



Guideline of Integration Flipped Classroom and Peer Teaching Method and Peer Teaching Method to Improve the Tennis Learning Outcome of Students at Wuhan Sports University, People's Republic of China

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Abstract

Background and Aims: This paper peer teaching flip classroom in ordinary colleges and universities influence the teaching of tennis, tennis class has become the main way for students to keep healthy vitality, with the progress of school sports development, university tennis sports teaching social influences is also increasing, in the whole university education system plays a more and more important role. To promote the reform and sustainable development of tennis courses, we will continue to improve the teaching methods of tennis sports in colleges and universities, and change the methods of teacher training, to better meet the educational needs of all sectors of society. Combine flipped classrooms with peer teaching methods and peer teaching methods, and improve the tennis learning results of students at Wuhan Sports University. This research aims to (1) survey the problem and obstruction of tennis at Wuhan Sports University, (2) Construct a tennis-flipped classroom draft guideline, and (3) confirm the tennis-flipped classroom draft guideline

Methodology: The research results show that the mutual teaching of friends can make students more progress, and see what the teachers cannot see, the use of flipped classrooms can make students' physical quality and tennis technology learning effect more obvious compared with the traditional teaching methods.

Results: The research results show that the mutual teaching of friends can make students more progress, and see what the teachers cannot see, the use of a flipped classroom can make students' physical quality and tennis technology learning effect more obvious compared with the traditional teaching methods.

Conclusion: Cultivate students' self-control ability. The implementation process of flipped classroom teaching requires students to conduct it before class Watching video learning, some students have poor independent learning ability before class and do not follow the requirements of teachers. Following this, in the learning process should take the initiative to cultivate students' interest, so that students have internal motivation, teachers can be in class, the students should check the learning situation before class, supervise the students who do not complete, and take some measures to encourage students to take the initiative to study. Improve teachers' teaching ability and teaching quality. In the rapid development of the information age, flipped classroom teaching the success of learning cannot be separated from excellent teachers, and physical education teachers must be adaptable in teaching ability and teaching quality. Flipped classrooms should focus on process control. Before class, the recorded teaching video should be in line with the student's current learning level; in class, select the appropriate teaching method, and complete the teaching task, teachers should be each teaching link Reasonable control of time so that students can complete the teaching goal through efforts; urge students after class Practice, do a good job after class study check, pay attention to the control of each link.

Keywords: Guideline of Instigation Flipped Classroom; Peer Assist Teaching Method; Tennis

Introduction

Flipped classroom and peer teaching are two instructional strategies that have gained considerable attention in recent educational research. The flipped classroom approach involves restructuring traditional teaching methods by delivering instructional content outside the classroom through online resources, such as videos or readings, and using class time for interactive and collaborative activities. On the other hand, peer teaching involves students taking on the role of instructors to teach their peers, fostering a collaborative learning environment. Integrating these two methods can enhance the overall learning experience by combining the benefits of self-directed learning with the social interaction and support provided by peer teaching.

Research suggests that the integration of flipped classrooms and peer teaching methods can contribute to improved student engagement, critical thinking skills, and knowledge retention (Bergmann & Sams, 2012; Topping, 1996). By flipping the classroom, students have the opportunity



to engage with content at their own pace, promoting individualized learning. Peer teaching adds another layer of interaction, allowing students to not only learn from their peers but also develop communication and leadership skills. The combination of these two methods creates a dynamic learning environment that encourages active participation and collaboration among students. Moreover, the integration of these strategies aligns with the constructivist theory of learning, emphasizing the importance of social interaction and student-centered approaches in the educational process (Vygotsky, 1978). In summary, the integration of flipped classroom and peer teaching methods offers a comprehensive and effective approach to promoting student-centered learning and fostering collaborative skills in the educational setting.

Tennis, as a sport with profound cultural heritage, elegant attributes, high health, and social value, has become an important fitness and leisure entertainment program for contemporary college students and is an important content of students' extracurricular exercise and physical education in schools. College tennis in the process of development generally exposed the existing development conditions and tennis demands increasing contradiction, the reality has become an important problem of college sports, and the development of body teaching fusion background for the development of tennis ushered in the new machine, can effectively solve these problems in the theoretical and practical level.

