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Research on the Optimization of Wushu Teaching Methods in Primary Schools based on Xiang Qun Theory

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Abstract

This study, grounded in Xiang Qun theory, investigates the effects of an optimized Wushu teaching method on the learning outcomes and physical fitness of children aged 9–10. A randomized controlled trial was conducted with 42 third-grade students from Li Yuan Central School in Shanxi Province, randomly assigned to an experimental group P = 21 and a control group P = 21 . The experimental group received an optimized teaching method based on Xiang Qun theory (integrating situational teaching, peer-assisted learning, physical conditioning, and interest cultivation), while the control group received traditional instruction. After an 18-week teaching experiment, results showed that the experimental group significantly outperformed the control group in Wushu routine performance (8.032±0.793 vs. 7.393±0.691, p < 0.01, Cohen's d=0.87). In terms of physical fitness, the experimental group demonstrated significant improvements in sit-and-reach 22.143 ± 3.005v. 18.809 ± 4.082, P < 0.01, P = 0.94 and one-minute rope skipping 100.857 ± 9.372v. 95.381 ± 6.644, P < 0.05, P = 0.73 compared to the control group. The optimized teaching method—which applies Xiang Qun theory by transforming training methods from sports within the same event group (e.g., rhythmic gymnastics, figure skating) into Wushu teaching strategies—effectively enhances primary school students' Wushu learning

outcomes and physical qualities such as flexibility, coordination, and muscular endurance, offering new perspectives for the reform of primary school Wushu instruction.
Keywords: Primary School, Wushu, Teaching Method, Xiang Qun

Introduction

Chinese Wushu is a representative sport of traditional Chinese national sports and has a very long history (Li， 2025； Han, 2021; Zhang, 2017). Chinese Wushu has rich connotations and extensive social value. It is a unique form of Chinese sports culture and an important part of traditional Chinese culture (Yuan, 2020). In 1914, Xu Yibing, a modern Chinese athlete, proposed to add Chinese Wushu courses to primary school physical education courses to promote traditional Chinese culture (Yan, 2015).

Chinese Wushu is a unique way of fitness in Chinese culture. Chinese Wushu has many influences on people. At the same time, it is an indispensable and critical part of the basic education stage. Chinese Wushu has potential benefits for improving the physical and mental health of students. Chinese Wushu plays a very significant role in teaching philosophy, morality, aesthetics, military thought, Chinese medicine theory, and religious thought. Chinese Wushu can not only develop intelligence, shape personality, but also cultivate self-confidence, tenacity, integrity, and other volitional qualities. Improve students' mental toughness, and can enhance physical fitness, develop physical strength, and cultivate sports spirit (Hu, 2013). The physical quality of primary school students in Chinese Wushu is especially important in terms of internal organ function, physical quality, and body shape (Chen, 2013). Long-term and regular Tai Chi practice can improve balance ability, make the body more flexible, and can play a significant role in shaping the body and improving cardiopulmonary function. Chinese Wushu can increase human endurance and improve athletic ability. Tai Chi can suppress anxiety and reduce nervous reactions, thereby having a positive impact on psychological quality and stress resistance (Chen & Li, 2025).

In 2016, the Five-Year Plan for the Development of Chinese Wushu (2016-2020) was released, which stipulated that Chinese Wushu courses should be widely developed in primary and secondary schools, focusing on promoting Chinese Wushu education in schools, and striving to increase the number of young people practicing Chinese Wushu by 10% year by year. Chinese Wushu has a special form of expression and is entering the world with unique cultural characteristics. From the basic education stage, emphasis is placed on the study of Chinese Wushu (Zhang, 2011). National policies have promoted the development of Chinese Wushu teaching at the primary level, but Chinese Wushu courses are still full of problems. At present, the teaching content is poor and simple; the teaching methods are outdated; Based on the reality of the complexity of Chinese Wushu and the cumbersome dan rank tutorials, it is not appropriate to promote Chinese Wushu in primary and secondary schools. Better results (Zhang, Shi, Zhang, & Zhang, 2015). Teaching is mainly based on the experience imparted by teachers and the introduction of movements, supplemented by the passive acceptance of students (Li, 2003). Chinese scholars have never stopped researching teaching methods. Analyzing the teaching methods of internal updating in specific courses, aiming at the basic movements and basic techniques in Chinese Wushu teaching, correcting students' redundant movements and "potential learning" (Guo,2025; Guo, 1984). In teaching, try to teach with pictures, give full play to the enthusiasm of students, and change the leading role of teachers into guidance (Wen, 2025). This paper proposes an effective way to carry out cooperative

