

The Practice and Research of Blended Teaching of Sports Anatomy Course Based on Network Teaching Platform

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Abstract. The advantages and feasibility of the blended teaching model are demonstrated by the methods of experiment comparison, Mathematical Statistics and Literature Review. The results showed that the students in the experiment group who adopted the mixed teaching mode had better knowledge and understanding of the experiment-related content than the control group who adopted the traditional teaching method. The mixed teaching mode is especially suitable for the characteristics of the students majoring in Physical Education, and it is worth popularizing and applying in the teaching of sports anatomy.

Keywords: sports anatomy, mixed model, teaching model.

1 Introduction

The core idea of the split class is to allocate half of the class time to the teacher and the other half to the student for interactive learning in the form of discussion; and to stagger the presentation and discussion, let the students have a week to arrange their own study after class, and carry out personalized internalization absorption.

The so-called flip classroom, is the teacher to create a video or electronic teaching materials, students at home or outside the classroom to watch video or electronic teaching materials in the teacher's explanation, back to the classroom face-to-face communication between teachers and students and the completion of homework such a form of teaching.

Sports Anatomy, as one of the important basic theoretical courses of physical education, is a subject with high requirements of memory, understanding and experiment. The course has long been dominated by teachers speaking and students listening. With the implementation of teaching reform, the original teaching model has gradually shown its limitations. At present, how to make students master more knowledge, turn passive into active in study and improve study efficiency in limited time is an urgent problem to be solved in the teaching of sports anatomy. Therefore, based on the analysis of the current teaching situation of sports anatomy, this paper tries to apply the divided class and the inverted class to the teaching of sports anatomy, in order to explore a new and more effective teaching model, in order to better carry out the innovative mode of the split-classroom and flip-classroom teaching to provide practical experience.

In view of some defects existing in the traditional teaching method. We carried out an experimental control study in Class A, Class B, Class C, Class D and Class E and Class F of PE majors of grade 2017, grade 2018 and grade 2019.

2 The Object and Method of Experimental Research

2.1 Duration

Phase I: March 2018. 5 to 24 June 2018,(Class A and Class B, physical education majors, 2017)

Phase II: 25 February 2019 to 23 June 2019(Class C and Class D, physical education majors, 2018)

Phase III: 23 September 2019 to 29 December 2019(Class E and Class F, physical education majors, grade 2019)

2.2 Subjects

The students of Class A and class B in 2017, Class C and Class D in 2018 and Class E and Class F in 2019 of Jiangxi Normal University Physical Education major were selected as the research objects. After the examination of the students' cultural achievements in the college entrance examination, 317 students with no difference in their cultural level were finally determined as the subjects for the study. The experimental group consisted of 95 students in grade 2017, 111 students in grade 2018 and 111 students in grade 2019. The Control Group consisted of 48 persons in Class G of grade 2017, 51 persons in Class H of grade 2018 and 45 persons in Class I of grade 2019.

2.3 Methodology

2.3.1 Experimental comparison

The students of Class A and Class B, Class C and Class D of Class 2018 and Class E and Class F of class 2019 were selected as the experimental group. The Control Group consisted of 48 persons in Class H of grade 2017, 51 persons in Class I of grade 2018 and 45 persons in Class I of grade 2019.

The experimental group adopted a new hybrid teaching model; the control group used the traditional teaching method, namely the teaching method. After the final examination of sports anatomy, the test results of the experimental group and the Control Group were compared and analyzed. Finally, after three sessions of "sports anatomy" teaching, to judge and evaluate the "sports anatomy" course of the new hybrid teaching reform in teaching effect.

2.3.2 Mathematical statistics

SPSS13.0 software was used for statistical processing and t-test of related data.

2.3.3 Documentation

Consult the literature related to the paper.

3 Results of Experiments

As you can see from Table 1, the students in the class of 2017. Compared with the 2017 Grade Control Group, the difference was significant ($p < 0.05$). The results showed that after one semester of teaching, the students in the 2017 grade of "sports anatomy" had better performance than those in the control group using traditional teaching methods.

Table 1. Comparison of the final examination results between the experimental group of Grade 17 and the control group

Group	Number	Average scores	Standard deviation	T	P
Experimental A	46	62.96	13.00	2.332	$P < 0.05$
Experimental B	49	64.16	15.58	2.558	$P < 0.05$
Control G	48	56.27	14.79		

Note: The T value was the t test value of 17 grade experimental group and Control Group.

Table 2. Comparison of the final examination results between the experimental group of Grade 18 and the control group

Group	Number	Average scores	Standard deviation	T	P
Experimental C	55	74.33	15.98	0.927	$P < 0.05$
Experimental D	56	76.66	13.23	1.701	$P < 0.05$
Control H	51	71.08	19.73		

Note: The T value was the t test value of 18 grade experimental group and Control Group.

As you can see from Table 2, the test scores of the class of 2018 students. Compared with the 2018 Grade Control Group, the difference was significant ($p < 0.05$). The results showed that after one semester of teaching, the students in the 2018 grade of "sports anatomy" who adopted the mixed teaching mode got better results than the students in the control group who adopted the traditional teaching method.

