

Research on the Application of Flipped Classroom Teaching Mode Based on Network in College Physical Education

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Abstract: “Internet + Education” is an Important Topic in the Field of Education. with the Deepening of Classroom Teaching Reform, More and More Researchers Are Paying Attention to the Flipped Classroom Model. Relying on Internet Technology, This Mode Has Changed the Traditional Learning Habits of Students, Increased the Interaction between Teachers and Students, “Learn First, Guide Later” and “Get Familiar First, Then Master” Have Become a New Trend. as a Subject with Strong Operability, Physical Education Should Not Only Ensure the Students to Master Sufficient Theoretical Knowledge, But Also Emphasize the Standard Skill Training. Flipped Classroom Effectively Breaks the Limits of Physical Education Content, Helps Students to Increase Learning Experience, Improves the Practical Effect of Physical Education, and is Conducive to the Curriculum Reform of Physical Education in Colleges and Universities.

1. Introduction

Flipped Classroom is a New Model of Information Education, Which Was First Proposed by Jonathan Bergman and Aaron Sam, Teachers of Woodland Park High School in the United States. It Refers to the New Education Method That Teachers Provide Micro Video and Other Teaching Resources, Students Learn Independently after Class, and Then Finish Homework Together in the Classroom[1]. This Kind of “Hybrid Learning Mode” Which Takes into Account Both Network Teaching and Actual Teaching, Shortens the Distance between Teachers and Students, and Pays Attention to the Personalized Development of Students. Physical Education is an Indispensable Part of Higher Education. Compared with Other Professional Courses, It Emphasizes the Practicality of Students More[2]. Due to the Limitation of Time, Venue, Course Materials and Other Factors, Physical Education Often Can Not Guarantee the Final Training Effect of Students. the Flipped Classroom Model Provides a New Idea for College Physical Education: through Sufficient Preparation Before Class, Increase Training Opportunities in Class, Expand Training Effect after Class, Change the Shortcomings of Traditional Teaching.

2. Advantages of Physical Education Teaching in Colleges and Universities under Flipped Classroom Mode

2.1 Teach Students According to Their Aptitude and Pay Attention to Their Experience

In traditional physical education, teachers are the main body of teaching content. According to the syllabus and textbook knowledge, it is difficult to catch the differences between students. In the flipped classroom mode, teachers use the network platform to release the teaching content in advance. Students no longer passively accept the course teaching, but actively explore the relevant knowledge of sports. The teacher turns from the controller of the classroom to the leader and supporter to support and guide the students' learning[3]. The network platform is not limited by the learning time and learning place. Students can give full play to their subjective initiative, adjust the playing speed, increase the action discussion, practice the action essentials, reserve questions according to each person's actual situation, and then solve them in the classroom. Teachers also

change from facing the whole class into one fresh individual after another, truly teaching students in accordance with their aptitude.

2.2 Optimize Structure and Improve Teaching Quality

The goal of physical education is to train students to develop the ability of “lifelong physical education”. Therefore, it is not only necessary to enrich the basic theoretical knowledge of students, but also more important to form stable sports skills by teaching movement technology. Flipped classroom adopts the method of combining online and offline to further optimize the structure of physical education content[4]. On the one hand, micro video can obtain a large amount of knowledge base and deepen the understanding of the principle of sports. Students can feel the action essentials more intuitively by watching the competition video of excellent athletes. On the other hand, a lot of preparation before class saves the teacher's explanation time and leaves more space for practical training. The study of physical education course depends on the constant repetition of the body. After video impression, centralized training and professional guidance of the teacher, the students finally master the standard action essentials. The coupling degree of theoretical teaching and practical training is more harmonious.

