

Integrating "Women's Volleyball Spirit" into Volleyball Teaching in Guangxi Universities

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Abstract: "Women's Volleyball Spirit", as a symbol of Chinese sports spirit, has irreplaceable significance for the inheritance and development of volleyball teaching in contemporary colleges and universities. On the basis of clarifying the core values of volleyball spirit, this paper conducts empirical research to comparatively analyze the differences in self-confidence, stress resistance and teaching satisfaction between teaching strategies incorporating the "Women's Volleyball Spirit" and traditional education methods. Research methods include baseline tests, teaching implementation records, skills tests, teamwork ability assessments, and psychological state and teaching satisfaction surveys. The results show that teaching methods incorporating the "Women's Volleyball Spirit" have significant improvements in self-confidence, stress resistance, and teaching satisfaction. It is better than the traditional methods in Guangxi universities and shows the consistency and stability of the teaching style. In the evaluation of teamwork ability, teams that incorporate the "Women's Volleyball Spirit" teaching method can achieve a winning rate of 88% in the competition. The introduction of the "Women's Volleyball Spirit" into physical education can significantly improve students' psychological quality and teaching experience. The improvement has opened up a new way for the development of college volleyball in Guangxi, and also has reference significance for the development of sports projects in other regions.

1. Introduction

The "Women's Volleyball Spirit" is a monument in the history of Chinese competitive sports. In particular, the outstanding performance of the Chinese women's volleyball team in the world arena in the 1980s has enriched the connotation of the women's volleyball project and gradually become a spiritual symbol that inspires mankind. This spirit is not only reflected in the results, but also in the core values of the motherland first, unity and cooperation, tenacious struggle, and never giving up. Physical education in Guangxi universities is still facing the challenge of how to inherit and carry forward this spirit. At present, although Guangxi universities have made certain achievements in technical training and tactical application in volleyball teaching, there are still major deficiencies,

mainly in the cultivation and education of students' spiritual level. How to integrate the "Women's Volleyball Spirit", a valuable sports and cultural resource, into physical education teaching and promote the continuous improvement of its competitive level is an urgent problem to be solved.

This paper analyzes the volleyball teaching practice of Guangxi universities and explores the effect of integrating the "Women's Volleyball Spirit" into the physical education teaching process of universities. This paper will clarify the connotation of the "Women's Volleyball Spirit", formulate a specific plan to integrate it into the volleyball project, and verify its effectiveness through empirical research. Integrating volleyball culture into teaching not only enriches the teaching content, but also improves the state of the game and cultivates the team spirit, which will play a certain role in promoting the improvement of the training level of volleyball in Guangxi colleges and universities and cultivating more excellent athletes. Through scientific research methods and rigorous empirical analysis, this paper will show the specific path and effect of integrating the "Women's Volleyball Spirit" into volleyball teaching, and provide theoretical basis and practical guidance for teaching reform and practice in related fields.

2. Related Works

In recent years, the research on volleyball teaching methods has gradually enriched, mainly including: distance education, enhancing physical fitness, holding small-scale competitions, learning strategies, teaching methods, teaching quality evaluation, and improving teaching behavior. Among them, Güneş and Mirzeoğlu used a personalized teaching system to apply volleyball teaching in distance education to improve learning efficiency [1]. Starting from enhancing the physical fitness of college students, Yang discussed how to carry out physical education teaching and training in colleges and universities [2]. De Oliveira Castro et al. conducted a systematic review of small-scale volleyball competition training [3]. Akhmad et al. used a variety of methods to study high school physical education practice [4]. Pasaribu and Nurkadri explored the impact of reciprocal teaching style on volleyball pass learning outcomes [5]. Huang and Chen used the basic principle of probabilistic dual-level language information to study volleyball special skills in ordinary universities [6]. Pujianto and Insanistyo applied reciprocal teaching style to improve the teaching process of students in volleyball courses [7]. Telaumbanua et al. analyzed the learning outcomes of volleyball serve through inclusive teaching style [8]. Moon and Park evaluated the volleyball skill assessment technology in blended learning [9]. Sugito improved the activities and learning outcomes of basic volleyball skills through training methods [10].