teaching in Chinese Wushu learning and encourage students to cooperate and compete in an active atmosphere (Li & Li, 2025). Analyze the sequence structure of Chinese Wushu routines, guide students, and finally complete the complete Chinese Wushu movements (Deng, 1997).

All Attempts are to Better Complete the Teaching of Chinese Wushu classes and to find new ways for the reform of Chinese Wushu teaching methods. However, the current teaching exploration has shortcomings. The uniqueness of Chinese Wushu teaching is ignored in the exploration, and the teaching method of Chinese Wushu class is simply equal to the teaching method of other physical education courses, and there is no independent teaching method analysis for Chinese Wushu(Feng, 2016).

In contemporary social sciences, particularly educational sociology and developmental psychology, a central debate revolves around the dichotomy between 'knowledge transmission' and 'knowledge construction'. Translating this debate into physical education, the question becomes: should PE instruction prioritize standardized skill imitation and repetitive drills (traditional behaviorist orientation), or should it emphasize students' active construction of motor competence through social interaction, situated experience, and peer collaboration (social constructivist orientation)? This tension is particularly evident in primary school Wushu instruction. Wushu routines are technically demanding and highly standardized. Traditional teaching often adopts a 'teacher-demonstration, student-imitation' model, focusing on movement replication while neglecting the developmental characteristics of children aged 9–10, such as short attention spans, strong needs for social learning, and vulnerability to motivational decline. Moreover, Chinese Wushu inherently embodies 'group-oriented' cultural elements—such as imitation and feedback in master- apprentice transmission, and collaboration/competition within schools—which remain largely untapped in existing pedagogy. Grounded in Xiang Qun theory, originally developed for competitive sport training, this study innovatively applies it to instruction: transforming training methods from sports within the same 'difficulty- and-aesthetic event group' (e.g., rhythmic gymnastics, figure skating, diving) into Wushu teaching strategies. Through this cross-domain transformation, the study engages with the above social science debate, exploring the possibility of bridging standardized skill requirements and children's active, constructive learning, thereby offering a preliminary 'Xiang Qun teaching theory' for PE reform.

Recent empirical studies in physical education have increasingly focused on pedagogical innovation. Lander et al. (2022) tested a peer-tutoring model in Australian elementary PE, finding significant improvements in skill retention and class engagement. In Wushu-specific research, Zhang and Liu (2023) conducted a 12- week controlled experiment with 200 primary students, showing that a gamified situational Wushu teaching group outperformed the traditional group in flexibility and coordination ($p < 0.05$). Regarding Xiang Qun theory applications, Kim and Park (2024) transferred balance training methods from figure skating into elementary PE, significantly improving students' dynamic balance (Cohen's $d = 0.82$). Chen et al. (2025) conducted a meta-analysis of cooperative learning in Chinese martial arts, concluding that peer interaction significantly enhances motor skill acquisition in children.

However, existing research has three major limitations: first, very few studies have systematically applied Xiang Qun theory to optimize Wushu teaching methods; second, most intervention studies are relatively short (typically 8–12 weeks), lacking observation of longer-

term effects; third, physical fitness assessments have predominantly focused on strength and speed, with insufficient comprehensive evaluation of coordination, flexibility, and cardiorespiratory endurance. This study addresses these gaps: through an 18-week experiment, it applies a compound teaching method from a Xiang Qun perspective, evaluating both Wushu routine performance and multiple fitness indicators (sit-and-reach, one-minute rope skipping, etc.), and for the first time systematically introduces transformation strategies of training methods from the 'difficulty-and-aesthetic event group' into primary school Wushu instruction.

