

An Experimental Study on the Blended Teaching Model of Volleyball in Ethnic Academies to Enhance College Students' Interest in Sports Participation

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Abstract: To improve sports psychology and service delivery among sportspeople, the basics of applied sports psychology and the teaching quality of accounting majors could be the best possible solution. The purpose of this study is to investigate whether blended teaching of volleyball and its derivatives can effectively stimulate students' learning interest in ethnic colleges and universities, and to provide strong evidence and practical reference for the promotion of this model in the teaching of ethnic colleges and universities in China. Using Physical Education Situational Interest Scale (PESIS) to 124 students in ethnic colleges and universities, and research methods such as questionnaire survey method and teaching experiment method were used to study the influence of mixed teaching mode of volleyball on students' interest in sports participation in ethnic colleges and universities. The results showed that blended instruction showed highly significant differences in the dimensions novelty, attention, exploration, pleasure, and overall interest compared to the traditional instructional model, and significant differences in the challenging dimensions. Girls' interest in sports participation increased more significantly in the blended instruction model than boys.

1. Introduction

In 2016, the General Office of the State Council issued the Opinions of the General Office of the State Council on Strengthening School Sports for the Overall Development of Students' Physical and Mental Health[1],The "Opinions" pointed out that school education should combine the cultivation of interest and skill development, requiring attention to the guidance of students' interests and develop the habit of lifelong physical activity.[2]As a compulsory course for undergraduate students, the public physical education course in colleges and universities is the last stage of teaching to train students to master sports skills and develop a sense of "lifelong physical education". Interest is the best teacher, and subjective exercise experience is the subjective experience of the subjective exercise experience is the subjective experience of the sportsman's emotional state and the degree of physiological exertion after the exercise, which has an important influence on the physical exercise behavior. The subjective exercise experience is the subjective

experience of the sportsman's emotional state and physiological exertion after the exercise, which has an important influence on the exercise behavior. [5-6]Interest in sports is the psychological tendency of students to seek to actively recognize and prioritize physical activities or physical exercise, and it is one of the basic motivations for students to participate in sports activities. When students' physical exercise goals are achieved or feel the value of physical exercise, individuals' self-confidence in their abilities increases, i.e., self-efficacy acts as a mediator, which can effectively stimulate their motivation to participate in physical exercise, increase their interest in sports and sense of challenge, so that they can actively participate in physical activities and achieve better sports results, and thus present a good mental health state. Students' interest in physical education can significantly and positively predict students' physical activity behavior i.e., the higher the students' interest in physical education, the higher the physical activity behavior [7]As far as students are concerned, their attitudes towards sports in the learning process depend to a large extent on the teaching methods and teaching tools of college teachers. Interest as one of the intrinsic driving forces to stimulate students' learning [3], how to stimulate students' interest in learning has caused an in-depth discussion among scholars today. Previous studies have found that blended learning can improve college students' learning attitudes and learning adaptability, as well as their course satisfaction and learning effectiveness, but the degree of improvement is affected by personality traits, learning environment, interaction processes, and learning outcomes. Blended Learning has formed a relatively mature theoretical system in the field of pedagogy. [10]At present, the concept of blended teaching in China mainly refers to the blending of teaching methods, the blending of online and offline, the blending of traditional teaching and modern information and teaching technology, and the blending of learning objectives, etc.[8]Blended learning is a means for instructional implementers, administrators, and learners to organize and distribute learning media, materials, and learning tools as a means to promote learning learning outcomes.[9]Therefore, this study aims to explore the similarities and differences of students' interest in sports participation under different teaching modes, to investigate whether the hybrid teaching mode of volleyball and its derivatives can effectively stimulate students' interest in sports participation in ethnic institutions, and to provide theoretical and practical references for the promotion of this mode in the teaching of ethnic institutions in China.

2. Research Subjects and Methods

2.1 Subjects of the Study and Investigation

In this study, 64 male students and 60 female students from the Class of 2021 of Minzu University of China were selected to investigate the interest of volleyball and its derivative programs on students' sports participation in ethnic colleges and universities. 32 male students in the experimental group and 32 female students in the control group, and 30 female students in the experimental group and 30 female students in the control group were selected as the subjects.

2.2 Research Methods

2.2.1 Literature Research Method

Through the electronic media such as China Knowledge Network (CNKI) and China Outstanding Master's and Doctoral Theses Database, we searched for key words such as "blended teaching" and "interest in sports" and reviewed related works and literature, and summarized and analyzed the literature according to the research needs. The literature was organized and analyzed to provide theoretical support for the writing of this paper.

2.2.2 Questionnaire Method

According to the needs of the content of this study, under the premise of reviewing a large amount of literature, this paper chose to use the Physical Education Situational Interest Scale (PESIS) to study 124 students in ethnic colleges and universities, and through the reliability test of the questionnaire, the Cronbach α value was $0.943 > 0.9$, so the questionnaire has high reliability and validity.