2.3 Objective Evaluation and Enrichment of Education Standards

The evaluation standard of quality education can't only be score theory, and the implementation of flipped classroom embodies this connotation. The results evaluation of physical education teaching not only pays attention to the results of students' in class evaluation, but also includes the attitude and method of students' extracurricular learning, the understanding degree of relevant knowledge and the evaluation criteria are more objective. Under the flipped classroom model, the evaluation of physical education focuses on the evaluation of students' learning process[5]. It combines the process evaluation, teachers' evaluation, students' self-evaluation, group mutual evaluation and other comprehensive factors, adds the evaluation of students' extracurricular learning electronic files, and makes a three-dimensional evaluation of students' learning effect. In addition, teachers can give feedback on the evaluation results in time to help students recognize the knowledge blind spots in the current stage, so that students can make further efforts in the next learning.

3. The Teaching Strategy of Physical Education in Colleges and Universities under the Flipped Classroom Mode

The introduction of flipped classroom in college physical education is an active exploration of advanced educational concepts. This new mode pays attention to the combination of theory and practice, pays attention to the development of students' personality, emphasizes learning attitude, learning interest and innovative thinking, which is of great help to the public physical education in China. According to a survey of flipped classroom network abroad, online education on the Internet has significantly improved classroom teaching. Teachers can have more opportunities to conduct one-to-one guidance with students, and better lead the pace of teaching. Then, the specific strategies of College Physical Education Teaching under flipped classroom become the focus of this paper.

3.1 Provide High Quality Teaching Materials

The most significant feature of flipped classroom is to increase extracurricular video teaching. This way is intuitive, easy to operate, in line with the habits of modern college students reading information, and gradually popular in physical education teaching[6]. This requires physical education teachers to be able to combine the teaching courses, select high-quality video content for students to learn. The digital age contains a large amount of knowledge base. Physical education teachers should use their professional knowledge to identify effective, scientific and suitable video content for physical education teaching. In addition, in order to stimulate students' interest in learning, it is more conducive to attract attention to select videos related to famous sports events and sports stars. In addition to the integration of video resources, qualified teachers can try to

process and make independently, embed the teaching explanation directly into the original video, and better express the key points of knowledge.

3.2 Increase Students' Enthusiasm for Participation

Traditional physical education classroom teaching is usually carried out in accordance with the book, students can only passively accept knowledge explanation, which greatly hurts the enthusiasm of learning. The flipped classroom model increases the participants, the teachers no longer play a leading role, and releases enough learning space. Then, making an effective learning framework can stimulate students' enthusiasm for active learning[7]. Teachers can teach students how to use the advanced online education platform to show the cutting-edge courseware such as AR demonstration and 3D animation to students; require students to make learning goal plans and record the learning results of different stages in the form of “data punch”; encourage physical education learning to be carried out in groups, and improve their autonomy through mutual help, competition and supervision Practical ability of learning.

3.3 Improve the Construction of Digital Platform

The effective development of flipped classroom is inseparable from the construction of digital platform[8]. With the development of digital technology, online education has become possible. Information sharing, user interaction and timely communication have greatly shortened the distance between students and teachers and achieved good educational results. At present, the flipped classroom teaching in many colleges and universities stays at the primary stage. Students copy videos to teachers through USB flash disk, and then import them into personal computers for learning. In fact, colleges and universities can rely on Internet technology to open up networked classrooms and build online education digital platforms, which can not only upload teaching materials and video resources, but also have the functions of learning monitoring, evaluation feedback, simulation exercise, achievement display, etc. In view of the physical education curriculum teaching, a special virtual practice space is opened up to test the learning results of students' physical actions at any time. Only by improving the technical means can we ensure the implementation of flipped classroom.

Table 1 Expert Validity Test of Exercise Attitude Scale

Title	validity	Very high	higher	commonly
professor	Content design	4	0	
	Measurement design	2	2	
	Each item reflects	3	1	
associate professor	Content design	8	1	
	Measurement design	6	1	2
	Overall evaluation	7	1	1

3.4 Research on the Application Theory of Flipped Classroom in Physical Education

Flipped classroom is a new mode of “Internet + education”, which has a great impact on college classroom teaching. However, the application of this mode in college physical education teaching is still relatively small, and the specific cases of teaching guidance are very limited, which makes college physical education teachers, although they have mastered advanced education concepts, can not put this concept into practice. Moreover, the flipping mode originated from foreign countries, which is different from the domestic teaching environment, teachers' resources and students' quality. It is possible to directly misappropriate the teaching courses of the other side, which may have the opposite effect. For example, how to make online video teaching and practical skills training more integrated, most of the research stays at the primary stage, lack of systematic, programmatic and effective promotion courses, which is not conducive to the curriculum innovation of higher physical education.

