Retraction

Retraction: The Reform of College Physical Education Teaching Methods Under the Background of Big Data (J. Phys.: Conf. Ser. 1744 032005)

Published 16 September 2022

This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity.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.

Retraction published: 16 September 2022
The Reform of College Physical Education Teaching Methods
Under the Background of Big Data

Feng Liu¹,*

¹Physical Education Research Department, Xinjiang University, Xinjiang Urumqi, 830046, China

*Corresponding author e-mail: lbs2018@xju.edu.cn

Abstract: With the increasing application of Internet and various network-based mobile devices, human beings have entered a new era of big data. With its unique characteristics, the era of big data has brought new changes to the reform of physical education teaching methods in Colleges and universities. Over emphasis on nominative evaluation, in this context, this paper tracks the stage of standardization of teaching mode, studies and promotes the reform of college physical education teaching evaluation system, introduces the problems faced by the establishment of university sports big data intelligent analysis system, and analyzes the university sports big data. This paper expounds the application prospect of intelligent analysis and decision-making in teaching, and the application of big data in students' interest orientation and physical education teaching, so as to effectively promote college physical education teaching.

Key words: College, physical education, teaching methods, teaching mode

1. Introduction
With the deepening of the new curriculum reform, the traditional teaching mode is also being replaced by some more effective, reasonable and scientific teaching mode. We try to use different methods, theories and models to carry out detailed demonstration and concrete empirical research on physical education. To achieve the teaching goal is to explore whether this mode can effectively stimulate students' interest in learning, provide theoretical guidance, and achieve real improvement of students' learning efficiency.

Due to the continuous improvement of teaching mode, many experts have studied the physical education teaching methods in different colleges and universities. For example, some teams in China have studied the teaching quality and teaching methods of school physical education technology course, explored non-verbal teaching methods, investigated, interviewed and logically reasoned. The results show that the non-verbal teaching method corresponding to the language teaching method is a
commonly used teaching method in the technical course of sports colleges and universities. It is based on a variety of teaching methods, according to the principles of physiology summed up and improved teaching methods. In addition, according to the different functions of human organs, they can be divided into visual method, auditory method and tactile method. Their characteristics are the diversity and attachment of teaching methods, the rapidity of information transmission, the long-term continuity and the ambiguity and uncertainty. In the teaching process, we should pay special attention to the opportunities and two ways of using non-verbal teaching methods, as well as the cultivation of students' ability, so as to promote the teaching reform of technical courses. Some teams have studied how to apply network technology more reasonably in college physical education teaching and better serve college physical education teaching. It is concluded that the application of network technology in college physical education teaching has a more intuitive and efficient teaching effect than the traditional mode of physical education teaching. Through the use of network technology, college physical education teachers can broaden the selection of physical education teaching resources, and ensure the needs of physical education teaching process. It is necessary to construct the subject system such as knowledge structure, curriculum and specialty setting, explore the relationship between data science and natural science and social science, stimulate students' awareness of innovation and cooperation, so as to better improve the teaching effect and quality [2]. Some experts take the aerobics elective course in Colleges and universities as the carrier, combine the network teaching platform with the smart phone to construct the intelligent classroom teaching mode of sports science, teaching and learning, and come to the conclusion that the "teaching mode" is guided by certain teaching ideas or teaching theories, data technology and its application research, such as the mathematical methods of scientific research, Reveal the phenomena and laws of nature and human behavior. The application of modern information technology in the classroom, through the interaction between teachers and students, to form an effective wisdom classroom [3]. An expert made a study on the block and strategy of the construction of college sports MOOC, and concluded that embedding some problems to improve the interaction in MOOC can effectively avoid the boring characteristics of students in class, and improve students' interest and enthusiasm. MOOC can meet the needs of different groups of students, promote college students' interest in sports learning, change the former "passive learning" learning mode of college students, and provide college students with more convenient and diversified learning methods and the best national sports curriculum resources. College students can learn sports skills and strengthen their memory anytime and anywhere, so as to truly realize the classroom transformation with students as the main body. Although the research results of physical education teaching in Colleges and universities are abundant, there are still some deficiencies in the reform of college physical education teaching methods.

In order to study the reform of physical education teaching method in Colleges and Universities under the background of big data, this paper studies the application of traditional teaching mode in response surface method experiment, and finds out the reform of physical education in Colleges and universities. The results show that the outdoor physical education course is more conducive to students' learning.

