Application Analysis of Flipped Classroom Based on Wechat Public Platform in Basketball Physical Education Teaching

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Abstract. Under the background of the new era, with the deepening of the new curriculum reform, college physical education teaching mode and concept have changed. Among them, flipped classroom based on wechat public platform has practical significance for sports learning. It is an important part of basketball physical education teaching process. The reasonable implementation of wechat public platform flipped classroom can improve students' subjective initiative and promote the development of students' sports learning at all levels. There are also some problems in the application of wechat flipped classroom in basketball course, such as emphasizing form, ignoring content, unreasonable design of classroom resources. The implementation of the new teaching mode requires full use of video, micro classroom and other teaching methods to improve students' interest in learning, explore more knowledge of teaching content, fully understand the connectivity of knowledge, and improve the overall efficiency. Among them, this paper takes the flipped classroom of wechat public platform as an important research object, expounds its special application in basketball physical education teaching, hoping to help basketball sports teaching.

Keywords: Wechat Public Platform, Flipped Classroom, Physical Education Teaching, Application Research

1. Introduction
With the deepening of education information teaching mode, intelligence has become the highlight of the new era. Wechat public platform has become the main means of communication, and has been fully integrated into students' learning and daily life [1]. Wechat public platform is more and more used in learning. In order to improve the quality of learning, the reform of teaching methods can also use technology and intelligent tools to explore and innovate [2]. In this paper, we will combine wechat public platform with the flipped classroom based on the actual reference to get involved in the basketball course teaching, trying to improve the basketball teaching mode, hoping to improve the effect of Basketball Classroom Teaching [3].
The Internet plus and information technology era has affected traditional teaching objectives, methods and evaluation systems. Different micro classes and flipped classroom shows effectively integrate information technology and teaching mode, and promote the process of learning reform [4]. Experts and scientists from various disciplines have constantly investigated and concluded that the application scope and limit of flipped classroom and traditional classroom are not the same [5]. Physical education is an important part of higher education and plays an important role in the physical and mental development of students, which needs to be further, reformed [6]. Flipped classroom is an opportunity for the reform of basketball physical education. We should distinguish the use scope and limit of flipped classroom, integrate the new teaching mode into basketball physical education teaching, and inject new vitality into the development of physical education [7].

Nowadays, the impact of information has also entered the field of physical education, which not only makes sports teaching resources more abundant, but also makes sports teaching methods more diversified and flexible [8]. The teaching form that teachers lead classroom teaching activities cannot meet the needs of current school physical education. In this context, the future development of school basketball sports in China will use a new teaching method, which is flipped classroom, which helps students' individual learning. It plays a leading role in basketball physical education teaching, which is undoubtedly a new idea and method of Basketball Teaching Reform [9]. This paper combines wechat flipped classroom with basketball physical education, and discusses the application of wechat flipped classroom in basketball physical education [10].

### 2. Flipped Classroom and Basketball Teaching

#### 2.1 The Connotation of Flipped Classroom

Flipped classroom is a new teaching method which reflects the dominant position of teachers and students in the teaching process and gives full play to students' subjective initiative. The difference between it and traditional classroom lies in pre class and in class. Before class, the teachers push the knowledge points which are integrated with the key and difficult points to the students through the network technology. The students can learn by themselves through video, internalize and absorb the content and feedback their own situation in real time; in the class, the teacher combines the feedback information from students to answer questions and solve doubts and create situations to guide students in a deeper way, which greatly improves the teaching efficiency and ensures the quality of classroom teaching. In the independent inquiry, group cooperation, teacher-student interaction, brainstorming and other teaching methods, the personalized and differentiated teaching principles are highlighted. In the early stage, the concept of flipped classroom was not accepted by the public due to the lack of a perfect teaching mode and vague connotation; domestic flipped classroom was loved by teachers and students due to the free and enlightening nature of video, and gradually developed into a flipped classroom, which could be deepened and promoted in the atmosphere of university teaching.

#### 2.2 Teaching Advantages of Flipped Classroom of Basketball Sports

The application of flipped classroom teaching mode can change the traditional basketball learning mode, make full use of classroom teaching time, ensure students to better participate in sports activities, and effectively stimulate students' interest in sports learning. Flipped classroom is an important measure of public education reform in Colleges and universities. It enriches the teaching methods of basketball physical education, and has great help to improve students' interest in learning and learning effect. On the one hand, wechat flipped classroom is a popular teaching form. It can provide different kinds of teaching content through the advantages of resources, so that learning can make plans from intuition and demand. On the other hand, basketball teaching in public colleges and universities is actively deepening the reform to promote the overall quality development of students. Based on modern information network technology, online and offline learning mode has also been explored and actively practiced. Wechat flipped classroom can intuitively learn basketball technical
movements and improve the learning effect. Therefore, the combination of wechat flipped classroom and school public basketball teaching has great application value.