Development so far, the definition of the flipped classroom and peer teaching method has experienced a more and more clear evolution process, namely by the simple mix of online teaching and face-to-face teaching, evolved based on mobile communication equipment, online teaching environment, classroom real-time feedback of teaching content, teaching methods, teaching methods, teaching environment of multiple mixed. Therefore, the design and implementation of flipped classrooms and peer teaching methods are highly flexible for different disciplines and majors based on different goal orientations. Teachers must coordinate the resources, platforms, and methods of flipped classroom and peer teaching methods according to the expected teaching objectives.

According to the current research and analysis of flipped classroom and peer teaching method teaching, no matter theory or experiment, at home or foreign, the students have generally a better understanding of professional knowledge and technology than the conventional way, which shows that flipped classroom and peer teaching method teaching is universal to some extent. Through the study of tennis theory and technology, practical teaching experience, and the current situation and deficiency of tennis teaching under traditional teaching.

Objectives

1. To survey the problem and obstruction of tennis at Wuhan Sport University
2. To Construct a tennis-flipped classroom draft guideline
3. To confirm the tennis flipped classroom draft guideline

Literature Review

Professor Yang Jiumin in the "Application Research on the Flip Class of Micro Video Resources in Scientific Experiments — An Example of Examination of" (Yang, 2013) Modern Teaching Information Technology "Teaching Experimental Topics" details the "Modern Teaching Information Technology" in practical courses in teaching the main problems existing, and based on the above main problems, have carried out the practice of flipping classroom teaching from the perspective of case analysis. Through years of practice inquiry, the feasibility of turning the classroom teaching method into "modern education technology" in public courses can promote the mastery and deepening of knowledge points and effectively mobilize the interests and hobbies of learners, improving the autonomy of learners' autonomy Mastering the power.

Dr. Pan Bingchao, in the "Inquiry of the" Inquiry of the "Flip Class" on the Negative Impact of the Classroom Effects of Colleges and Universities " (Pan, 2014), conducted a comparative inquiry of the traditional teaching methods of Chinese lectures and turning the classroom through the reality of teaching. The survey showed that the scores of the class under the class of flipping classrooms



exceeded the traditional teaching method in the basic education stage, indicating that the school tends to flip the classroom teaching because this teaching can mobilize students' learning motivation and then cultivate the ability of independence and cooperation, but in it, the teaching effect of concepts and principles is not as good as traditional teaching effects.

Long Qian in the "Empirical Empirical in" Flip Class "in Information Technology Quality Education Course" (Long, 2014) -in-depth study of flipping classroom teaching, integrating existing flipping classroom teaching at home and abroad, and combining the characteristics of the "information technology literacy series of lectures" and Chinese high college students. The learning status has designed new teaching methods for flipping classrooms, and through empirical surveys in the past semester, research has found that in the implementation of new courses, the sense of self-development of learners has gradually increased, and the enthusiasm for learning has developed. Therefore, their learning performance is significantly improved.

Professor He Wentao pointed out in the Discussion (He, 2014) on flipped Classrooms and Education Implementation, in C Language Programming that Flipped classrooms can be well adapted to the different needs of different types of learners. Before making full use of the existing resources in addition, flipped classroom breaks through traditional teaching, improves learners' awareness of independent learning and cooperation, and cultivate their creativity. However, it applies to different teaching contents and requires more teachers and students.

Yang Xin and Zhao Xuesong put forward (Yang, 2018) the reconstruction and Implementation of Teacher Roles under the Flipped Classroom Teaching Mode The implementation methods of teacher role reconstruction in the transfer classroom include a correct understanding of flipped classroom beliefs and reasonable design of flipped classroom Activities, actively help students to change their learning methods, take students as the main body of flipped classroom evaluation, and actively establish them The new teacher-student relationship under the flipped classroom.