Although many studies have been made on volleyball skills, most of them focus on the technical level, and have not attracted enough attention in terms of integration and inheritance with sports. In particular, the "Women's Volleyball Spirit", a sports spirit with unique Chinese sports culture, has not been given a clear answer in previous studies. In addition, the research of the above scholars mainly focuses on the improvement of teaching methods and skills, while ignoring the impact on the psychological and humanistic aspects of the teaching process. In view of this, this paper explores the integration strategy of the "Women's Volleyball Spirit" in volleyball teaching in Guangxi universities, and analyzes its dual role in improving students' volleyball skills and sports spirit.

3. Methods

3.1. Core values and Spiritual Characteristics of the "Women's Volleyball Spirit"

The "Women's Volleyball Spirit" is an excellent representative of the Chinese sports spirit. It is the spiritual crystallization of the tenacious fighting and brave struggle shown by the Chinese

women's volleyball team worldwide. It is specifically manifested in a down-to-earth and hardworking attitude, a fearless and tenacious fighting spirit, a collectivist spirit of sharing weal and woe and fighting in unity, and self-transcendence of hard work and courage to climb to the top. In September 2021, this spirit was included in the first batch of great spirits of the Communist Party of China, namely "the motherland is supreme, unity and cooperation, tenacious struggle, and never give up". The success of Chinese women's volleyball has had a huge inspiring effect on the Chinese people and has played a huge role in promoting the continuous progress of generations of Chinese people [11-12].

Integrating the "Women's Volleyball Spirit" into the volleyball teaching of Guangxi colleges and universities is to run it through every link of teaching, from the cultivation of technology to the analysis of strategy, from team building to personal development, all guided by the "Women's Volleyball Spirit" to cultivate students' team spirit, fighting spirit and self-transcendence in all aspects. By reforming the teaching content and optimizing the educational atmosphere, students can deeply experience and practice the "Women's Volleyball Spirit" in volleyball competitions. While making continuous progress, they can also cultivate excellent qualities such as perseverance, courage to challenge, and unity and cooperation [13]. In this way, not only can the students' competitive level be improved, but also the overall level of college students can be improved, and more outstanding talents can be cultivated for the country.

3.2. Integration Strategy Formulation

The main feature of Guangxi University's volleyball course is the diversification and systematization of teaching methods. In terms of teaching content, in addition to introducing the development history, competition methods, basic rules, skills and other aspects of air volleyball, it also focuses on the competitive spirit and team spirit of volleyball. Through detailed explanations, teachers let students understand the internal logic and cultural connotation of volleyball. In terms of practical operation, teachers use on-site demonstrations and explanations to enable students to master technical points such as padding, passing, serving, and attacking. It focuses on both the accuracy and standardization of movements and the practical application and adaptability. Preparation posture and moving footwork are the most basic movements in volleyball and are also the most valued. Various preparation postures such as half squat, micro squat, low squat, etc., as well as parallel steps, sliding steps, cross steps, strides, running and other movements are all basic skills that students must master [14-15]. In order to further improve the teaching quality, this paper integrates the "Women's Volleyball Spirit" into the volleyball teaching of Guangxi universities to achieve a comprehensive innovation in teaching content and methods. Figure 1 shows the integration strategy designed in this paper:



Figure 1: Incorporating the "Women's Volleyball Spirit" into strategy formulation

Integrating the "Women's Volleyball Spirit" into physical education is an innovative practical activity. In the adjustment of teaching content, first of all, in terms of technical training, teachers should not only teach basic techniques such as padding, passing, serving, spiking and blocking, but also pay attention to the importance of these techniques and improve the accuracy, emphasizing the diligent learning and self-transcendence of the women's volleyball team. It includes increasing the difficulty of training, increasing the threshold of technology, fully mobilizing students' enthusiasm for learning, and prompting students to have the courage to make a breakthrough and achieve self-improvement in the competition. In the tactical explanation session, teachers combined with cases in women's volleyball games, analyzed the importance of teamwork and the clever application of strategies, so that students can experience the spirit of teamwork and the spirit of tenacious struggle. Through the simulation of the game scenario, participants can develop adaptive and strategic thinking in the actual game according to the characteristics of the opponent and the game process. The match analysis session focuses more on the in-depth interpretation of the "Women's Volleyball Spirit". Through the video materials of the Chinese women's volleyball team, guide students to seize every important moment and discuss how to remain calm in adversity, encourage each other, work together, and overcome various obstacles. This kind of analysis can not only help students better understand the power of the "Women's Volleyball Spirit", but also promote teamwork and the spirit of striving for progress to a certain extent [16]. In terms of teaching methods, the volleyball courses in Guangxi universities adopt interactive teaching and scenario simulation methods, including role-playing to give students a sense of responsibility and urgency in the game, and team games to improve students' sense of team honor and competitiveness. These methods enable students to learn through participation, grow through experience, and have a deeper understanding of the connotation of the "Women's Volleyball Spirit". Optimizing the teaching environment is also an important aspect of integrating the "Women's Volleyball Spirit" and integrating the volleyball spirit into the atmosphere of the classroom. By improving facilities, creating more professional and safe training conditions, posting "Women's Volleyball Spirit" slogans and pictures in the training venues, and creating a positive, united, and mutually supportive learning atmosphere. This is a great way to enhance students' learning experience and also an encouragement to students.

