

Exploration and Innovation of College Physical Education Teaching Based on "Flipped Classroom"

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Abstract: In order to further improve the quality of university physical education teaching, this article, based on the theoretical perspective of "flipped classroom", mainly adopts the methods of literature review, practical research, and logical analysis to explore and study the plan, value, and strategy of implementing flipped classroom teaching in university physical education teaching at Hankou University. The research results indicate that the application of flipped classroom in physical education teaching can effectively solve the typical problems in current physical education teaching, improve the learning effectiveness of students in this course, change their learning and thinking patterns, and help improve their comprehensive quality and social skills. In the application process of flipped classroom in physical education teaching, it is necessary to solve the construction of online virtual physical education teaching platforms, pay attention to the diversified flipping of physical education curriculum evaluation subjects and methods, and focus on the comprehensive improvement of physical education teacher's literacy and abilities.

Keywords: University Sports; Flipped Classroom; Teaching

1. Introduction

Flipped classroom, also known as flipped classroom, is a product of the information society, and educational technology is an important basis for implementing flipped classroom. The traditional teaching process includes two stages: knowledge transmission and knowledge internalization. Knowledge transmission is achieved through classroom teaching by teachers, while knowledge internalization requires students to complete it through homework, practice, or practice after class. When this form is subverted, knowledge transmission is completed through video

playback outside of class, and knowledge internalization is completed with the help of teachers and classmates in the classroom, forming a flipped classroom. Flipped Classroom originated in the United States. In 2007, chemistry teachers Jon Bergmann and Aaron Sams at Forest Park High School in Rocky Mountains, Colorado, began recording PowerPoint presentations and lecture sounds, and uploading videos online to help absent students make up for classes. Later, these two teachers allowed students to watch instructional videos at home, complete homework in class, and provide explanations to students who encountered difficulties in learning. This teaching model was widely welcomed by students.

This educational model has caused widespread reflection and discussion in the education industry in China since 2012. Since 2013, some higher education institutions have begun to introduce this model in classroom teaching. In the context of the "Internet+" era, the flipped classroom teaching mode has shown a rapid development trend with the help of cloud service technology. Research in the past decade shows that theoretical research on flipped classroom in the sports field has grown rapidly, but empirical research is rare. Especially in the context of today's thematic education, how to introduce physical education teaching covering the ideological and political content of the curriculum into flipped classroom and how effective it is after the introduction, Further exploration and demonstration are required through teaching practice.

2. Research Methods

2.1 Literature Review Method

Based on the search period from 2010 to 2024, with keywords such as "flipped classroom", "physical education teaching", "teaching mode", "teaching reform", and "teaching evaluation", and core journals as source categories, a total of

266 relevant literature were collected from the China National Knowledge Infrastructure (CNKI) database. According to research needs, 15 of them were selected as reference points, and the research progress on physical education teaching and flipped classroom at home and abroad was preliminarily grasped. The core values and implementation strategies of introducing flipped classroom into physical education teaching in China have been theoretically summarized.

2.2 Expert Interview Method

Based on the issues identified in the research, interviews were conducted with 19 experts from Hankou University, Central China Normal University, and Wuhan Institute of Physical Education to inquire about the reform and development of physical education teaching, the connotation, implementation steps, core values, challenges faced, and research value of this topic. The interview results were systematically integrated and logically analyzed.

3. Implementation Steps and Plans for Flipped Classroom

3.1 Organizational Plan Design for Flipped Classroom in University Physical Education Courses

The implementation stage of flipped classroom consists of pre class, in class, and post class, with online communication between teachers and students running through the entire teaching process. Before class, the teacher releases relevant teaching resources to the online teaching platform based on the course objectives and content, and supervises students to carry out pre class learning through online guidance, online testing, online homework release, and other methods; During class, the teacher will provide explanations based on the students' pre class mastery, or organize students to discuss problems, showcase learning outcomes, and engage in various learning practices, in order to achieve the goal of deepening learning outcomes; After class, teachers reflect on the problems in teaching and improve the next steps of teaching. Students reflect on their learning process, further consolidate their learning achievements, and exchange feedback with physical education teachers on the problems in learning.

3.2 Teaching Design of Flipped Classroom in

Physical Education Curriculum

Flipped classroom changes the roles of teachers and students in traditional teaching by reversing the arrangement of knowledge transmission and internalization, and re plans the use of classroom time, achieving innovation in traditional teaching models. In flipped classrooms, information technology and activity-based learning create a personalized and collaborative learning environment for learners, which helps to form a new learning culture. In order to achieve effective teaching results in flipped classrooms, the first step is to provide a teaching design model with practical guidance, integrate various teaching resources in the learning process, and provide services for learners to engage in self-directed learning before class and collaborative learning during class.

