Research on Aerobics Teaching Based on Big Data Micro Classroom

Tianmei Ma*
Shaanxi Institute of International Trade and Commerce, Shaanxi, China

*E-mail: 404092558@qq.com

Abstract. With the continuous progress and innovation of the network era, people's life is more and more scientific and intelligent. In this case, the traditional teaching method is no longer suitable for today's education field. According to a large number of studies by experts, it is found that the learning style of big data micro classroom is gradually accepted by all walks of life. Big data micro classroom is a new teaching method. It is the innovation of information technology and educational means. Its emergence gradually aroused the interest and enthusiasm of the majority of educators. This paper mainly expounds the practice and research of the application of big data micro classroom in Aerobics major in the field of physical education. Aerobics course in the course of teaching needs to carry out a lot of gymnastics action explanation. Therefore, the researchers think aerobics major is more suitable to adopt the teaching method of big data micro classroom than other majors.

Keywords: Big Data, Micro Class, Aerobics

1. Introduction

According to the standards of the new curriculum and the practical requirements of teaching, the main technical carrier of big data micro classroom is teaching video. It is a variety of video resources that can reflect teachers' teaching activities for a certain knowledge point or teaching link[1]. Big data micro classroom was first created in 2008 by David, a senior teaching designer in the United States. With the highly integrated development of network information technology and new teaching methods, big data micro classroom is gradually developing and growing[2-4].

Generally speaking, the big data micro classroom is not the micro content developed for micro teaching, but the actual teaching content with the purpose of online learning using the constructivism methodology. The carrier of big data micro classroom is a PPT courseware or a short video. The educational significance of these videos is to enable readers to acquire knowledge quickly. Generally
speaking, the big data micro classroom is the inevitable result of the rapid progress of the informational age\cite{5,6}. It is also an important reform of college curriculum to adapt to the development of the times.

2. The main application form of big data micro classroom in aerobics teaching

Aerobics is one of the sports majors which requires high physical quality of athletes. It requires students to have a certain sense of rhythm and flexibility. Aerobics contains a lot of dance moves. It greatly tests people's memory.

2.1. Appreciation and self-study before class

The teaching method of aerobics is that students imitate after watching the teacher's demonstration action. After a period of practice and guidance, students can master the movements learned skillfully. The teaching video of aerobics in big data and micro class can help students complete the appreciation and self-study before class. The teaching video can be suspended, reversed and replayed at any time. This can effectively improve the ability of students' autonomous learning.

2.2. Targeted analysis and explanation in the learning process

The development and improvement of big data micro classroom brings great convenience for the targeted analysis and explanation of aerobics course. Big data micro class can decompose Aerobics movements. A complete set of aerobics can be divided into different periods of time for learning. Teachers can analyze some important and difficult dance movements through big data micro class. This way is conducive to students' absorption and understanding of knowledge.

2.3. Self-exercise and consolidation after class

Micro video can help aerobics students to do self-exercise and consolidation exercises after class. The teacher can make the overall movement and the decomposition movement of Aerobics into the teaching video. When students encounter unfamiliar difficult movements in the learning process of the classroom, they can do individual repetitive exercises after class. This way can help students better understand and accept the important and difficult content.

3. The construction of big data micro classroom in Aerobics Teaching

The construction of Aerobics major big data micro classroom needs to be determined according to the teaching resources and environment. Big data micro classroom gives full play to the effective role of digital media technology and Internet technology. It lays the foundation for efficient classroom learning. Teaching workers can make teaching plans according to the actual situation of teaching.

3.1. Teaching design

The design of big data micro classroom should be flexible and free. It does not need to cover the complete knowledge of gymnastics. It does not need to record the same teaching content repeatedly. Teachers only need to combine a certain knowledge point with classroom teaching to make videos, and send these videos to related websites. Students can make their own choices according to their own needs. However, the title of the video should be simple and clear. The content of the video should be explained
in detail. This kind of video is conducive to students' autonomous learning.

