges and universities, track and field and basketball teachers have the most teachers, belonging to high distribution majors. Gymnastics, football, volleyball, and martial arts teachers belong to medium distribution majors. There are fewer teachers in ball, badminton, tennis, aerobics, sports dance, swimming, and some other majors, which belong to low distribution majors. The reason for this phenomenon is mainly related to the curriculum setting and training objectives of the physical education major in colleges and universities. This situation will inevitably affect the development of the sports option teaching project. The direct consequence is that some schools lack teachers of related majors. Many students love it. The project cannot be carried out, but some of the emerging projects that have been opened also have the phenomenon that some teachers are not specialized in professionalism. In order to meet the requirements of starting classes, some schools have replaced teachers from other majors when there are insufficient teachers.

**3.2. Analysis of the Current Situation of the Implementation of Physical Education.** It can be seen from Figure 4 that in the process of setting up public physical education courses in these 8 colleges and universities, 87.5% of the courses are offered according to the current situation of the school, 75% are offered according to the needs of students, and 12.5% are offered according to the needs of the outline, 12.5% are opened according to social needs, and 75% are opened according to the current situation of teachers. This

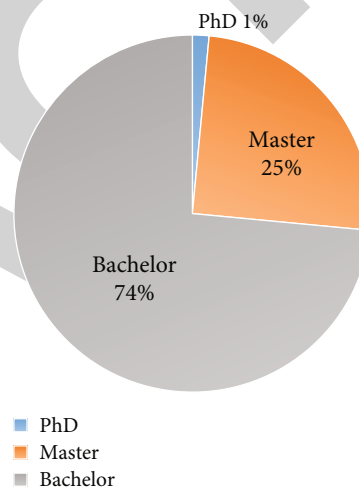


FIGURE 2: Educational ratio of physical education teachers.

shows that the eight colleges and universities choose the types of sports according to the school venues, the current situation of teachers, and the needs of students. Few have implemented the new outline while taking into account the needs of society and setting up curricula.

It can be seen from Figure 5 that the number of students in physical education classes in these 8 colleges and universities is controlled at 20-30 students/class accounting for 12%, 31-40 students/class accounting for 63%, and 41-50 students/class accounting for 25%. According to the actual situation of physical education courses, in order to ensure the quality of teaching, the number of classes in classroom teaching is generally about 30 people. In the control of the number of physical education classes in these 8 colleges and universities, 63% of the schools control the number of students in a class of 31-40 students, but the survey found that due to the lack of physical education teachers, most of these schools enlarged the number of students to 40 people. Therefore, the number of students in public physical education courses in these colleges and universities is obviously too large, and it is difficult to ensure the quality of classroom teaching, especially for ball games.



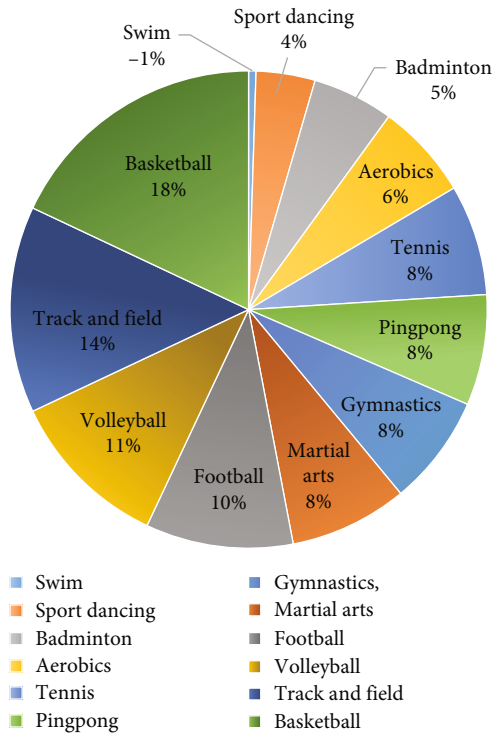


FIGURE 3: Professional analysis of physical education teachers.

The physical education syllabus is formulated according to the tasks and requirements of the course determined by the teaching plan, and is the basic basis for teachers to carry out teaching activities. Each school should formulate a syllabus according to the new syllabus and the actual situation of the school. Only when teachers study the syllabus carefully and strictly follow the requirements of the syllabus can they be able to teach physical education well. The survey results (Figure 6) show that 87.5% of the physical education classes in these 8 colleges and universities have syllabuses, and have syllabuses for 12.5%. Therefore, it can be shown that these colleges and universities basically compiled their own syllabus in accordance with the requirements of the new syllabus, which strengthened the control of teaching quality and effectively prevented the randomness of physical education teaching.

As can be seen from Figure 7, 45.2% of students in these 8 colleges and universities are satisfied with the teaching methods of physical education teachers, 50.3% are general, and 4.5% are dissatisfied. Therefore, the selection and application of teaching methods by physical education teachers in colleges and universities still need to be further improved and perfected. Teaching methods and organizational forms should change the situation in which teachers are the main body and students learn passively, pay attention to individualization and diversification, and promote the interaction between teachers and students and between students.