3.3. Data Collection

When designing the experiment, two groups of students with similar levels will be selected, each group will contain five volleyball teams. According to the general volleyball standard lineup, this paper considers the need for rotation and sets each team to 10 people. A total of 100 people in the two groups will be used for the experiment, which will also ensure that the basic data of the two groups are similar in terms of technical level and physical fitness. These tests will cover basic volleyball skills and physical fitness tests. In the experiment, one group will be used as the experimental group to adopt the teaching strategy that incorporates the "Women's Volleyball Spirit", and the other group will continue to use traditional teaching methods as the control group. During the teaching implementation stage, the content, teaching methods, and student participation of each teaching will be recorded in detail, and the student feedback will be recorded to ensure that the specific content of the teaching process can be accurately recorded. And after a period of time, the students in the two groups will be tested again to evaluate their improvement. The test will include techniques such as padding, passing, serving, spiking and blocking, and the degree of skill improvement will be measured by comparing the pre- and post-tests. In addition, competitions will be held to evaluate the level of group collaboration of students, and these images will become the key to analyzing students' cooperation and strategy use. At the same time, this paper will collect

students' psychological reactions to teaching methods through questionnaires or interviews, including self-confidence, stress resistance, and teaching satisfaction.

4. Results and Discussion

4.1. Skill Improvement

This paper will evaluate the specific impact of the teaching method incorporating the "Women's Volleyball Spirit" on the improvement of students' volleyball skills by comparing the skill performance of the experimental group and the control group before and after teaching. Among them, the skill scores of 50 students in the experimental group and the control group in padding, passing, serving, spiking and blocking were collected and scored by professional teachers of the school (total 100 points). The scoring results were statistically analyzed in this paper. The baseline test skill score data of the two groups of students are shown in Figure 2:

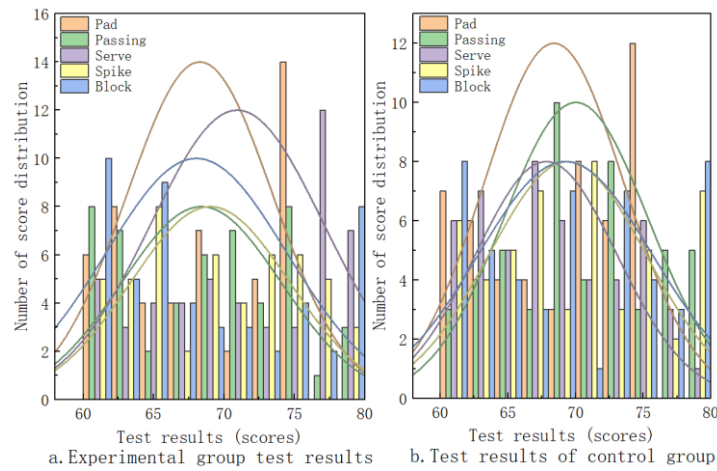


Figure 2: Students' baseline test skill levels

From the data in Figure 2, we can see that the students' extreme test levels are not much different in the five items of dribbling, passing, serving, spiking and blocking. The skill level scores of the two groups of students are mostly between 60 and 80 points. From the baseline test, the initial levels of the two groups of students in various skills are similar, which provides a fair starting point for the subsequent evaluation of teaching effectiveness. This paper takes Guangxi colleges and universities as the research object, compares and analyzes the volleyball skill test results of the experimental group and the control group, and conducts a preliminary exploration of the application of the "Women's Volleyball Spirit" in college physical education. Table 1 shows the average scores of the baseline test and post-teaching test of the two groups of students in the five test items of dribbling, passing, serving, spiking and blocking.