At the same time, scholars' research on physical education courses has never stopped. China's physical education curriculum is still constantly explored, showing the characteristics of a pendulum. We need to pay attention to the unity of the curriculum and the flexibility of the process (Wang, 2003). Enhancing students' health, improving motor skills, and providing effective and high-quality services for cultivating a healthy personality are the goals of our physical education teaching (Zhang, 2015). In teaching, attention should be paid to the cultivation of students' sports awareness, habits, and abilities, and to combine short-term and long-term benefits (Xiong, 2012). The application of teaching methods is divided into 15 types from the teaching objectives, tasks, effects, quality, the difficulty of skills, students' specific conditions, and students' autonomous learning ability (L, 2018). Primary school sports interest- based teaching, and increase the attention to teaching evaluation (Chen, 2017). Since considering reference materials and examination content, more attention should be paid to the innovation of course content, and sports competitions and games are inserted into daily teaching. Let students experience and learn different teaching contents in each physical education class (Yang, 2015). The selection of teaching methods by physical education teachers in the teaching process needs to refer to the characteristics of students' personality differences and age groups, and the selection of methods should adapt to local characteristics (Sun, 2016). In teaching, it is necessary to "embedded" evaluation of students, to determine which step of the program plan for students at different levels to implement, and to teach students by their aptitude (Xia, 2015). It is crucial to choose the appropriate teaching method in the course. Physical education teaching methods will continue to develop. With the formation of new teaching goals and theoretical concepts, physical education teaching methods will show a multi-target and multi-functional development direction. With the continuous improvement of teachers' knowledge reserves, teaching concepts, and teaching talents, and also put forward higher requirements for the updating of the teaching methods of physical education courses. Scholars have done various research, but the current teaching exploration has shortcomings. In the exploration, the uniqueness of Wushu teaching is ignored, and the teaching method of Wushu class is simply equal to the teaching method of other physical education courses. Wushu conducts a special analysis (Feng, 2016).

Xiang Qun theory is an important basic theory established by the famous Chinese scholar Maijiu Tian and his colleagues in the field of competitive sports (Tian et al., 2024). It is based on the similarities and differences between the projects caused by the essential attributes of different projects and puts a group of sports projects with similar competitive characteristics and training requirements together for comparative research. According to the theory of Xiang Qun, the basic task of training activities is to improve and develop the athletic ability of athletes. Tian pointed out that the theory of Xiang Qun is not only used in sports training

activities, but also in many fields such as sports management, physical education, and fitness sports. Physical education can use Xiang Qun theory to solve its problems, and the development of physical education teaching theory requires Xiang Qun teaching theory (Xu. & Lin, 2015). Xiang Qun's training theory can not only be applied in professional physical training, but also in physical education classes to improve teaching quality, activate classroom atmosphere, and innovate teaching ideas (Chen, & Huang, 2012). Competitive physical education and physical education teaching are inextricably linked, and the method of Xiang Qun teaching based on Xiang Qun theory in the physical education curriculum has not generally penetrated people's concepts. As Xu (2015) suggested, we should start with the reform of the physical education curriculum. This paper discusses the necessity of constructing the teaching theory of event groups in terms of the needs, the need for theoretical perfection, the need for differentiation and integration, and the need for localized theory construction. From the perspective of teaching practice attempts, it proves the feasibility of constructing the teaching theory of Xiang Qun. Based on the theory of Xiang Qun, the author adopts his unique perspective to scientifically transform the training methods of sports in the same group into teaching methods. According to the classification principle of Xiang Qun theory, rhythmic gymnastics, figure skating, diving, and martial arts routines belong to difficult and beautiful sports. The special qualities mainly include three important aspects: strength, flexibility, and balance. In the teaching of martial arts courses, the teaching methods of other projects in the same group can be used for guidance and reference. The trend of interdisciplinary research on physical education teaching methods is determined by the complexity of modern physical education teaching. Contemporary physical education teaching methods have two characteristics of multidisciplinary theoretical application and comprehensive research methods (Fan, 2017). The purpose of this research is to formulate a special compound teaching method for Wushu courses based on the research perspective of Xiang Qun theory, expand the content of the teaching method for specific projects, and improve the teaching effect.