The research of flipping classes has emerged earlier abroad. It was originally an important achievement of Americans in the course of "Introduction to Economics". But since then, the teaching methods of turning the classroom have become more and more popular in the United States. Under this teaching method, teachers need to use online and multimedia to produce teaching videos or documents required for knowledge points in advance. Students can preview and learn in advance before class. In teaching, teachers pay attention to explaining the main problems and main knowledge points faced by each student when using the curriculum, discuss with each student, and improve students' ability to learn interests, and explore scientific knowledge, to complete the teaching work goals, effectively and improve quality and benefits. In 2007, Jon Bergmann and student Aaronsams of Minnesota Forest Park Middle School in the United States tried to record videos in class to help students who have asked for leave to better follow up the process of curriculum teaching and made a video uploaded to the Internet to the Internet Let students who ask leave can see their missing classes at home. Because the effect was significant, the two teachers also applied this teaching method to each school. Soon after, such teaching videos were widely circulated and received more attention. In this way, more and more teachers are willing to use online videos to teach students outside the class and return to classroom teaching to start inquiry, exchange, and practice. Teachers help to learn

Difficulties in life. Therefore, the two teachers also won the Presidential Mathematics and Science Award, and the Forest Park Middle School was considered the birthplace of the flipping class. The publishing of Education Revolution in the Education Revolution in the Education Revolution in the Internet Age in its work "The Education Revolution in the Internet Age" in its work, it not only provides new inspiration and ideas for educators in various fields but also gives the teaching belt in the information age new vitality. Inspired by them, many educators will conduct localization of flipping class and actively apply them to teaching classrooms, which not only helps learners establish confidence in responding to problems, and enhances the courage of learning beliefs and challenges, while at the same time, but the same time Effectively develop localized education methods that adapt to different cultural backgrounds and habits, thereby improving the teaching effect



In Liang Ming's Research on the Design of a College Physical Education flipped Classroom Based on a Virtual Environment, (Liang, 2018) College physical education major students conduct a practical study of the flipped classroom. In the analysis of flipped classroom history and theory present based on the form, its role in the university physical education teaching is discussed more comprehensively. In theory and square based on the law research, the physical education system of colleges and universities is constructed, and the preparation before class, the interaction, and class are extended After the consolidation of the three aspects of the analysis, to promote the comprehensive development of physical education teaching in colleges and universities.

Zhu Jing and Jiang Jingjing elaborated in the study on the Reform and Practice of Public (Zhu, 2022) Sports flipped Classrooms in Universities The problems in physical education include the lack of communication between teachers and students and the lack of autonomy Enough, the content of learning before class is not comprehensive enough, and put forward suggestions, requiring physical education teachers to think of lifelong learning Think, strengthen their quality, to better answer questions for students.

Zhang Dongsheng (2021) will discuss the application of the "flipped classroom" teaching mode in higher vocational physical education teaching (Wang, 2019) The significance of transferring classrooms to higher vocational physical education, discovering the relationship between new teachers and students, collecting teaching resources, developing a new classroom teaching mode, and put forward the theoretical basis for the application of flipped classroom.

Professor Wang Guoliang believes in the Empirical Study of Public Physical Education in Flipped Classrooms (Wang, 2019) that the core value of flipped classrooms in sports courses is that more can be added through the combination of physical education and information technology The courses more exercises can best combine the elements of traditional physical education. Can be used in traditional sports Education in the course internalizes students' sports knowledge and skills by promoting the development of information technology This paper analyzes the difference between flipped classroom teaching and traditional sports classroom teaching methods, and compares it with traditional sports classroom, Teaching in flipped classroom is more conducive to students 'mastery of sports skills, and to cultivate students' creativity and learning The student's exercise attitude has a positive impact on the.

Chen Qi mentioned in the "Research on the Nourishing Function of Tennis Courses in Colleges and Universities" that many teachers have learned the knowledge of previous schools in the process of physical education, such as procedures, layers, decomposition teaching methods, etc. The content of the law is very detailed, but it is too messy and is not conducive to students 'absorption; especially in classroom teaching is relatively single, lacks practicality, and is not conducive to students' acceptance; classroom teaching form is boring and tasteless. Decreased and unable to stimulate students' interest in learning. Over time, it faded the relationship between physical health and technical learning. Therefore, many teachers 'teaching in the classroom is blind, without targeting Ness. It is not conducive for students to master the skills of learning. It greatly reduces students' learning quality.

Wang Yong in the flipped classroom teaching mode in colleges and universities (Wang, 2019): flip the classroom the most basic definition is "the original knowledge transfer process in class to finish before class, and knowledge absorption and digestion process was originally completed after class, now change in class".