2. Method

2.1 Application of Traditional Teaching Mode in Response Surface Method Experiment
The traditional teaching mode is that teachers and students teach face to face, which has the most direct impact on students and can effectively establish a good relationship between teachers and students. The quantitative representation and network relationship of "human machine object" interactive fusion h-yuan world become a common problem in big data research, which constitutes the basic premise for big data to become a relatively independent new discipline. New technologies, new methods and new social phenomena developed around big data will become an important basis for the development of big data discipline, from "macro group evaluation" to "micro individual evaluation", From "single evaluation" to "comprehensive evaluation", the application of response surface
methodology and traditional teaching mode in absorptive modeling and optimization, the theoretical background and application program of the methods discussed, the most commonly used experimental design and its limitations and typical applications [6]. How to determine the accuracy and significance of model fitting. In addition, the references for modeling and optimizing absorptive using RSM and ANN methods in recent years are introduced. Special attention should be paid to the selection of factors and responses, as well as the statistical analysis of modeling results. The application of artificial neural network in response surface methodology (RSM) optimization experiment design can guide experimental optimization in theory and provide optimization design for exploring new technology in practical production. This method can be used in medical chemistry, life science, food safety and other fields. It provides a new research idea and method for experimental optimization design. For example, suppose an experimenter wants to find out the levels of temperature (x1) and pressure (x2) to maximize the yield (y) of the process. The yield is a function of temperature and pressure levels, for example

\[ y = f(x_1, x_2) + \epsilon \]  

(1)

Where \( \epsilon \) represents the observation error or noise of response y, including uncontrollable adverse factors and model fitting errors. If the expected response is \( \eta(y) = f(x_1, x_2) = \eta \), then

\[ \eta = f(x_1, x_2) \]  

(2)

2.2 Reform of Physical Education in Colleges and Universities

Physical education in Colleges and universities shoulders the important mission of comprehensively improving the physical quality of college students in the process of receiving higher education, and plays an important role in modern quality education. The new ideas, new methods and new models of physical education development in Colleges and universities are the urgent process of establishing corresponding physical education curriculum and teaching structure and function. To a certain extent, it has improved the public physical education curriculum. Although it has achieved good results, there are still some problems left. The evaluation subject and evaluation mode are single. For the teaching evaluation of physical education teachers, the evaluation subject is mainly the evaluation of students and the competent department personnel. The evaluation mode is mainly the evaluation of the superior to the subordinate and the students, while the self-evaluation and peer evaluation of the physical education teachers are ignored. The traditional form of university education management is single, and the authority of the manager to realize the obedience of the managed is of course a kind of management mode. However, simple preaching can no longer meet the new requirements of college teachers and students in the new era. In addition, education management should add modern elements, keep close to the situation of the times, carry out innovative work on line, off line and off campus, and expand the first teaching class, the second activity class, the practice class and the fourth network classroom of education management. The teaching mode of "course certificate integration" puts forward that the actual working standards and operation norms of specific occupation can be more directly and accurately reflected in the teaching classroom teaching [8]. This paper analyzes the physical education curriculum system and teaching mode in Colleges and universities. On this basis, the paper puts forward a comprehensive training mode of overall education based on outdoor education, with special activities as the center and Sports Association - extension. The result shows that this training mode not only emphasizes the importance of experiencing and participating in outdoor education, but also pays attention to the all-round development of students' physical and mental quality, skills and ability, and participates in the curriculum system. It advocates that the overall education should focus on special education and the improvement of comprehensive ability, interact and complement each other, and construct the whole of combining sports practice with comprehensive ability training Education training mode education [9].
3. Experience

3.1 Extraction of Experimental Objects
Traditional teaching mode extraction is mainly to extract its features. Traditional feature extraction methods mainly include texture structure extraction, color difference selection, structure feature extraction and orientation feature extraction. In view of the complex factors such as the diversity of traditional teaching mode objectives, the uncertainty of information and data, and the problems existing in the interaction design extraction of traditional teaching mode, the compensation fuzzy interaction design is introduced into the traditional teaching mode extraction, and a traditional teaching mode extraction method based on compensation fuzzy interaction design is proposed. Machine technology extraction, in-depth study on network structure conception, membership function establishment, sample creation, feature selection and selection, model construction and other related issues [10].

3.2 Experimental Design
The CNN model structure extracted by feature method can be divided into three steps: the first step is interactive design pre-processing, including edge preserving relaxation filtering and pixel block extraction; the second step is feature extraction of visual communication technology; the third step is feature fusion classification. Because ape can mine the effective information in the original spectrum and lacks spatial information, if it does not denoise in advance, it is necessary to implement the feature fusion and classification. On the other hand, it can make up for the lack of spatial information of each pixel, or extract the spatial features of each pixel better than the single feature in the space. In order to verify the validity of the model, two public data sets, namely, kindness and gregariousness, were selected for comparative experiments. Then the noise interference features are denoted to improve the classification accuracy. If the noise is not preprocessed, the noise is too large, which makes the neural network unable to learn the features we want, so the classification accuracy is very low. Finally, a comparative study is carried out.