2.2.3 Teaching Experimental Method

In this paper, based on the teaching characteristics of volleyball and its derivatives, the teaching sequence of the experimental group was determined as the teaching content of air volleyball in the first stage (1-5 weeks), and the teaching content of soft volleyball in the second stage (6-10 weeks). The third stage (11-17 weeks) was taught volleyball; the control group was taught traditional volleyball.

2.2.4 Mathematical and Statistical Methods

In this paper, we used Excel to classify and organize the collected questionnaire data, and used SPSS20 statistical software to conduct independent sample t-test and ANOVA on the data for variance analysis

3. Research Results and Analysis

3.1 Comparison Results of Exercise Participation Interest before and after the Experiment between the Experimental Group and the Control Group

Table 1: Intra-group variability analysis of exercise participation interest indicators before and after the experimental group (N=64)

Dimensionality	Pre-experiment	After the experiment	T	P
Newness	16.02±2.84	17.97±1.88	-2.679	.008
Challenging	13.56±3.45	14.71±2.00	-2.13	.022
Attention	16.85±3.03	17.97±2.23	-2.33	.021
Exploratory	16.89±2.97	18.91±2.08	-2.236	.027
Pleasure	17.31±3.07	18.29±1.82	-2.172	.023
General Interest	17.39±2.91	18.52±1.94	-2.545	.012

As can be seen from Table 1, before the experiment, the experimental group showed highly significant differences in the novelty dimension, $T=-2.679$, $p<0.01$, and in the five dimensions of challenge, attention, exploration, pleasure, and overall interest, $p<0.05$, showing significant differences.

Table 2: Intra-group variability analysis of exercise participation interest indicators before and after the experiment in the control group (N=60)

Dimensionality	Pre-experiment	After the experiment	T	P
Newness	15.24±2.74	16.16±1.79	-2.208	.029
Challenging	12.90±3.31	15.60±2.26	-5.14	.000
Attention	16.24±3.06	16.73±2.69	-.936	.351
Exploratory	15.97±3.16	16.19±2.69	-4.12	.681
Pleasure	16.31±2.97	16.71±2.47	-.823	.421
General Interest	16.44±3.00	16.87±2.76	-.842	.402

As can be seen from Table 2, there were significant differences between the control group before and after the experiment in the novelty dimension, $T=-2.208$, $p<0.05$; in the challenge dimension, $T=-5.14$, $p<0.01$, a highly significant difference; and in the four dimensions of attention, exploration, pleasure, and overall interest, $p >0.05$, no difference.

3.2 Comparison of Interest in Sports Participation between the Experimental Group and the Control Group after the Experiment

Table 3: Analysis of differences between groups in indicators of interest in sports participation after the experiment (experimental group $N=62$, control group $N=62$)

Dimensionality	Experimental group	Control group	T	P
Newness	17.97±1.88	16.16±1.79	5.084	.000
Challenging	14.71±2.00	15.60±2.26	-2.371	.019
Attention	17.97±2.23	16.73±2.69	2.709	.008
Exploratory	18.91±2.08	16.19±2.94	4.047	.000
Pleasure	18.29±1.82	16.71±2.47	4.489	.000
General Interest	18.52±1.94	16.87±2.76	3.101	.002

As shown in Table 3, the experimental and control groups showed highly significant differences in dimensional novelty, attention, exploration, pleasure, and overall interest after the experiment, all $p < 0.01$; and in dimensional challenge, the experimental and control groups showed significant differences, $p < 0.05$.

Table 4: Analysis of the differences in sports participation interests of students of different genders in the experimental group after the experiment

Dimensionality	Experimental group	Control group	T	P
Newness	17.97±1.88	16.16±1.79	5.084	.000
Challenging	14.71±2.00	15.60±2.26	-2.371	.019
Attention	17.97±2.23	16.73±2.69	2.709	.008
Exploratory	18.91±2.08	16.19±2.94	4.047	.000
Pleasure	18.29±1.82	16.71±2.47	4.489	.000
General Interest	18.52±1.94	16.87±2.76	3.101	.002

As shown in Table 4, the experimental and control groups showed highly significant differences in dimensional novelty, attention, exploration, pleasure, and overall interest after the experiment, all $p < 0.01$; and in dimensional challenge, the experimental and control groups showed significant differences, $p < 0.05$.