### 3.2.1. Suggestions

(1) *Update the Concept of Physical Education and Implement the Guiding Ideology of "Health First"*. We should renew the concept of education, adhere to the teaching guiding ideol-

ogy of "health first" in the physical education of ordinary colleges and universities in Shaanxi Province, put people first, and pay attention to the complete development of students' physical and mental health. In practice, physical education teachers should fully respect and care for students, pay attention to the development of students' personality and psychological development and the cultivation of creative ability, and give students more free activities and space, so that students can fully play their subjective role in the learning process. In addition, we should guide and encourage physical education teachers to actively explore new knowledge, always put the "healthy first sack" teaching guiding ideology throughout the whole physical education teaching process, and constantly create some teaching methods with a sense of the times and suitable for students' actuality, and then, fully guide the learn and exercise creatively, improve their individual ability to maintain health, and strengthen students' lifelong sports awareness, so as to adapt to the rapid development of society and changes in the surrounding environment and improve the health level of the whole nation.

(2) *Strengthen the Construction of Physical Education Teachers and Lay a Solid Foundation for the Healthy Development of Physical Education Teaching*. In recent years, due to the continuous expansion of the scale of schools in various colleges and universities, the number of students has also increased sharply, and the content of physical education courses has also been continuously expanded, but the number of physical education teachers has not increased accordingly. We should teach according to the physical education curriculum teaching plan, complete the task of cultivating excellent physical talents, and equip a corresponding number of qualified physical education teachers. According to the needs of physical education in our school, we should follow the laws of education, reasonably allocate the teacher-student ratio, and reduce the work pressure of physical education teachers. At the same time, when introducing new teachers, we should not only favor male teachers, we should take into account the actual situation of the school, comprehensively consider the structure of teachers' gender, age, knowledge, and major and professional title, introduce urgently needed talents, and form echelon construction. In order to meet the requirements of modern university physical education courses, through the combination of introduction and training, establishing a multiprofessional, highly educated team of physical education teachers is the strategic goal of the implementation of sports talents.

(3) *Pay Attention to the Rational Selection and Innovation of Teaching Materials, and Pay Attention to the Scientific Development and Utilization of Teaching Materials Compiled by the School*. Colleges and universities should attach great importance to the use of sports teaching materials and should use sports teaching materials reasonably, so that teaching materials and teaching content complement each other. Colleges and universities are different in their own actual conditions, the differences in school and regional culture, and the situation of regional economic development. It

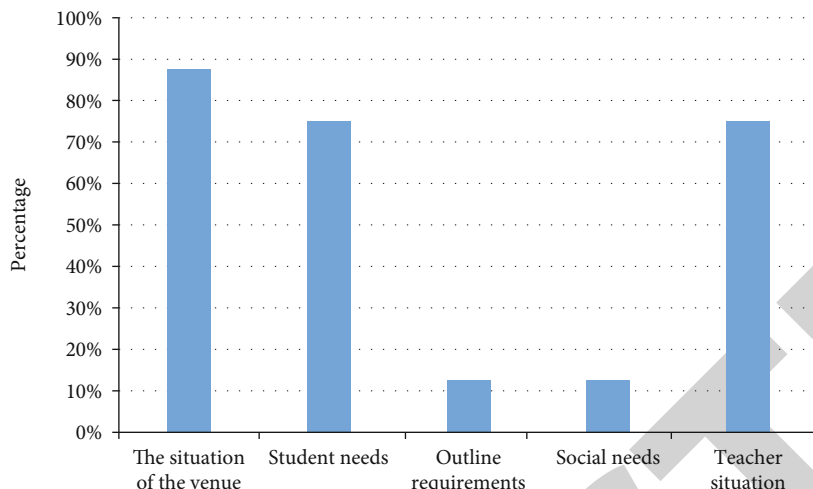


FIGURE 4: The basis for the start of the optional courses of physical education in colleges and universities.