3. Experimental Ideas and Design

3.1 Experimental Ideas
The construction of college basketball flipped classroom can solve the limitation of traditional physical education teaching. By using the characteristics of wechat information technology, it can enhance the freedom of autonomous learning and practice, solve the dilemma of correcting learning action at any time, facilitate autonomous learning and sports practice, deepen the effect of students' knowledge and understanding, and improve and master basketball technology. The flipped classroom mode based on wechat platform requires teachers to prepare a large number of collected and recorded video, text and other teaching resources to provide students with online autonomous learning. In the classroom, students are organized to collect the common problems in online learning, and discuss with the teacher to explain and solve them. Then, the teacher will give students doubts and questions. The problems give teaching guidance, so that students can have a comprehensive understanding and grasp of knowledge and skills, enhance the ability of autonomous learning and cooperative learning, and improve the teaching methods and means of teachers. The traditional methods of basketball teaching are to start the practice directly in the simple explanation teaching, which is easy to make students unable to really understand the basic knowledge, the application of learning practice, the connection of learning technology, the purpose of learning and so on. The application of flipped classroom, before teaching, will collect and record video resources to students for online autonomous learning, greatly expanding the time and space for students to preview relevant knowledge, and then improve the efficiency of classroom learning.

3.2 Experimental Design
In the design, this paper adopts two forms: questionnaire survey and field interview. 818 college students and 78 professional teachers were selected as the survey samples. There are college students and professional teachers in the interviewees. This study aims to explore the current situation of basketball physical education in China. Through the analysis of questionnaire survey and interview results, 96 basketball students were divided into two groups. One is the experimental group, which is the learning method of wechat public platform flipped classroom, and the other group is the control group, using traditional teaching methods. After one semester of teaching, we investigated and analyzed the basketball learning situation of the two groups of students, and the results are shown in Table 1. Based on the survey results of the two groups of students, this paper uses the flipped classroom of wechat public platform for teaching, which is more effective than the traditional teaching method.

| Investigation factors                  | The experimental group (%) | The control group (%) |
|---------------------------------------|----------------------------|-----------------------|
| Learning attitude and interest        | 78.2                       | 56.3                  |
| Self-efficacy was                     | 86.4                       | 61.8                  |
| Basketball skills learning ability    | 45.9                       | 31.6                  |
| Communication feedback between teachers and students | 61.5 | 41.7 |

4. Discussion
4.1 Application of Wechat Flipped Classroom in Basketball Teaching

As a new teaching mode, flipped classroom is conducive to personalized learning, enhancing communication and interaction, and improving autonomy and initiative. It can effectively make up for the deficiencies existing in the teaching process of physical education practice. With the help of network platform, students can learn the short videos pushed by teachers independently and complete the process of knowledge internalization. Learners push their own short practice videos and questions to the network platform to achieve the effect of common learning, learn the advantages of others or avoid making the same mistakes. Teachers can cultivate autonomous and exploratory learning to achieve the effect of small class teaching. The biggest difference between flipped classroom and traditional teaching is that it can integrate the scattered time and adjust the learning time and teaching progress according to the actual situation. It can be seen from Figure 1 that both teachers and students are satisfied with the use of wechat flipped classroom teaching. On the basis of understanding the technical action description, imitating the teacher's demonstration, and completing the practice arrangement, students can use wechat media to feedback the confusion to teachers in real time, and can also use wechat voice, video, group chat and other functions for communication and reflection. Teachers focus on solving existing problems and give differentiated guidance on individual problems. Autonomous and inquiry learning can stimulate students' learning enthusiasm. Teachers carry out hierarchical teaching according to students' skill level, physical quality and other factors, give play to the advantages of team leaders, stimulate competition within and between groups, so as to improve classroom efficiency and improve teaching quality. Generally speaking, wechat flipped classroom makes students and teachers feel satisfied and can better meet their needs.

**Figure 1.** Survey of students' and teachers' satisfaction with wechat flipped classroom

In addition, this paper makes a further research on the students' academic performance after the reform and innovation in the process of basketball physical education teaching, and the results are shown in Figure 2. Through the application of flipped classroom teaching mode based on wechat platform in school physical education classroom, students' learning attitude, self-efficacy, communication, information feedback and other abilities have been significantly improved compared with the traditional teaching mode. Then, in the future teaching, the traditional teaching methods and means should be considered, and the cultivation of basketball professional skills and self-learning ability is more worthy of thinking and reform. The experimental data and students' evaluation feedback show that the traditional classroom method needs the combination of digital information and teaching innovation mode in the new era, which is the research focus in the current basketball teaching.
4.2 Suggestions on the Application of Wechat Flipped Classroom in Basketball Teaching

1. Strengthen the communication and interaction between teachers and students, and cultivate the working consciousness of the team

   For students, learning life is as important as social life. In the process of basketball learning, students not only need to master enough basic knowledge of basketball, but also take this opportunity to know more friends. Therefore, in the use of cooperative learning method to carry out basketball teaching, we should also give students more communication space, fully understand students' personal ideas, so that students can express their personal ideas more easily and naturally. At the same time, teachers should also learn to think from the perspective of students, give students enough personal space, let students feel that they play an important role in classroom learning.