3.2. Making of teaching video

Generally speaking, it is very difficult to make the teaching video of big data micro classroom. The production of teaching video needs the support of teachers' strong computer knowledge. Video production mainly involves film editing, audio insertion and animation production. If teachers can use these technologies flexibly, they can make eye-catching videos. If the teacher's video teaching style is funny and humorous, students will be more willing to watch the teacher's video explanation.

Table 1. The technique of aerobics in an experiment

| Project           | Total score of sports | Individual total score |
|-------------------|-----------------------|------------------------|
| Experience group  | 78.352                | 31.825                 |
| Contrast group    | 76.325                | 29.435                 |
| Maximum gap score | 2.451                 | 2.841                  |
| Difference degree | <0.05                 | >0.05                  |

4. Analysis of the influence of big data micro class on Aerobics Players

The main advantage of Aerobics big data micro class is that it can help students master the movement technology of gymnastics faster. Through the video, students can preview before class (see Table 1). The detailed explanation and demonstration of teachers in class can help students integrate into the class faster. After class, students can also review through the downloaded video. There is no doubt that the emergence of this kind of Aerobics big data micro classroom has greatly improved students' interest and interest in learning aerobics.

Table 2. A comparative study on the physical quality of students

| Project          | long jump | vital capacity | Sit forward | 800m    | 50m    |
|------------------|-----------|----------------|-------------|---------|--------|
| Experience group | 164       | 2394           | 7.84        | 261     | 9.85   |
| Contrast group   | 161       | 2407           | 7.38        | 262     | 9.89   |
| Maximum gap      | 0.103     | 1.148          | 0.057       | -1.71   | -2.213 |
| Difference degree| <0.05     | >0.05          | <0.05       | >0.05   | >0.05  |

The quality of students' physical performance mainly depends on their deep understanding of aerobics. In the traditional process of learning aerobics, students should not only remember complex movements but also do aerobics with the rhythm of music. Sometimes the intervention of peers will also disturb students' thinking. The emergence of micro video gives students more learning time and space. This way can help students to complete the assessment smoothly.
5. Analysis of the influence of micro course on the physical health of aerobics students

The situation of students' health has always been a concern in the field of physical education. Practice has proved that the application of big data micro classroom has a very important impact on students' physical condition. In addition, the emergence of big data micro classroom strengthens the quality of classroom teaching. The study of Aerobics also strengthens the students' flexibility.

According to a large number of studies conducted by researchers, they found that the flexibility and coordination of students' bodies were greatly improved through repeated body stretching exercises. In addition, the improvement of standing long jump and sitting forward bending is significant. According to the research in the medical field, the study of aerobics can enhance the students' cardiopulmonary function and sports literacy.

6. Conclusion

Big data micro classroom is a trend and direction of future learning. At present, because the big data micro classroom has just been introduced into China's teaching field, teachers have little understanding of it. Fortunately, the application of big data micro classroom in aerobics teaching has obvious advantages over traditional teaching methods. However, how to realize the effective combination of big data micro classroom and traditional teaching thinking is still an urgent problem in the education field.

References

[1] Du, Lin Ying. Experimental Research on Integration Teaching of inside and outside Aerobics Classes Based on Multimedia Technology[J]. Applied Mechanics & Materials, 380-384:2109-2113.

[2] Fan, Chao. Research on Remote Aerobics Network Learning System Based on B/S[J]. Applied Mechanics & Materials, 484-485:891-895.

[3] Lv, Li. Research on Aerobics Movement Choreography Based on Embedded Network Technology[J]. Applied Mechanics & Materials, 556-562:5685-5689.

[4] Yingbao Zhou. A Multimedia Teaching System with Special Acoustic Effects in the Course of Aerobics[J]. International Journal of Emerging Technologies in Learning, 2016, 11(10):31.

[5] Zhao, Hua, Fei, Yang, Li, Chao. Empirical Analysis on Aerobics Multimedia Teaching Based on Interactive Mode[J]. Applied Mechanics & Materials, 380-384:2901-2905.

[6] Aina B. Granath, Margareta S.E. Hellgren, Ronny K. Gunnarsson. Water Aerobics Reduces Sick Leave due to Low Back Pain During Pregnancy [J]. Journal of Obstetric Gynecologic & Neonatal Nursing, 2006, 35(4):465-471.