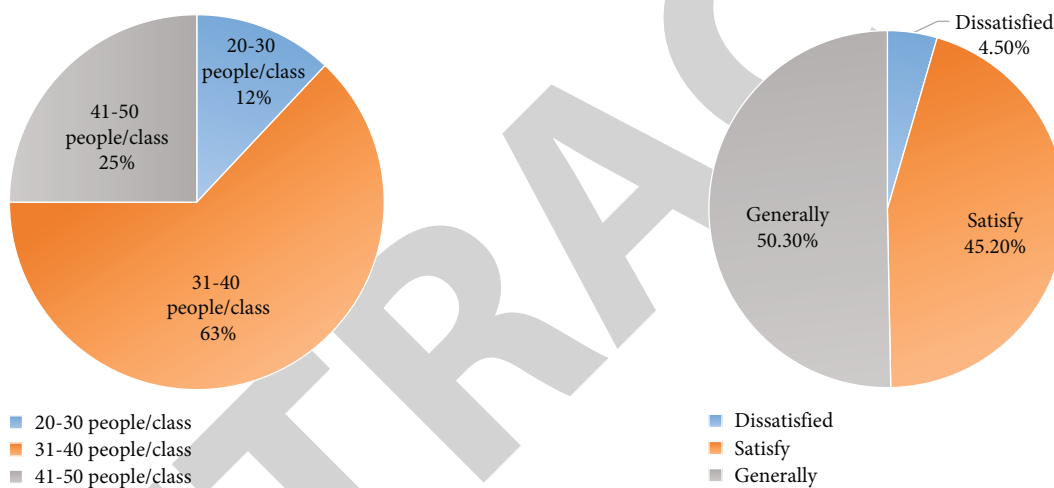


FIGURE 5: The number of students in each class of college sports option courses.

FIGURE 7: Students' satisfaction with physical education teaching.

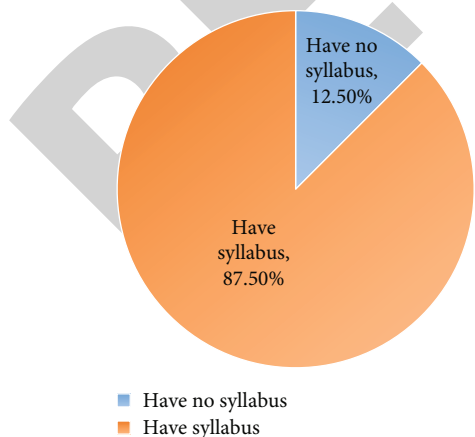


FIGURE 6: University syllabus.

is determined that the physical education courses offered in each region are also different, and the students' physical ability and level are also significantly different. The course mate-

rials should also be in line with reality. It is necessary to realize the diversification of the teaching material system, combine the local characteristics of each region, carry out more localization projects to expand the autonomy of students to choose sports content, and expand the time and space for college students to freely and consciously study sports.

(4) Add the Type and Teaching Content of Physical Education Courses Suitable for College Students, and Thoroughly Implement the New Concept of College Physical Education Courses. The optimization of physical education content is directly related to the quality of physical education and whether health education can be carried out smoothly. The teaching content of physical education in colleges and universities should not only be based on the actual needs of college students' physical and mental development but also be based on meeting the long-term needs and social needs of college students' lifelong sports. Therefore, in the selection of physical education content, the principles of quality education, health education, and lifelong education should be

taken as the principle to avoid the one-sidedness and simplification of physical education knowledge. In the sports teaching content of leisure and other functions, we actively set up sports projects that college students prefer and can reflect the atmosphere of the times, such as swimming, tennis, rock climbing, and field sports.

(5) *A Lot of Investment to Strengthen the Construction of Sports Venues and Equipment and Facilities.* Through the investigation, it is known that the expansion of enrollment in colleges and universities for many years has led to a sharp increase in the number of students in various colleges and universities. The construction of sports venues and equipment is relatively lagging behind, and there is a serious shortage. The lack of sports venues and equipment and facilities is the impact. An important factor in physical education and student physical activity. Some colleges and universities have taken active and effective measures to make full use of the sports resources owned by their schools and increase their utilization rate, such as adding teaching units to make up for the shortage of venue facilities and then fully exploiting and using all available space resources or other natural resources. Resources are used to teach projects that do not require high-venue facilities, which can also ensure the smooth progress of physical education courses. Such a method can be vigorously promoted and implemented to meet the physical education task, and the methods of these schools can be used for reference. Colleges and universities should pay attention to absorbing the forces of all sectors of society to increase the construction of school sports venues and equipment.

#### 4. Conclusion

- (1) The ratio of physical education teachers and students in the eight colleges and universities surveyed is lower than the standard of the Ministry of Education, and the number of physical education teachers is seriously insufficient; the number of teachers in different physical education courses is unevenly distributed, and there is a lack of corresponding professional physical education teachers in individual sports events; the teacher training channel is single, and the students' satisfaction with physical education is less than 50%. The physical education curriculum in colleges and universities is affected by teachers and venues and facilities. The teaching contents and methods need to be improved
- (2) The teaching content of physical education in colleges and universities should not only be based on the actual needs of college students' physical and mental development but also be based on meeting the long-term needs and social needs of college students' lifelong sports. Therefore, in the selection of physical education content, one-sidedness and simplification of physical education knowledge should be avoided, and more consideration should be given to the physical education content of students' life

skills, health care, health preservation, entertainment, leisure, and other functions and actively set up college students' favorite sports. Sports can reflect the atmosphere of the times, such as swimming, tennis, rock climbing, and field sports

#### Data Availability

The figures used to support the findings of this study are included in the article.

#### Conflicts of Interest

The authors declare that they have no conflicts of interest.

#### Acknowledgments

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