2. Strengthen the cultivation of teachers' quality and build a high-quality teaching staff team

   Colleges and universities should pay attention to strengthen the personal quality level of basketball teachers, regularly organize teachers to participate in the corresponding training activities, help teachers fully understand the actual development trend of current basketball education activities, and promote the overall level of basketball teaching by strengthening the teaching level of teachers. At the same time, teachers should learn to self-criticism and self-reflection, actively explore their own problems in the actual teaching, and adjust the teaching structure appropriately. At the same time, we should also achieve resource sharing among the classroom teams, build a high-quality teaching staff team, and promote the overall quality of the overall teaching staff.

3. Change learning concept, pay attention to innovative education and activate flipped classroom

   The application of wechat flipped classroom, first of all, is to change the concept of basketball teachers, to change the concept of learning, first of all, to let basketball teachers realize the value of application concept in wechat flipped classroom. Organize basketball teachers to learn more about school and online courses, so that teachers can truly feel the concept of wechat flipped classroom, and make teachers realize that wechat flipped classroom is not only a form, but also a change of concept. Secondly, basketball teachers need to further study the requirements of College Physical Education in the cultivation of students' comprehensive quality, so that school physical education can be improved. We should also pay attention to learning objectives, aim at learning needs, think about learning strategies, and understand the necessity and feasibility of changing teaching concepts. Finally, we should be good at designing and implementing the requirements of wechat flipped classroom and walk out of more traditional concepts. We should not only absorb the good experience of traditional learning, but also pay attention to learning innovation. We must innovate the organization form, content and teaching method of wechat flipped classroom, in order to improve the application level of wechat flipped classroom in basketball course. Changing the learning concept is the basis of learning.
innovation. If you can feel the teaching concept, the teaching organization and the application of teaching methods will be improved. We will focus on the concept of students' development, start from serving students, enrich the classroom design, and let students feel the magic of basketball sports.

5. Conclusions

To sum up, the development of basketball teaching content in Colleges and universities has always been the focus of attention of teaching staff. In the development of basketball teaching, the appropriate use of cooperative learning method, in addition to meeting the actual learning needs of students, can also enable students to get more exercise in other aspects. Comparatively speaking, cooperative learning method has more advantages than traditional teaching methods, which is suitable for basketball teaching. Wechat flipped classroom has changed the learning mode of Basketball Classroom in the process of college sports learning, and changed the traditional relationship between the subject and the object of learning. Teachers are no longer the center of learning, and the main role of students is gradually emphasized. Physical education teachers should reasonably use wechat flipped classroom learning mode and combine it with multimedia technology to effectively improve the learning efficiency of physical education. Through classroom teaching time, let students seriously learn basic movements and technical characteristics ensure learning enthusiasm and cultivate students' initiative in learning sports knowledge, and promote students' comprehensive and healthy development.

References

[1] Song Yang. The Application of Flipped Classroom Based on MOOC in the Teaching of Computer Application Basic Course in Physical Education Colleges. Modern manufacturing technology and equipment, 2017, 000(008):166,168.
[2] Lina Z, Zhihong L. A Improved Method for Teaching System Innovation Design of Physical Education Major in Colleges Based on Flipped Classroom. Revista de la Facultad de Ingenieria, 2017, 32(9):630-635.
[3] Hsu-Cheng C T, Yang S J H, Chengjiu Y. Effect of gender differences on 3-on-3 basketball games taught ina mobile flipped classroom. Interactive Learning Environments, 2018:1-13.
[4] Liao xianjiu, Li Yan, Li Zhenzhong, et al. A Preliminary Discussion on the Application of the Teaching Based on WeChat Platform for Medical Instrumental Analysis in the Internet Plus Era%Application of WeChat in Analytical Chemistry Teaching in medical colleges and universities in the era of Internet plus. Education and Teaching Forum, 2016, 000(050):242-243.
[5] Ge L, Chen Y, Yan C, et al. Effectiveness of flipped classroom vs traditional lectures in radiology education: A meta-analysis. Medicine, 2020, 99.
[6] Setiawan A H, Takaoka R. Designing PBL steps in vocational course based on students' readiness and teachers' discussion. Journal of Physics: Conference Series, 2020, 1456(1):012045 (9pp).
[7] Zhang Chuang. Application and strategy of flipped classroom in physical education teaching%Application and strategy of flipped classroom in Physical Education. Heilongjiang Science, 2018, 009(007):140-141.
[8] Wang Kangle. Research on the Construction of the Teaching Mode of Physical Education and Health Curriculum Based on the Flipped Classroom%Research on the construction of teaching mode of physical education and health course based on flipped classroom. Zhejiang sports science, 2016, 038(005):81-84.
[9] Bai Y. Research on the Design Method of Physical Education Curriculum Based on the Flipped Classroom Concept. Educational Sciences: Theory and Practice, 2018, 18(5).
[10] Hu Yue, Hou Huisheng. Research on College Physical Education Reform Based on Flipped Classroom. Sports Culture Guide, 2019, 000(007):76-80.