Table 5: Analysis of the differences in sports participation interests of students of different genders in the experimental group after the experiment

Dimensionality	Male students (N=32)	Female students (N=30)	T	P
Newness	17.22±2.67	18.87±1.22	-3.153	.003
Challenging	15.09±1.94	14.50±2.27	1.109	.272
Attention	16.78±2.47	19.17±1.12	-4.840	.000
Exploratory	16.97±2.78	18.73±1.36	-3.207	.002
Pleasure	17.88±2.12	19.10±1.27	-2.736	.008
General Interest	17.63±2.97	19.07±1.41	-2.414	.019

As can be seen from Table 5, the analysis of the differences in the scores of the six dimensions of the experimental group of students of different genders showed highly significant differences in the

dimensions of novelty, attention, exploration and pleasure, with $p < 0.01$; in the dimension of overall interest, they showed significant differences, with $p < 0.05$; in the dimension of challenge, there were no significant differences, with $p > 0.05$. In conclusion, the experimental group of girls using the hybrid teaching of volleyball and its derivatives had more outstanding results in the dimensions of novelty, attention, exploration, pleasure and overall interest than the boys. The experimental group of girls with mixed teaching of volleyball and its derivative items had more prominent effect of sport participation interest in novelty, attention, exploration, pleasure, and overall interest than the boys, and there was no difference between the two in the challenging dimension.

Table 6: Analysis of the difference in interest in sports participation of students of different genders in the control group after the experiment

Dimensionality	Male students (N=32)	Female students (N=30)	T	P
Newness	16.22±1.98	16.10±1.61	.258	.797
Challenging	14.25±2.19	17.50±1.96	-6.149	.000
Attention	16.19±3.02	17.93±2.033	-2.652	.010
Exploratory	16.16±3.13	16.70±2.763	-.103	.919
Pleasure	16.72±2.52	16.70±2.45	.030	.976
General Interest	16.44±2.88	17.33±2.59	-1.284	.204

As can be seen from Table 6, the control groups of different genders showed significant differences in the dimensions of challenge and attention, $p < 0.05$; the mean values of girls were higher than those of boys. Therefore, the traditional teaching mode is more challenging for girls and requires a high degree of concentration during the learning process; in the novelty, exploration, pleasure and overall interest dimensions, there is no significant difference between the control groups of different genders, $p > 0.05$.

4. Discussion

4.1 Analysis of the Effects of Different Teaching Modes on Students' Interest in Sports Participation

Interest in sports participation is the best teacher of physical education learning, and it is also the main motivation for students to learn about physical education and health and actively participate in sports in physical education classes. [4] The reason why the mixed teaching mode of volleyball has a good effect on improving students' interest in sports participation in ethnic colleges is that the mixed teaching mode has better adaptability to students' different stages of learning content, and by reducing the difficulty of exercises, it can improve students' sports skills and thus effectively stimulate their interest in sports participation. In terms of exploratory dimension, the teaching of soft volleyball and balloon volleyball can make students initially experience the standardized technical movements, and then gradually increase the difficulty of practice, and finally achieve the goal of proficient use of standardized volleyball technical movements, this teaching mode is more in line with the principle of step-by-step teaching, stimulating students' desire to explore new knowledge and new skills, and bursting their interest in sports participation.

In addition, there are highly significant differences in novelty and attention dimensions. Most of the students in ethnic colleges and universities learn volleyball in the basic education stage with traditional teaching mode and have not been exposed to soft volleyball and balloon volleyball, so different teaching contents will improve students' concentration in practice; in the dimension of pleasure, students can more easily experience the sport fun of volleyball in soft volleyball and balloon volleyball, and experience the charm of volleyball in two or more players' continuous

hitting, which can effectively stimulate students' interest in sports participation. Soft volleyball can better mobilize students' interest and make them better master the passing and padding movements of volleyball, which has good transitional nature for teaching hard volleyball [11-12] There are obvious skill migration between volleyball and air volleyball in serving, matting, dunking and running[13-15].

4.2 Analysis of the Effects of Different Teaching Modes on Students' Interest in Sports Participation by Gender

In the mixed teaching mode of volleyball derivatives, girls show a stronger interest in sports participation than boys in several dimensions, and this teaching mode is more effective for girls. In the process of passing and cushioning, soft volleyball and ballon volleyball can make girls overcome their fear and the material of balloon and soft volleyball is softer, which can avoid finger poking and reduce the pain of passing and cushioning of fingers and arms. In addition, the skill learning process from easy to difficult, these can effectively stimulate girls' interest in learning.

5. Conclusions and Recommendations

5.1 Conclusion

The traditional teaching mode of volleyball is significantly different in terms of challenge and novelty, but there is no difference in other aspects, which is not conducive to stimulating students' interest in sports participation.

The hybrid teaching mode of volleyball and its derivatives shows significant differences in all dimensions and is more in line with the physiological, physical and mental characteristics of girls, which can effectively stimulate students' interest in sports participation.

5.2 Suggestions

When teaching male volleyball public courses in ethnic colleges and universities, students can choose mixed teaching mode or traditional teaching mode of volleyball and its derivatives according to their participation interests.

In the teaching of volleyball public courses for female students in ethnic institutions, it is advisable to adopt a mixed teaching mode of volleyball and its derivatives to enhance students' interest in sports participation and cultivate their awareness of "lifelong sports".

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