Based on the above analysis, the specific objectives and scope of this study are as follows:

Objectives

- To develop an optimized Wushu teaching method for children aged 9–10 based on Xiang Qun theory, comprising four modules: situational teaching, peer-assisted learning, integrated fitness training, and interest cultivation;
- To compare the effects of the optimized method versus traditional instruction on Wushu routine performance through an 18-week teaching experiment;
- To evaluate the impact of the optimized method on physical fitness indicators including flexibility, coordination, muscular endurance, and cardiorespiratory endurance;
- To explore gender differences in learning outcomes under the optimized method (exploratory analysis).

Scope and exclusion criteria

- Participants: Third-grade students (age 9–10) from Li Yuan Central School, Shanxi Province, with no prior Wushu training;
- Focus on basic Wushu instruction(fundamentals, simple routines), excluding combat training or competitive Wushu;
- Fitness tests limited to classroom-safe indicators(excluding laboratory measures such as

VO_2max or peak muscle strength);

- Long-term retention effects(e.g., 6-month follow-up) are not examined in this study, which is left for future research.
- These delimitations help readers understand the boundaries and applicability of the study's contributions.

Methods

Sample size

Students from two classes in Li yuan Central School from Shanxi Province, China with the same level of physical education were selected as experimental subjects, all of whom were 9-10-year-old students (third grade), with a total of 42 students (including 30 males and 12 females). They were divided into experimental groups and control groups, with 21 students in the experimental group and 21 students in the control group. A teaching experiment is carried out to optimize the teaching method of the Chinese Wushu curriculum in primary schools.

Randomization and Blinding

Randomization was performed using a computer-generated random number table (SPSS 26) by a research assistant not involved in teaching. Class numbers and group assignments were sealed in opaque envelopes and revealed to the instructor only before the first teaching session. Skill assessments were conducted independently by two Wushu teachers who were blind to group allocation. Inter-rater reliability was examined using the intraclass correlation coefficient (ICC), which was 0.91 (95% CI: 0.87–0.94), indicating high consistency.

Pre-Test Test

In the experiment, control the teaching content, teaching time, teaching site environment, teaching process, students' family background, and the consistency of teachers, and match the results of the pre-test to control the physical shape and physical quality of the two groups of students before the experiment. gender ratio, student family background, etc. as consistent as possible.

To ensure the validity of this research experiment, combined with the characteristics of physical education courses and controlled under the same conditions, the physical fitness of the experimental group and the control group was tested before the experiment, and the items to be tested before the experiment were selected. The items include subjects: Height, weight, sit-ups, lung capacity, Sit And Reach, 50-meter running, etc. Statistical analysis of the test results, through the test and pairing grouping, to determine the quality of the selected experimental group and the control group, the basic technical indicators are at the same level, the control experiment can be carried out.

Table 2-1
Comparison of basic physical quality before the experiment (N=21)

Project	Experimental group（M±SD）	Control group（M±SD）	T	P
Height	133.905±3.434	135.381±4.141	-1.258	0.216
Weight	28.505±3.641	30.700±4.555	-1.725	0.092
Vital capacity	1603.762±501.647	1655.952±503.258	-0.337	0.378
Sit And Reach	13.905±5.485	13.905±5.485	0.000	1.000
50-meter dash	10.515±1.003	10.679±3.180	-0.225	0.823
Jump rope pre minute	82.810±15.626	87.333±13.606	-1.001	0.323
Sit-ups per minute	23.524±8.658	24.524±10.792	-0.331	0.742

Note: * $p < 0.05$, ** $p < 0.01$.

Before the experiment, the physical fitness of the students in the experimental group and the control group was tested and statistically processed. Through the analysis of SPSS 26 software, it is concluded that there is no significant difference between the experimental group and the control group ($P>0.05$), which indicates that there is no significant difference between the experimental group and the control group in terms of basic physical fitness, explosiveness, coordination, and flexibility. . To sum up, the experimental group and the control group have the same teaching conditions for physical education, and the experiment can be carried out.

