

Research on the Cultivation of Students' Learning Enthusiasm in the Flipped Classroom in Physical Education and Fitness Course

Lamei Gong^a, Jiazhi Sheng^b

Laboratory of sports and health promotion, School of Physical Education, Sichuan University of Arts and Science, Dazhou, 635000, China

^a527927472@qq.com, ^b568664886@qq.com

Abstract

Objective: To explore the influence of flipped classrooms on the learning enthusiasm of non-sports majors in sports and fitness courses. The research subjects are 40 students from a healthcare industry college class at Sichuan University of Arts and Sciences. **Study design:** This is a pre and post-self-control intervention study. **Intervention means and evaluation scale:** the experiment was conducted in the flipped classroom for eight weeks, and the improved students' autonomous learning scale was used to evaluate students' learning enthusiasm. **Results:** the 8-week intervention significantly improved students' enthusiasm and self-efficacy, but there was no significant change in the potential of learning the course, the understanding of the course for its comprehensive development, the relationship between the degree of effort and learning the course, and the desire for a harmonious relationship between teachers and students. **Conclusion:** the flipped classroom teaching method helps improve students' enthusiasm for learning the course. **Future Research** will practice other theoretical courses and develop more effective and vivid teaching modes to improve students' learning enthusiasm and learning effect.

Keywords

Subjective Effort; Autonomous Learning; Arocess Evaluation; Aports Health.

1. Introduction

At the university stage, many students' motivation and enthusiasm for learning have decreased significantly due to the lack of pressure for further Education and temporary employment. This phenomenon is particularly significant in the field of nonprofessional courses, which will not only affect the teaching effect but also restrict the teachers' enthusiasm for teaching to a certain extent. How to effectively improve the enthusiasm of College Students' autonomous learning is an important issue.

More and more studies show that flipped classrooms can effectively improve students' learning enthusiasm and learning effect. The flipped classroom has overturned the traditional teaching mode, focusing on knowledge transfer through the auxiliary role of information technology after class, while knowledge internalization emphasizes the help of teachers and students in the classroom, which has changed in many aspects, such as; Teachers' role is more of a learning guide and promoter, reducing their role as knowledge imparters and classroom managers in traditional teaching. Students are no longer passive recipients of learning but active Research or learners. The mode of "pre-class learning + Classroom Inquiry" has replaced the mode of "classroom explanation + after-school homework." The classroom content has been replaced by the original "knowledge explanation and teaching" with the current "problem exploration." In terms of technology application, more emphasis has been placed on "autonomous learning, exchange, and reflection, collaborative discussion," etc.; the evaluation method has changed from the original "traditional paper evaluation" to the current "multi-angle and multi-mode

evaluation" [1]. In recent years, the Research on flipped classrooms in the physical education curriculum has been gradually promoted. For example, in the physical education practice curriculum, Yao xiao-qin[2] found that the 15-week teaching intervention significantly improved students' learning attitude. However, there is no difference between the two instructional designs in learning outcomes and learning environments. Wangguoliang et al. (2016) [3] believed that introducing flipped classrooms into physical education teaching would help better realize the unity of instrumentality and humanity, make the whole physical education teaching process more personalized and humanistic, and improve the effectiveness of the classroom. Wang Guo-liang (2019) [4] applied the flipped classroom in the teaching practice of college sports volleyball and found that it significantly improved the students' level of learning volleyball technology and attitude toward physical fitness tests. The Research on the theoretical flipped classroom of physical Education has many significant advantages, such as stimulating the interest and enthusiasm of students majoring in Physical Education and improving students' self-learning abilities [5]. Li Xin [6] applied it to the teaching research of sports history, Chen Si-yuan [7] applied it to sports health care, Huang Li [8] applied it to sports psychology, and Liu Yu-jia [9] applied it to sports material selection. Although the above Research has some theoretical and practical research in Physical Education, it has not found any report on the effect of the flipped classroom in the course of "sports and fitness" among nonsports majors. Therefore, this study will explore the impact of the flipped classroom on students' autonomous learning enthusiasm in the course "sports and fitness" for students majoring in the College of the health industry.