Related research on University's tennis teaching

There is limited direct scholarly information available regarding the statement that "college student groups have strong learning abilities and good physical fitness conditions, and the characteristics of tennis are the first choice for tennis." However, it is conceivable that this assertion aligns with general observations about the benefits of physical activity and sports engagement for college students. Research indicates that participation in sports activities can contribute to enhanced cognitive function, improved academic performance, and increased physical fitness among students (Eime, Young, Harvey, Charity, & Payne, 2013; Singh et al., 2018). Tennis, being a sport that demands



agility, endurance, and strategic thinking, could indeed attract individuals with strong learning abilities and good physical fitness conditions.

Furthermore, the choice of tennis as a preferred sport for college student groups may be influenced by various factors, including the accessibility and availability of tennis facilities, the social nature of the sport, and its potential to foster teamwork and camaraderie. Integrating sports like tennis into college life can also contribute to the holistic development of students, promoting not only physical health but also mental well-being and social skills (Lumpkin, Stoll, & Beller, 2016). While specific studies on the choice of tennis as the primary sport for college student groups may be limited, the broader literature on sports, physical activity, and their impact on student development provides a foundation for understanding the potential benefits associated with such choices.

Review: In general, there is also a certain possibility of entering college physical education courses with a flipped classroom, which also has a positive impact on the effect of physical education teaching. The breadth and depth of research results are gradually expanding, and the way of inquiry has gradually moved from logical reasoning to experimental research, and the results are constantly enriched. At the same time, people are also further discussing the value and method of flipped classroom teaching in modern physical education teaching. How to apply a flipped classroom to physical education classroom teaching and how to form a kind of flipped classroom teaching conducive to physical education classroom teaching needs in-depth research and discussion. At present, the research on flipped classrooms at home and abroad has obtained a certain research basis. Whether it expounds the teaching ideas of flipped classrooms from the theoretical level or compares the results and data analysis through the actual situation in class, it fully proves the rationality of flipped classroom teaching. At the same time, it also shows the superiority of flipped classroom teaching in improving teachers' classroom performance and improving students' active learning quality. These advantages are better than the traditional teaching methods in a certain sense, which has also laid a strong ideological support for our scientific research. Learning, how to form a flipped classroom teaching conducive to physical education classroom teaching, needs in-depth research and discussion.

Conceptual Framework

Input	Process	Output
A. problem of tennis learning Management B. Tennis course Teaching method theory C. Teaching method theory	Analysis factor of Teaching tennis course B. Deep interview experts C. Draft guideline focus group 19 experts D. Connoisseurship	Guideline of integration flipped classroom

Methodology

1. Literature data method
By reviewing the literature data
2. Questionnaire survey method
 - 2.1 experts were used to determine the quality of the questionnaire. (IOC)
 - 2.2 11 experts were used to interview experts to find ways to create a management model.
3. Expert interview method
 - 3.1 Use sports knowledge and statistics knowledge to fill in all valid data collected through consulting and investigating Excel documents, and convert them into figures or tables according to specific needs.
 - 3.2 based on investigation and statistics, induction, comparison, and synthesis logical methods are used to analyze the collected literature



3.3 Check the reliability and validity of the questionnaire by consulting 5 experts through face-to-face interviews, online interviews, and email interviews.

Results

To survey the problem and obstruction of tennis at Wuhan Sport University

University tennis courts and the problem of insufficient courses, many colleges and universities' tennis courts are limited, and cannot provide a good classroom environment, coupled with the tennis class, the curriculum is relatively less, students' interest in learning is not high, thus low efficiency, the conclusion after the peer teaching and flipped classroom, students learning enthusiasm improved significantly, learning efficiency also improved.

To Construct a tennis-flipped classroom draft guideline

To 200 students using the method of questionnaire research students' interest in tennis, attitude, and effect, after flipped classroom learning students in attitude and interest, and recognition is high, giving full play to the students' subjectivity, creativity, and individual subjective initiative, is beneficial to cultivate students' self-study, self-discipline, and teamwork ability, to improve the teaching efficiency.

To confirm the tennis flipped classroom draft guideline

From the subjective perspective of teaching experience feedback: teachers and students to flip classroom hybrid teaching application in tennis special course teaching effect of high evaluation, said the model compared to conventional face-to-face teaching more can meet the needs of tennis skills and theoretical knowledge teaching, students' initiative, enthusiasm, and creativity got a better promotion. From the perspective of learners: 93.33% of students think this mode promotes their tennis skills and theoretical knowledge; 86.67% of students think the learning mode based on mobile Internet meets the needs of modern learning; 73.33% of students: Hybrid teaching provides information means to monitor the teaching process, although the teaching preparation work increased significantly.