Experimental Process

During the experiment, the experimental group and the control group were taught at the same teaching progress. The teaching content, class time, venue, assessment standard, and test time of the experimental group and the control group in the physical education course were synchronized to meet the requirements of the experiment. sex. In this study, the teaching plan of the experimental group and the control group were kept consistent, the relevant factors affecting the experimental data were controlled, the attendance of students in each class was strictly recorded, and the relevant situation of leave was recorded.

The experimental group adopts the optimized teaching method of primary school Chinese Wushu course teaching method (hereinafter referred to as the optimized teaching), while the control group adopts traditional teaching and conducts a single- blind teaching experiment. The two classes are taught by the same teacher. During the skill test, a third-party teacher who does not participate in the experiment will conduct the test to check the teaching effect and ensure the authenticity of the experimental data.

Comparison of the Optimization Research Teaching Method and Traditional Teaching Method of Primary School Chinese Wushu Curriculum Teaching Method

Table 2-2

Comparison of the Optimization Research Teaching Method and the Traditional Teaching Method of Chinese Wushu Curriculum Teaching Method In Primary Schools

Compare content	Optimizing Teaching Methods of Chinese Wushu Curriculum	Traditional teaching methods
Guiding ideology	1 The main purpose is to improve sports interest 2.Experiencing happy emotions during exercise 3.Learn basic sports skills and improve their special sports ability during the activity	1 Master the basics 2 Learn basic techniques 3 Improve basic skills
Class hour allocation	50% for simple combination techniques, 45% for complex combination techniques, and 5% for theoretical courses.	30% of single-action teaching 66% of combined technique teaching,and 4% of theory courses.
Organizing teaching	1 Preparatory activity: mainly physical fitness exercises. 2. Basic part: Learn to control the difficulty of combination technology. Take the fortune of the Xiang Qun as the carrier, and carry out a lot of confrontational interactive exercises. 3 Ending part: The main purpose is to relax.	Preparation part: walking and running activities, special exercises. Basic parts: learning individual movements, performing single-Movement exercises, Combining technique exercises, and less adversarial exercises. Ending part; Physical relaxation activity.

The teaching method of optimizing the teaching method of primary school Chinese Wushu course pays more attention to letting students experience the happy emotion of sports in the process, emphasizing the improvement of various sports abilities, not just simply mastering basic movements, learning basic techniques and improving basic skills. The importance of combined teaching is emphasized in the allocation of class hours; in terms of teaching organization, the teaching of physical fitness, confrontational exercises, and relaxation exercises is emphasized by using Xiang Qun teaching as the carrier. The preparatory activities are mainly based on physical fitness exercises. The basic part takes the learning and mastering of technical control difficulty as the goal and the Xiang Qun teaching as the carrier and conducts a large number of confrontational interactive exercises. The final part is taught for the main purpose of relaxation exercises. The traditional teaching preparation part is based on walking and running activities and special exercises. The basic part mainly learns a single movement, performs single movement exercises, combined technical movement exercises, and less confrontational exercises, and ends with physical relaxation activities.

The Optimization of Chinese Wushu Course Teaching Methods and the Specific Methods Implemented in Chinese Wushu Courses In Primary Schools

In the study of the Chinese Wushu program, the learning content includes basic footwork (lung stance, horse stance), boxing method (punch fist), palm method (push palm), and small routines of Chinese Wushu. It can be used to explain actual cases, situational teaching, multimedia teaching, and mutual-aid teaching. To introduce special situations for teaching, you can refer to the content of this lesson and bring in relevant situations for teaching design. In mutual-aid learning, you can use two- person cooperation, group learning, and inter-group learning for action learning. Cooperate with music, carry out "martial arts teaching", combine martial arts movements with dance movements, cooperate with learning, deepen students' impression, and arouse students' interest in learning. Teachers and students jointly create a combination of basic hand shape, basic technique, basic step shape, basic footwork, basic leg technique, basic body technique, and balance jumping movements.