4. The Design of College Physical Education Curriculum under the Flipped Classroom Mode

The flipped classroom design of college physical education course is not only the same as the conventional flipped classroom, but also different. In the specific teaching process, it is necessary to modify the teaching content in time according to the students' learning situation, so as to form a complete, coordinated and interrelated three-dimensional teaching system before, during and after class[9].

4.1 Preparation Before Class

In the pre class preparation stage, teachers should make clear teaching objectives and plans according to the syllabus. On the one hand, teachers need to sort out the knowledge points listed in the curriculum and design the targeted sports training direction. On the other hand, the teaching content is made into ppt courseware, and relevant technical actions and representative characters are saved in the form of video and three-dimensional animation. For teaching tasks with great technical difficulties, such as 100m hurdles, pole vault, etc., the most advanced hot spot induction technology is used to help students understand the details of actions. Flipped classroom focuses on cultivating students' awareness of autonomous learning, so students should form good habits of preview, collect information in advance, carry out group communication, and establish a preliminary impression of physical education curriculum in their mind. After obtaining the learning resource package through the network platform, students should carefully watch the courseware according to the learning task and process guide assigned by the teacher. Then according to their own understanding of the action essentials, through the virtual system while practicing familiar.

4.2 Interaction in Class

Interaction in class is that students ask questions, teachers give guidance, and master knowledge essentials through specific physical exercises. Generally speaking, interaction is divided into two stages. In the first stage, the teacher will quickly show the teaching contents to the students according to the established outline, including demonstration actions, explanation principles, video demonstration, etc. Students will ask questions to teachers according to the problems encountered in the preparation process, and teachers will improve students' ability to find and solve problems through normal practice and question answering. In the second stage, the students are divided into several groups according to the types of questions, and the members of each group focus on the internal discussion and correct the wrong actions in time. In the third stage, when all the students have completed the exercises, the teacher should lead them to exchange their learning experience, summarize the existing problems and provide reference for the next course. The teaching process is not a faithful implementation process according to the original plan, but a flexible creation process. The goal of classroom interaction is to internalize knowledge, but it should focus on students' learning attitude, learning interest and innovation ability.

4.3 After Class Consolidation

In traditional physical education classroom teaching, teachers need to test the results of each student in the classroom, sometimes there will be a "one shot" phenomenon. With the help of flipped classroom, students can use the virtual platform to upload the best results of personal training in the form of video, so as to avoid the tense state of mind due to instant feedback, resulting in irregular movements and postures. According to the results of video feedback, teachers will communicate one-to-one in a timely manner, pointing out the problems of students; students will then improve the action essentials according to the guidance of teachers. With the help of network platform, it not only increases the opportunities of interaction between teachers and students, but also ensures that students keep the action essentials in mind. What's more, the flipped classroom regards the in class, in class and after class as a continuous learning process. It not only evaluates the sports skills mastered by the students, but also considers the students' learning attitude, learning methods, extracurricular learning frequency and other comprehensive factors to maximize the effect

of sports teaching.

5. Conclusion

Physical education in Colleges and universities gives full play to the advantages of flipped classroom model, uses Internet technology, transforms one-way knowledge into two-way interaction between teachers and students, combines the theoretical basis of physical education with the practice of physical training, and regards the cultivation of students' skills as a continuous learning process, effectively making up for the shortcomings of current physical education teaching model. Under the background of the integration and development of "Internet + education", physical education in Colleges and universities should pay attention to the research of scientific theory and educational practice, promote the construction of learning resources and digital platform, explore the benign interaction strategies between teachers and students, and make physical education truly become lifelong teaching.

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