Discussion

In this paper with Meng Kaiqiang 《the flipped classroom teaching mode in college football teaching experiment research》 is similar, his conclusion is: that in ordinary college tennis course teaching, students can use the flipped classroom teaching mode of tennis course learning, and compared with the traditional teaching mode, flipped classroom teaching mode for the improvement of college students' tennis learning effect is more obvious. The flipped classroom teaching mode is helpful to improve the learning attitude of college students in tennis courses, enhance students' subjectivity in teaching, and strengthen their self-identity to the learning effect. The flipped classroom teaching mode can optimize the students' learning ideas of the tennis course, clarify the learning difficulties and learning priorities, and improve the students' language expression ability. The flipped classroom teaching mode improves the teaching content of tennis courses, enables students to obtain personalized learning experiences, effectively integrates the teaching resources of tennis courses, and improves teaching quality.

Therefore, from the perspective of the school, more resources for the whole school should be collected quickly and effectively from the aspects of the campus network construction, teacher team construction, venue facilities construction, and teaching concept training. From the perspective of teachers, it is necessary to timely collect and sort out more online teaching resources, such as video resources, picture resources, text materials resources related to course teaching content, etc. Online teaching resources can form a supplement to offline teaching resources, to realize the effective integration of resources. Gradually realized flipped classroom teaching mode in other colleges and universities physical education teaching promotion through teaching experiments can be seen, compared with the traditional teaching mode, flipped classroom teaching mode in ordinary college tennis course teaching can effectively improve students' physical quality, special technology and learning interest, reflects its own unique teaching game. To realize the further development of the flipped classroom teaching mode and verify whether the teaching mode plays a role in physical





education teaching in other universities, it needs to be further promoted in other subjects and universities. For the West, both from the level of schools and teachers, to clear flipped classroom teaching mode, to understand the classroom teaching mode operation needs the technology, policy, personnel, and environment conditions, from various aspects of flip classroom teaching mode operation environment, but also to now the existing teaching achievements and teaching experience to summarize and display, let more schools can use the teaching mode, improve the teaching quality of physical education courses.

Recommendation

1. Gradually improve the "flipped classroom" teaching mode in the tennis course teaching theory framework flipped classroom teaching mode features two aspects, the first is relative to the traditional offline teaching has realized the combination of online and offline teaching modes, and the second compared with the traditional MOOC teaching mode implements the small-scale targeted network teaching. The key to the above two characteristics lies in the realization of students' subjectivity in the course learning, more interaction and communication between students and teachers, richer teaching resources, and the teaching effect has been significantly improved. However, what is necessary is that the flipped classroom teaching mode is relatively novel in a middle school, and its application in the teaching of physical education courses in colleges and universities in China is not popular. Therefore, the existing experience has not been summarized as a complete and mature theoretical system, which is also a key problem that should be solved in the follow-up work. Teachers should accumulate in their teaching practice relevant teaching experience, from the teaching objectives, teaching methods, teaching content, teaching environment, teaching evaluation, and other aspects to summarize the flipped classroom teaching mode implementation strategy, from teaching practice to theory summary, this is flipped classroom teaching mode in the after promote a key premise.

2. Optimize the construction of teaching resources in the flipped classroom teaching mode. Rich and diversified teaching resources are a basic premise for the operation of flipped classroom teaching mode, and it is a necessary factor to fully realize the teaching effect of flipped classroom teaching mode.

3. Improve the practicability of the flipped classroom teaching mode. From the perspective of pedagogy theory, any new teaching method or teaching mode needs to be verified to be popularized in teaching practice. At the same time, the advantages and characteristics of the teaching mode cannot be shown only in the application of a course teaching. From this point of view, schools, teachers, and students should be able to build a good platform for the application create a good environment of flipped classroom teaching mode, and improve the weak links through the data results of teaching experiments. At the same time to optimize some difficult problems in using flip classroom teaching mode, such as whether has a good campus network platform, whether teachers and students have advanced online and offline teaching concepts, whether students have the conditions of network learning, etc., from the external environment and internal concept to provide convenient conditions for the implementation of the classroom teaching mode, make flip classroom teaching mode is no longer a limited to the theoretical level of teaching mode, but can implement to the teaching.

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