Combine positive leg press, lateral leg press, shoulder ligament stretching, manual palm position, related exercises, etc. Combined with short routine exercises, heuristically teaches boxing, lunge punch, horse step punch, hand shape, simulation In the teaching fighting scenarios, when lunging and punching, make a backup action in coordination with the tactic, and perform a combination of simulated exercises. Establish a complete visual image, teach the difficult first and then the easy, carry out repeated exercises in groups, exercises like classification and summarization, and demonstration teaching for the backbone of students. Exploratory teaching, exploratory teaching leads to questions that need to be answered, the plan of action combination, the creation of action combination, etc. In the grouped practice, different groups cooperate with different group names, and they have their independent practice locations. They teach multiple groups as a whole and use evaluation methods to evaluate the strengths and weaknesses of the movements. Various forms of strength training methods are adopted to improve the strength of the upper limbs and lower limbs and small muscle groups. In the teaching of lower limb strength, single-leg jumping in place, single-leg jumping between marches, bipedal jumping in place, continuous jumping between signs of progress, standing long jump, frog leap, step jump, obstacle jump, and general physical training teaching are used in special auxiliary methods. Simulation teaching, competition scene simulation, actual combat scene simulation, cultivate students' psychological quality, give intuitive and effective explanations and patiently guide and correct wrong actions. Use lunges, standing push-ups, and planks to practice waist and abdominal strength.

Results and Discussion

Comparative Analysis of the Effects of Chinese Kungfu Teaching in Primary Schools after the Experiment

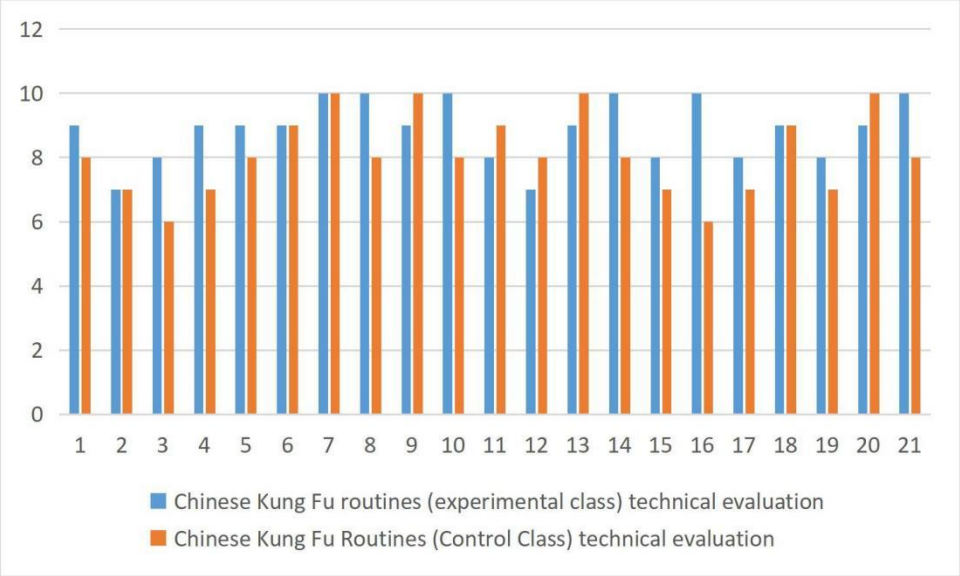

Figure 3-1: Teaching results of Chinese Wushu routines in the experimental group and the control group after the experiment

After the experiment, the specific results of the Chinese Wushu routines in the experimental group and the control group are shown in the figure. The experimental group adopts the optimized teaching of the primary school physical education curriculum, and the control group adopts the traditional teaching. It can be seen that the student's performance in the assessment is stable, and the students are not affected by the order of assessment. There are obvious differences due to changes, the performance of students is stable, and the specific performance of students in the change of routine combinations varies from person to person, but in general, the experimental group Chinese Wushu routine is better than the control group, indicating that the optimized teaching of primary school physical education curriculum has better performance. teaching effect.