3.2.1 Selection of Teaching Content for Flipped Classroom in University Physical Education

This project aims to explore the feasibility and plan of implementing flipped classroom in university courses. In order to facilitate the comparison of teaching effectiveness, only a portion of the content was selected for exploratory attempts, mainly in martial arts and fitness exercises.

3.2.2 Selection of teaching objects and teaching organization arrangements for flipped university physical education classrooms

At present, the university physical education courses offered by Hankou University mainly include Tai Chi, Changquan, badminton, basketball, football, volleyball, fitness exercises, yoga, Tai Chi Kung Fu fans, darts, etc. The first grade is taught in natural classes, while the second grade is taught in elective classes. To ensure the effectiveness of the class, the number of students in each teaching class ranges from 35 to 40. Therefore, during the implementation process of this project, the selection of class size was conducted using teaching classes for experimentation. On the one hand, the teaching effect can be compared with other parallel teaching classes, and at the same time, problem feedback will be more fully grasped. Students can be divided into 5-6 groups to learn around the unit content. Classroom teaching usually lasts for 90 minutes per class. Students can use 70 minutes to complete the "questions" arranged by the teacher, while the teacher uses 20 minutes to give lectures and comments on difficult knowledge points. During the process of classroom discussions and problem-solving

among students, teachers can use 5-10 minutes to discuss and guide students in each learning group, enhancing interaction between teachers, students, and students.

3.2.3 Production of classroom videos

University physical education courses have excellent courses and abundant online video resources in well-known universities such as Wuhan University and Huazhong University of Science and Technology. Reasonably utilize online resources and create a small portion of "micro lesson" videos to explore students' learning outcomes and reactions.

3.2.4 Evaluation of student learning outcomes

Firstly, a comparison of the learning effectiveness of parallel chapters. The content system of ball sports is very similar, and the learning effect can be compared; Martial arts, aerobics, yoga, etc. also have similar attributes and adopt relatively similar learning effectiveness standards. Secondly, compare the learning outcomes between parallel classes. By obtaining exam results, one can generally understand the learning outcomes between parallel classes; Comparison of learning outcomes with students of different grades in the same major. In addition, in order to improve teaching effectiveness, the number of teachers teaching different majors in the physical education research group of Hankou University is basically fixed. The same teacher has been teaching the same major for many years, and the student's state and learning effectiveness can also be compared vertically.

4. Analysis of the Value of Introducing Physical Education Teaching into Flipped Classroom

The value of teaching modes ultimately lies in their effectiveness in teaching effectiveness. If a teaching model can not only effectively solve the problems in current curriculum teaching, but also further improve the quality of talent cultivation, it is naturally a good teaching model. Therefore, the value judgment of introducing physical education teaching into flipped classroom is based on clarifying the typical problems in current physical education teaching, and on this basis, exploring whether flipped classroom can effectively solve these problems and effectively improve the quality of physical education teaching is in line with logic.

4.1 Improving the learning effectiveness of

students in this course

At present, in the teaching of physical education courses in universities, the traditional teaching method is still mainly based on teachers teaching in class and students practicing after class. By gradually introducing the teaching concept of flipped classroom into traditional teaching methods, some chapters focus on extracurricular learning for students. In the classroom, students are guided to practice correct actions based on their existing problems, which not only stimulates their learning interest but also quickly improves their learning effectiveness.

4.2 Changing Student Learning and Thinking Patterns

The initial idea of "flipped classroom" was based on the basic thinking of "student-centered". The result not only innovates teaching methods, but also flips the traditional teaching structure, teaching methods, and teaching models, establishing a more thorough student-centered teaching approach. Teachers rise to the level of organizers, helpers, and directors of student learning. Students have always adopted exploratory learning and project-based learning. This teaching model changes the learning mode of students and ultimately will also affect their thinking patterns.

4.3 Beneficial for improving students' comprehensive quality and social skills

At present, most college students are only children, and this living environment has created many isolated and independent students. The flipped classroom teaching method combines actions as a unit and organizes students for classroom and extracurricular learning. This will create topics and atmosphere for interaction and communication between students, teachers, and students, and cultivate their teamwork and social skills. Simultaneously flipped classroom teaching organizes classroom learning through action combinations. The amount of information in the videos provided by teachers is far from enough to meet the needs of students to complete projects, which forces students to enter the library and the internet to collect information, invisibly improving their ability to collect and filter information. At the same time, the completion of different combinations of actions requires students to creatively utilize the information obtained, ultimately promoting the improvement of their innovation and

self-learning abilities, and ultimately enhancing their comprehensive literacy.