Table 1: Average scores of students in volleyball skills test

Test Items	Test Group		Control Group	
	Baseline Test	Post-Teaching Test	Baseline Test	Post-Teaching Test
Pad	68.28	83.32	68.4	77.94
Passing	68.4	85.48	70.02	79
Serve	70.94	82.62	67.82	75.78
Spike	69.02	84.02	69.4	79.52
Block	68.04	86.7	69.24	79.7

In the post-teaching test, students with teaching strategies incorporating the "Women's Volleyball Spirit" performed significantly better than traditional teaching methods. Specifically, the experimental group's average score improvement in the skill tests of padding, passing, serving, dinking and blocking were all significantly higher than those of the traditional teaching method. The "women's volleyball spirit" teaching method has a significant effect on improving the students' volleyball skills when there is little difference in the baseline level. By comparing the mean scores of the post-tests of the two groups of students, it can be found that the mean scores of the students who were taught with the "Women's Volleyball Spirit" teaching strategy were higher than those of the students who were taught with the traditional teaching method in all the test items. Especially in the two items of passing and blocking, the improvement of the experimental group was particularly significant, reaching 17.08 points and 18.66 points respectively, while the improvement of the control group was 9 points and 10.46 points respectively. The core values emphasized in the "Women's Volleyball Team Spirit" such as unity, collaboration, tenacity and hard work promote the training effect of students. These spiritual qualities inspire students to work harder in training, thus achieving better results in skill improvement.

4.2. Teamwork Ability

Table 2: Match scores and wins and losses

Test Group	Control Group	Match Score	Win or Lose
A	F	3-1	Win
	G	3-0	Win
	H	3-1	Win
	I	3-2	Win
	J	3-1	Win
B	F	3-1	Win
	G	3-2	Win
	H	3-1	Win
	I	2-3	Lose
	J	3-1	Win
C	F	3-2	Win
	G	3-1	Win
	H	3-0	Win
	I	2-3	Lose
	J	3-2	Win
D	F	3-1	Win
	G	3-2	Win
	H	3-1	Win
	I	3-2	Win
	J	3-2	Win
E	F	3-1	Win
	G	3-1	Win
	H	2-3	Lose
	I	3-1	Win
	J	3-1	Win

Teamwork ability is another important dimension to measure the effect of integrating the "Women's Volleyball Spirit" into volleyball teaching. Teamwork should pay attention to cooperation

at the technical level, mutual support at the strategic level, and strategy execution. In order to evaluate the teamwork ability, this paper will form 100 testers into teams of 10 people in each team, and they will be recorded as teams A, B, C, D, E, F, G, H, I, and J respectively, among which A, B, C, D, and E are the test groups, and F, G, H, I, and J are the control groups. The teamwork ability is evaluated through the scores of the 10 teams. Each team in the experimental group will compete with the five teams in the control group respectively. The competition format is 5 games and 3 wins. The team that scores 3 points first wins. The game scores and the outcome are shown in Table 2:

Judging from the win-loss record, the experimental group showed a higher winning rate in the game with the control group. The five teams A to E in the experimental group won at least four games against the five teams F to J in the control group, and in many cases won with a score of 3-1 or 3-0, showing a strong competitive advantage. In particular, the experimental group A and D teams have never lost in all the duels. The teaching method that incorporates the "Women's Volleyball Spirit" has played a positive role in improving the competitive level of students. Overall, the experimental group's winning rate in the game with the control group can reach 88%. Although teams B, C, and E lost one of their five games, they all got 2 points. Introducing the "Women's Volleyball Spirit" in college physical education has a positive effect on improving the psychological quality of college students and enhancing their ability to resist stress. Students who have integrated the teaching strategy of the "Women's Volleyball Spirit" can cope with pressure well and play a good level of competition in fierce competitions, which reflects that the "Women's Volleyball Spirit" has a certain positive impact on athletes.

4.3. Self-confidence, Stress Resistance and Teaching Satisfaction

After deeply analyzing the impact of the integration of the "Women's Volleyball Spirit" into volleyball teaching in Guangxi universities on students' skill improvement and teamwork ability, this paper further explores the positive role of this teaching method on students' psychological quality, especially self-confidence, stress resistance and satisfaction with teaching. Through the evaluation of these dimensions, we can fully understand the profound impact of the "Women's Volleyball Spirit" on the intrinsic motivation and practical experience of college students. The self-confidence and stress resistance data collected in this paper are the students' self-evaluation data collected in this paper, and the teaching satisfaction is an evaluation made by the satisfaction questionnaire for different teaching methods. This paper scores and counts these data, and the data obtained are shown in Figure 3, including the maximum value, minimum value, mean and mean square error.