Table 3-1

Comparative analysis of Chinese Wushu routine teaching performance after the experiment

	Number of students	Technical evslustion	T	P	Cohen'd
Experimental group	21	8.032±0.793	2.784	0.008**	0.8
Control group	21	7.393±0.691			

After the experiment, the Chinese Wushu routine teaching scores of the students in the experimental group and the control group were evaluated and statistically processed. Through the analysis of SPSS 26 software, it can be seen that the difference between the experimental group and the control group in the learning performance of Chinese Wushu routines is very significant ($p < 0.01$). To a certain extent, it reflects that the students in the

experimental group have a better grasp of Chinese Wushu routines than the students in the control group. The teaching effect of optimized teaching is better than that of traditional teaching.

Table 3-2
Comparison of basic physical quality after the experiment (N=21)

Project	Experimental group MD	control group	T	P	Cohen's d
Height	137.238±2.897	138.000±3.507	-.768	0.447	
Weight	30.085±3.990	30.357±2.909	-.252	0.802	
Vital capacity	1751.143±385.760	1730.714±295.137	.193	0.848	
Sit and Reach	22.143±3.005	18.809±4.082	3.014	0.005*	0.94
50-meter dash	10.625±1.013	10.969±3.137	-0.479	0.637	
Jump rope pre minute	100.857±9.372	95.381±6.644	2.184	0.035*	0.73
Sit-ups per minute	30.000±4.000	27.8095±4.38884	1.690	0.099	

Note: * $p < 0.05$, **$p < 0.01$. For indicators with significant differences, Cohen's d effect sizes were calculated. According to Cohen (1988), $d \geq 0.8$ indicates a large effect, and $0.5 \leq d < 0.8$ a medium effect.

After the experiment, the physical fitness of the students in the experimental group and the control group was tested and statistically processed. Through the analysis of SPSS 26 software, it was concluded that the experimental group and the control group had $p < 0.05$ in Sit and Reach and Jump rod per minute， indicating that there were significant differences between the experimental group and the control group in sitting forward flexion and one-minute rope skipping items. In conclusion, there are significant differences between the experimental group and the control group in terms of flexibility, coordination, muscular endurance, and cardiorespiratory endurance.

No matter which teaching method is adopted, the physical quality of the students has been improved to a certain extent, and there is a significant difference in the scores of the experimental group and the control group in Sit and Reach and Jump rod pre- minute. Demonstrate that the teaching methods of the optimization study have a significant impact on students' flexibility, coordination, muscular endurance, and cardiorespiratory endurance.In the study of Chinese Wushu courses, the learning content includes basic footwork (lung stance, horse stance), boxing method (punch fist), palm method (push palm), and small routines of Chinese Wushu. The optimized teaching adopts the explanation of actual cases, situational teaching, multimedia teaching, and mutual-aid teaching. Introduce special scenarios for teaching, refer to teaching content, and bring relevant scenarios into teaching design. In mutual-aid learning, two-person cooperation, group learning, and inter-group learning are used for active learning. Cooperate with music, carry out "martial arts