3.3 Statistical Analysis of Data
Mathematical statistics: use Excel data processing software to analyze and statistically process the relevant data, and present them in the form of charts. The formula is as follows:

\[
SUMIF(\text{A1:G3}, \text{G2}, \text{A3:G3})
\]

4. Discussion

4.1 Data Statistics of Physical Education Courses in Superstar Learning App
The course learning of superstar learning app mainly includes course materials, question bank, assignment library and test paper library. This research mainly introduces gymnastics thinking questions, gymnastics related theoretical courses and gymnastics video in the course database for students to watch in the mobile app. In the question bank, the main upload gymnastics professional basic knowledge questions, including fill in the blank questions and short answer questions, through the release to students, in order to improve students' gymnastics theoretical knowledge ability. In the homework library, the weekly records and reflections of each week are uploaded and sent to the notice column, so that students can submit their assignments on time. In the test paper library, the exercises of each chapter will be uploaded to the learning app test library, and released to students regularly. We have made statistics on the use of superstar learning app in PE courses in Colleges and universities, as shown in Table 1.
Table 1. Statistics on the use of learning software in physical education courses in Colleges and Universities

| School name A | B | C | D | E | F |
|--------------|---|---|---|---|---|
| percentage   | 11%| 13%| 6%| 36%| 20%| 14%|

Figure 1. Statistics on the use of learning software in physical education courses in Colleges and Universities

It can be seen from the figure that 36% of physical education courses in school D use learning software. Mixed teaching is mainly based on students, so the ultimate goal is to evaluate the knowledge and skills of students, and provide support for the implementation of blended teaching. The evaluation subjects include teachers and students.

4.2 Data Statistics of Physical Education Courses in Colleges and Universities Using Outdoor Teaching Form

Constructionist learning concept requires learners to actively participate in learning and promote the integration of new and old knowledge. To achieve this goal, students can break through the space-time constraints to carry out group collaborative interactive learning, fully internalize the knowledge and skills learned, and highlight the students’ subject position. We have carried on the statistics to each big university sports curriculum uses the outdoor class form, as shown in Table 2.

Table 2. Data statistics of College Physical Education in the form of outdoor classes

| School name | M | G | J | P | L |
|-------------|---|---|---|---|---|
| Numerical value | 12.32% | 32.63% | 28.52% | 15.32% | 11.21% |
Figure 2. Data statistics of College Physical Education in the form of outdoor classes

From the above figure, we can see that 32.63% of the physical education courses in G school adopt the form of outdoor classes. Teaching according to the theory of motor skill learning can help students form a stable movement mode quickly and improve the quality of action.

5. Conclusion

At present, there are some problems in physical education teaching in Colleges and universities, such as backward teaching methods and teaching objectives, obvious characteristics of teaching classification competition and so on. Traditional education management caters to the requirements of teachers and the system, rather than the interests of students, which is a homogeneous education input. The modernization of university education management is a dialectical negation of the traditional university education management. It is the use of modern strategies and methods to achieve the integration of internal and external resources and maximize the benefits. Modern education management can give full play to human value and dignity. Based on this, college physical education teachers should update teaching objectives, reduce the competitive characteristics of sports, create a good quality education environment, and promote the sustainable development of college sports in China.

Acknowledgements:
Xinjiang University Doctoral Research Funding Project (BS190128)

Reference
[1] Ya L. Holistic-Education-Based Structure of Innovation Cultivation Mode for Public Physical Education in Colleges and Universities[J]. Journal of Capital University of Physical Education & Sports, 2016.
[2] Wang Y. The Implementation of RSPS Teaching Model in physical Education Teaching of Colleges and Universities in China[J]. 2019, 009(003):P.72-75.
[3] Jun Z. Analysis of the present situation and suggestions on the reform of physical education in Colleges and Universities[J]. Journal of Jilin Agricultural Enc & Technology University, 2017.
[4] Chen-Ou L, University Z. Present Situation and Improvement Methods of Physical Education Teaching Evaluation in Colleges and Universities[J]. Journal of Amusing Vocational
Institute, 2018.

[5] Xi u-Sen P , Roeg G . Analysis on the Teaching Evaluation Method of Physical Education Curriculum in Colleges and Universities Based on Sports Education Model ——Taking the Tia Chi Class in Beijing Normal University as an Example[J]. China School Physical Education(Higher Education), 2017.

[6] Jun Y . The Present Situation and Improvement Method of Physical Education Teaching Evaluation in Colleges and Universities[J]. The Guide of Science & Education, 2019.

[7] Fuji P , Department P E , University S M . Experimental Exploration of "Discovery Teaching Method" in Antiquarian Teaching in Colleges and Universities[J]. The Guide of enc & Education, 2017.

[8] Dayan M . A research on the physical education teaching management of setting high risk courses in colleges and universities in Reckoning province——taking the swimming as an example[J]. Reckoning Sport enc and Technology, 2016.

[9] Dala-dala L . On the reform of physical education in Colleges and Universities under Credit System[J]. Journal of Amusing Vocational Institute, 2017.

[10] Hui Y , Ning-nong C , Department P E , ET AL. Present Situation and Countermeasures of Physical Education Teaching Quality Evaluation System in Colleges and Universities[J]. Hub Sports fence, 2017.