2. Research Subjects and Methods

2.1. Research Subjects

The subjects were 41 sophomores majoring in elderly service and management from the College of the health care industry, including 33 girls and eight boys. The students' informed consent was obtained before the intervention, and the students said the teaching experiment could be carried out.

2.2. Research Methods

2.2.1. Questionnaire Survey Method

The self-regulated learning scale used in the past was improved to make it more suitable for the theoretical course. Relevant experts in the field were consulted. The experts said the questionnaire had good reliability and validity and could be used for measurement and evaluation. In addition to the information on students' gender and age, the new scale for evaluating students' learning enthusiasm consists of 20 questions. Related expressions include: I am pleased at the thought of going to this course soon; I feel I have great potential in learning the course, etc. The Levitt 5-point rating scale is used to assess the students' attitude; for example: from very unqualified to very qualified is 1-5 points, each topic is calculated separately, and a questionnaire survey is conducted before the implementation of the flipped classroom and the last course to be completed.

2.2.2. Distribution and Recovery of Questionnaires

A teacher is responsible for explaining the filling out and precautions of the whole scale. After the students are clear, they can fill in the questionnaire and collect it on the spot. The distribution and recovery of the second questionnaire are the same as the first. The two teachers screened and eliminated the invalid questionnaires according to the following criteria: incomplete filling of gender information, incomplete filling of the scale, or more than or equal to two selected results of the same topic. Forty-one valid questionnaires were collected for the

first time, 40 were collected for the second time, and one girl failed to participate in the second questionnaire due to leaving.

2.2.3. Data Analysis

All the data were input into SPSS 23.0 social statistics software package. The mean \pm standard deviation was used to describe the degree of dispersion, and the independent sample t-test was used to compare the differences between related indicators before and after the test. The statistically significant difference was set as $P < 0.05$.

3. Results and Discussion

Table 1. Comparison of students' learning enthusiasm before and after the intervention.

Item	Pre-intervention	After intervention	P value
1. I am very happy at the thought of taking this course soon.	2.2 \pm 0.6	3.5 \pm 0.3	< 0.05
2. The learning objectives set by yourself can always be achieved through effort.	1.7 \pm 0.8	3.4 \pm 0.7	< 0.05
3. When I attend this course, I feel relaxed and happy and like to participate in classroom teaching.	2.4 \pm 0.5	3.6 \pm 0.5	< 0.05
4. I feel that I have great potential in learning this course.	3.2 \pm 1.1	3.8 \pm 0.9	0.08
5. Discuss the learning problems of the course with the students.	1.5 \pm 0.9	3.6 \pm 1.2	< 0.05
6. In class, I hope I have the opportunity to show.	2.1 \pm 0.5	3.7 \pm 0.8	< 0.05
7. I like to read relevant materials in the field of sports and fitness.	2.6 \pm 0.7	3.1 \pm 1.0	0.07
8. I feel that taking this course is helpful for my overall development.	2.5 \pm 0.8	3.1 \pm 1.2	0.10
9. I feel that I can learn this course well with my ability and efforts.	2.3 \pm 1.1	2.9 \pm 0.8	0.12
10. In the learning process, be able to actively overcome interference from the outside world.	2.0 \pm 0.6	3.1 \pm 0.6	< 0.05
11. Concentration in class.	1.9 \pm 0.8	3.2 \pm 1.0	< 0.05
12. The self-specified learning objectives are often higher than the primary objectives of teachers.	1.6 \pm 0.7	2.3 \pm 0.9	0.09
13. Set yourself an example to follow.	2.1 \pm 0.4	2.7 \pm 0.5	0.06
14. I will reflect on whether I learned a lesson well after class.	2.5 \pm 0.8	3.1 \pm 0.4	< 0.05
15. If the learning effect is not good, what reasons will be considered.	2.3 \pm 0.2	3.7 \pm 0.5	< 0.05
16. When the performance in class is not very good, they will encourage themselves to redouble their efforts.	2.5 \pm 0.7	3.6 \pm 0.6	< 0.05
17. When attending the course, pay attention to the teacher's goals and requirements.	2.3 \pm 0.8	3.7 \pm 0.9	< 0.05
18. When you encounter difficulties in learning the course, you are embarrassed to ask others.	3.8 \pm 0.7	2.1 \pm 0.7	< 0.05
19. Although I also participated in the pre-class preparation activities, I just made a simple preparation.	2.1 \pm 0.6	1.8 \pm 0.9	0.16
20. Eager for a harmonious relationship between teachers and students.	4.2 \pm 0.7	4.6 \pm 0.3	0.55