5. Application Strategies of Flipped Classroom in Physical Education Teaching

5.1 Building a Good Online Virtual Physical Education Teaching Platform

The characteristic of physical education courses is to integrate knowledge and skills. Knowledge based physical education learning materials are mainly used in the form of PPT, WORD, and audio on virtual teaching platforms, while skill based learning materials are mainly achieved through physical education teaching micro videos and animations. Various sports teaching materials are closely related and complementary to each other. After processing, they should be concise and informative, especially sports teaching materials such as micro videos and animations. They should be clear and concise, and attention should be paid to showcasing sports skills, tactics, and physical exercise methods and means from different dimensions, so that students can imitate and understand the learning essentials. The display of the learning outcomes of group physical education courses is a self affirmation of the effectiveness of physical education learning by students. It can not only enhance their confidence and interest in learning physical education courses, but also improve their teamwork awareness and communication skills.

5.2 Emphasize the Diversified Flipping of the Evaluation Subjects and Methods of Physical Education Courses

The evaluation mechanism of physical education courses in the classroom teaching mode has innovation in both the evaluation subject and the content and methods of evaluation. As for the subject of evaluation, physical education teachers are no longer the only scorers. Group members and individuals become participants in the evaluation, with individual evaluation, group evaluation, and physical education teacher evaluation each holding a certain weight, ultimately forming a comprehensive learning evaluation result; In terms of evaluation content, sports skills and knowledge are still important aspects of assessment, but the scoring criteria are no longer entirely based on unified sports knowledge and skill scoring standards. More consideration is given to the degree of progress

made by students through physical education courses. In addition, the performance of students in physical education courses, the learning situation in online physical education classrooms, the online test results of physical education knowledge and skills learning, and the presentation of group physical education learning results are all related to the final evaluation results. Overall, the evaluation of physical education teaching in the flipped classroom model is a comprehensive result that combines macro and micro evaluations, physical education teacher and student evaluations, online and offline evaluations. The evaluation process is more people-oriented, and the evaluation results are more authentic, comprehensive, objective, and fair.

5.3 Emphasize the Comprehensive Improvement of the Literacy and Ability of Physical Education Teachers

No matter what kind of educational and teaching reform, teachers are always the core and key to the success or failure of the reform. Every implementation of teaching reform requires qualitative improvement of teachers' literacy and abilities, which is the guarantee for the smooth progress of teaching reform. In the process of contemporary physical education teacher education, attention should be paid to a training model that combines external promotion and self development, establishing an integrated physical education teacher training system that integrates pre service training, onboarding education, and post service training. At the same time, special attention should be paid to the value orientation of balancing personality traits and professional traits in physical education teacher training, which is a guarantee for promoting the continuous improvement of the comprehensive literacy and ability of physical education teachers. In flipped classrooms, students do not learn without organization or freedom, but engage in exploration activities or discussions in carefully designed classrooms. Various physical education teaching designs are closely centered around "learning as the center". Students start from learning physical education knowledge and skills before class, internalizing physical education knowledge and skills in class, and then consolidating and summarizing physical education knowledge and skills after class, It is always inseparable from the careful planning and organization of physical education teachers.

Compared with traditional physical education teaching, flipped classroom has higher requirements for physical education teachers in terms of quality and ability. Physical education teachers must have a deep understanding of this model and make adaptive changes. Only in this way can the implementation of flipped classroom in physical education teaching be possible.

6. Conclusion

Flipped classroom is a new concept, method, and model, which is the result of the adaptability of educational and teaching forms to the information society. The application of flipped classroom in physical education teaching not only effectively solves the typical problems in current physical education teaching, but also helps to improve the quality of physical education teaching. When implementing flipped classroom in physical education teaching, the pursuit of physical education teaching effectiveness should be taken as the fundamental. If the pursuit of form is excessive and the effectiveness of physical education teaching is ignored, the implementation of flipped classroom in physical education teaching will be meaningless. In today's advocacy of physical education teaching reform, studying flipped classrooms and introducing them into physical education teaching is an exploratory attempt. In the early stages of practice, various problems may inevitably arise. It is necessary to dare to face the problems and challenges, closely monitor the development status of flipped classroom teaching mode, and actively explore the obstacles and advantages of applying this mode in physical education teaching based on practical work, continuously summarizing and improving in physical education teaching practice, in order to promote the rapid transformation of physical education teaching in China and the continuous improvement of physical education teaching quality.

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