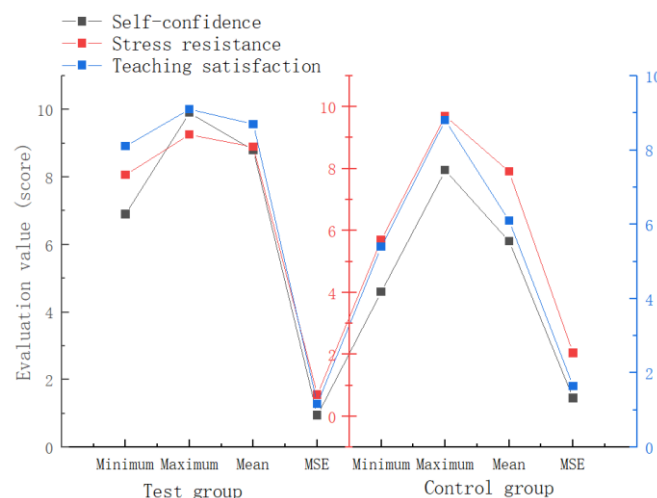


Figure 3: Self-confidence, stress tolerance and teaching satisfaction

The minimum self-confidence value of students who incorporate the "Women's Volleyball Spirit" teaching strategy is 6.9 points, the maximum value is 9.9 points, and the average value is 8.8 points. After students receive teaching that incorporates the "Women's Volleyball Spirit", their self-confidence has been significantly improved, and the self-confidence levels among students are relatively consistent, with a mean square error of 0.943. In contrast, under the traditional method, the minimum value of students' self-confidence is 4.6, the maximum value is 8.2 points, the mean is 6.1 points, and the mean square error is 1.454. The self-confidence level of students under the traditional method is not only lower than that of students who incorporate the "Women's Volleyball Spirit" teaching strategy, but the differences between students are larger, and the mean square error is also larger, reflecting that the control group's performance in terms of self-confidence is insufficient. In terms of stress resistance, students who incorporate the "Women's Volleyball Spirit" teaching strategy show strong psychological resilience when facing pressure, and their ability to withstand stress is relatively balanced, with a mean square error of 0.693. Although the maximum value of students' stress resistance under traditional teaching methods is higher, the overall mean value is lower than the teaching strategy that incorporates the "Women's Volleyball Spirit", and the mean square error is larger, indicating that the performance of students in the control group's stress resistance ability fluctuates greatly, not stable enough. In terms of teaching satisfaction, the teaching satisfaction of traditional methods is not only lower than that of teaching strategies that incorporate the "Women's Volleyball Spirit", but also has a larger mean square error. Teaching methods incorporating the "Women's Volleyball Spirit" have significant effects in improving students' self-confidence, stress resistance and teaching satisfaction.

5. Conclusion

This study deeply explores the strategies and methods of integrating "Women's Volleyball Spirit" into volleyball teaching in Guangxi colleges and universities, and conducts an empirical analysis of its actual teaching effects. The research results show that students who incorporate the "Women's Volleyball Spirit" teaching strategy have significant improvements in various dimensions such as self-confidence, stress resistance and teaching satisfaction. The research of this paper makes up for the existing research on the integration of sports spirit and cultural connotation, especially the creative exploration of the integration and inheritance of the Chinese characteristic sports spirit "Women's Volleyball Spirit". It not only improves the overall level of volleyball teaching in colleges and universities in Guangxi, but also serves as a reference for cultivating talents who embody the "Women's Volleyball Spirit" and for the development of similar projects in other places. However, this study also has certain limitations, including the limited number of research samples, which may affect the generalizability of the results. Since the research time is relatively short, it cannot examine students' learning effectiveness from a long-term perspective. In future research, the intensity of the investigation should be increased, the length of the investigation should be increased, and the application of the "Women's Volleyball Spirit" in physical education in colleges and universities should be deeply discussed. Future research can expand the research horizons to a wider range of regions and sports events, and evaluate the application and development of sports spirit culture in education in a more comprehensive way.

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