From Table 3, we can see that the grade 2019 experimental group students' scores, compared with the grade 2019 control group students, the difference is very significant ($p < 0.01$). The results showed that after one semester of teaching, the students in the 2019 grade of "sports anatomy" had better performance than the students in the control group who used traditional teaching methods.

Table 3. Comparison of the final examination results between the experimental group of Grade 19 and the control group

Group	Number	Average scores	Standard deviation	T	P
Experimental E	55	72.89	19.23	3.654	$P < 0.01$
Experimental F	56	70.73	16.55	3.295	$P < 0.01$
Control I	45	59.89	16.34		

Note: The T value was the t test value of 19 grade experimental group and Control Group.

4 Analysis and Discussion

4.1 The Blended Teaching Is an Inevitable Trend in the Reform of Curriculum Teaching Methods in Colleges and Universities

With the innovation of educational model, the former teaching model cannot adapt to the development of society. The blended teaching model is an inevitable trend of college classroom teaching. Higher education belongs to a course with strong specialty and abstractness. It is an effective way to improve the teaching quality to fully apply the mixed teaching mode, which can stimulate the students' participation enthusiasm. Let Teachers and students take "new ideas, excellent classroom, capable teachers, active classroom, busy students, strict system, impassioned teaching, everyone moves" as the goal of creating a first-class curriculum.

4.2 Current Teaching Situation of Sports Anatomy Course for Physical Education Major in Jiangxi Normal University

Physical Education Major "sports anatomy" course total lesson hours 48. There is a shortage of teaching hours in this course. The teaching method still adopts the traditional teaching method. That is, the teaching method. Students are not highly motivated to learn.

4.3 Reform of Mixed Teaching Mode of Sports Anatomy for Physical Education Major

4.3.1 Shooting teaching videos, setting up examination questions bank, applying for school-level online open courses

According to "sports anatomy" course chapters, the division of Labor. Organize three teachers to record and broadcast classroom, and shoot teaching video from time to time. After editing, a total of 26 teaching video, the cumulative length of 707 minutes. And Upload it in stages to the supernova learning portal.

More than 1,100 examination questions were designed according to the syllabus and the teaching plan. The Item Bank is established, which has been revised and corrected many times. Teachers can prepare practice questions and test papers at any time to facilitate students' review of classroom teaching content. Finally, all questions are input into the superstar learning platform.

4.3.2 Revise the syllabus and teaching plan of the course

In order to cooperate with the mixed teaching, the syllabus and the teaching plan of Sports Anatomy have been revised many times. Especially to the student result examination has carried on the big revision.

Course assessment: Average grade(20%)+Practice(50%)+Final theory exam(30%)=100; The mid-term examination uses the handset examination. The final theory test will be subjective, closed-book, and objective, mobile-based. Average grade(20%),Including check-in(10% and homework(10%).Practical achievement(50%),Including course videos(20%), quizzes(25%), chapter times(15%)midterm theory exam (15%), class discussion (20%), class interaction (5%). Final exam results accounted for 30%, The objective question uses the mobile phone examination; the subjective question uses the closed-book examination. Students' final grades are counted using the "super star study pass".

4.3.3 Experimental stage of teaching

The teaching experiment is divided into three stages. Mixed mode teaching in different grades. After each stage of teaching, have gained a lot of experience, but also found the deficiencies. In order to carry out hybrid teaching in the next stage and achieve better results, the syllabus and the teaching plan have been revised. In particular, the 2019 physical education program has been revised and sports anatomy is scheduled for the first semester of a student's admission. The number of teaching hours in the course has been reduced from 16 to 12 weeks due to the need of students for military training and entrance education. The syllabus and the teaching plan have been revised again. Due to the new hybrid teaching mode, the teaching effect and the learning efficiency of students are improved, and the impact of hours compression on the classroom teaching of sports anatomy is less.

4.4 "Sports Anatomy" Course Is Recognized as a Provincial Online Open-Ended Boutique Courses

Through three rounds of mixed mode teaching, "Sports Anatomy" course from 2016 a common college-level degree course, gradually increased to 2017 school-level online open courses; finally, in June 2019, it was upgraded to a provincial online open courseware.

4.5 The Enthusiasm of Students in Studying Sports Anatomy Has Been Enhanced, and the Number of Views of the Course Has Reached a New Height

Compared with the traditional teaching methods, the new mixed mode is adopted in teaching, which pays more attention to the students' main position and takes the students' subjective feeling as the core. With the support of Network Technology and information technology in teaching, students can accept knowledge learning at any time and gradually weaken the leading role of teachers. Students have changed from "passive" learning to "active" learning, and their enthusiasm for learning has increased significantly. The number of page views of the course has increased rapidly, reaching 5.39 million.

5 Conclusions and Recommendations

- 1) Compared with the traditional teaching method, the hybrid teaching mode can improve the teaching quality and students' learning efficiency of sports anatomy.
- 2) Mixed teaching mode can improve students' learning enthusiasm, from "passive" learning, to "active" learning.
- 3) Through the hybrid teaching, can make the curriculum get the promotion, makes it become the provincial-level fine online open curriculum.
- 4) It is suggested that the new mixed teaching mode should be adopted in the course of sports anatomy of other physical education majors.
- 5) It is suggested that the new hybrid teaching model should be adopted in the theoretical courses of other physical education majors.

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