Through the survey, we found that the 8-week intervention significantly improved students' enthusiasm and self-efficacy, mainly reflected in the learning attitude towards the course, classroom performance, and pre-class preparation, but there was no significant change in the potential of learning the course, the understanding of the course for its own comprehensive

development, the relationship between the degree of effort and learning the course well, and the desire for a harmonious relationship between teachers and students, See Table 1 for details. We further analyzed the changes in girls before and after the intervention and found that it was consistent with the overall change trend. For the analysis of boys before and after the intervention, there was no statistical difference in the changes of any item before and after the intervention, probably because the sample size was only 8.

Flipped classroom represents a teaching mode rather than a teaching idea [10]. The flipped classroom can help to build a new relationship between teachers and students, increase students' enthusiasm and initiative in learning, and improve the quality of learning more effectively. The extension of student's active participation in learning in the classroom fully reflects the students' dominant position. Of course, there are still some difficulties in this area, and how to break through is an important issue, such as the problem that students' basic theoretical knowledge is relatively weak and the problem that teachers' courseware creation ability and courseware richness need to be improved [5]. Because students' enthusiasm is generally not high, how to stimulate students' interest, improve their active learning and actively participate in the teaching process is an important issue. Liufengyong et al. [11] believed that from the perspective of situational factors, building a harmonious relationship between teachers and students, a collaborative relationship between students, and positive psychology are necessary. Paying attention to personality tendency is mainly reflected in cultivating and strengthening the internal driving force of students' learning and improving learning effectiveness by stimulating students' interest in learning. Zheng Hao (2012) [12] surveyed 500 undergraduate sports students from five universities in Wuhan, China, and found that the main reasons for the low learning effect of the theory course were the lack of confidence in the learning of the theory course, the interest in learning to be improved, and the lack of time control and binding force. How to improve the learning enthusiasm of students majoring in introductory theory courses of Physical Education, Chen Xiang-he (2018) [13] believes that at the teacher level, while enriching their knowledge and teaching methods, teachers need to master students' psychology, respect students, strengthen the combination of theory and practice, and guide and help students to establish a correct view of learning.

Deficiencies of this study and future research directions.

Although this study has preliminarily proved that flipped classroom has improved students' enthusiasm for Physical Education and health course, there are still several aspects that need to be improved in future research work. First, this study is a self-control study, which lacks the corresponding control group. It is impossible to carefully distinguish whether the effect is due to the effect of the course process itself or the significant effect of the flipped classroom teaching method. Therefore, future Research will involve the control group and more experimental groups to explore the effect of the intervention. Second, the sample size of this study is too small, and there are some deficiencies in reflecting the overall situation. Therefore, future studies will consider including more samples for intervention and evaluation.

4. Conclusion

This research has significantly improved the enthusiasm of students' learning through the flipped classroom intervention in the Physical Education and fitness course of students in the College of the health industry. This course is in the form of theory and practice. In the future, this teaching mode can be carried out in more curriculum design aspects to improve students' autonomous learning ability.

Acknowledgments

Thanks for supporting the school-level first-class curriculum project (2021KC013) of Sichuan University of Arts and Sciences.

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