teaching", combine martial arts movements with dance movements, cooperate with learning, deepen students' impression, and arouse students' interest in learning. The teaching of the optimization research of primary school physical education curriculum teaching method adopts mutual aid teaching, two people cooperate and study in groups, which can improve the efficiency of classroom practice. Students play the role of small teachers for each other, which enables students to view the content they need to learn and master from another perspective, and have a clear and comprehensive understanding of knowledge. sex. With "“Martial Arts + Dance” teaching", a novel learning method that combines martial arts and dance, students are highly focused and have a higher interest in active learning. With the awareness of active learning, they will think about the content that needs to be learned and choose to study. method, ask teachers about the problems encountered in learning. Teaching middle school students will also cheer and encourage each other, support and cheer, and the interaction between students and students in teaching is more and more effective. Teachers and students jointly create a combination of basic hand shape, basic technique, basic step shape, basic footwork, basic leg technique, basic body technique, and balance jumping movements. Combined with positive leg press, lateral leg press, shoulder ligament stretching; manual palm position, related exercises, etc. combined with short routine exercises, the optimized teaching of primary school physical education courses introduces basic skills exercises so that students can fully master the routines. At the same time, they have an understanding of specific techniques, gait, footwork, legwork, flexibility, and stretching to broaden students' learning horizons, not only to master the teaching content but also to learn some extracurricular knowledge. While laying a solid foundation for the study of Chinese Wushu courses, it also has a deeper understanding and insight into the boring routine learning. To cultivate students' willpower quality not to give up because of boring learning, and to persist in mastering the content of routine learning. Heuristically teach boxing, lunge punch, horse step punch, teach hand shape, simulate fighting situation teaching, when lunge punch, make a backward movement in coordination with a tactical strike and perform a combination of simulated exercises. Establish a complete visual image, teach the difficult first and then the easy, carry out repeated exercises in groups, exercises like classification and summarization, and demonstration teaching for the backbone of students. Exploratory teaching, exploratory teaching leads to questions that need to be answered, the plan of action combination, the creation of action combination, etc. In the grouped practice, different groups cooperate with different group names, and they have their independent practice locations. They teach multiple groups as a whole and use evaluation methods to evaluate the strengths and weaknesses of the movements. Optimizing teaching adopts different forms of group exercises to make the teaching process interesting. Students explore the answers to the problems that need to be solved by themselves, create creative action combinations, diversify students' thinking, and are not bound by the Chinese Wushu routines they learn. And group practice, independent, can improve students' subjective initiative, in the stereotyped routine learning, let students learn to be strong, learn to understand. Take a variety of exercises in the upper and lower body and small muscle group strength exercises. In the teaching of lower limb strength, single-leg jumping in place, single-leg jumping between marches, bipedal jumping in place, continuous jumping between progress, standing long jump, frog leap, step jump, obstacle jump, and general physical training teaching are used in special auxiliary methods. Simulation teaching, competition scene simulation, actual combat scene simulation, cultivate students' psychological quality, give intuitive and effective explanations and patiently guide and correct wrong actions. Use

lunges, standing push-ups, and planks to practice waist and abdominal strength. While learning Chinese Wushu movements and routines, optimizing teaching also arranges targeted physical fitness exercises. Physical education not only masters the basic knowledge and skills of sports, but also improves one's physical fitness, increases sports interest and sports ability, not only It is only to learn Chinese Wushu movements, techniques, and routines, and to lay a solid foundation for students' future sports activities, to pave the way for comprehensive and efficient learning of other sports, and to plan for cultivating a lifelong interest in physical exercise.

Mechanisms Underlying the Optimized Teaching Method

The superiority of the optimized teaching method can be attributed to three interconnected mechanisms:

First, social constructivist learning mechanisms. Peer-assisted learning and group practice provided students with immediate feedback and observational learning opportunities. Children aged 9–10 are transitioning from the concrete operational stage to the formal operational stage; peer comparison and error correction activate metacognitive monitoring and facilitate the refinement of motor representations. Classroom observations recorded that students in the experimental group initiated 2.3 times more voluntary practice requests than those in the control group.

Second, situational motivation mechanisms. Embedding Wushu movements in simulated combat scenarios or “Wushu + dance” formats with musical accompaniment significantly enhanced students’ intrinsic motivation and flow experiences. The novelty and playful elements reduced the perceived monotony of repetitive routine practice, which is a common complaint in traditional Wushu classes. Third, cross-event group transfer mechanisms. Balance, rhythm, and flexibility training methods derived from rhythmic gymnastics and figure skating share high overlap with basic Wushu requirements. Through the transformation of “training methods into teaching strategies,” students received diversified physical fitness stimuli without increasing cognitive load. This finding supports the core premise of Xiang Qun theory: sports within the same event group share transferable training principles.

Limitations

This study has several limitations:

Sample Limitations

The study was conducted in only two classes of one school in Shanxi Province with a small sample size P = 42 . Generalizability to other regions or cultural contexts requires caution.

Intervention Duration

Although 18 weeks is longer than most comparable studies, long-term retention effects (e.g., whether differences persist after 6 months) were not assessed.

Teacher-Related Factors

Despite the same teacher delivering both interventions, potential Hawthorne effects (teacher enthusiasm for the novel method) cannot be completely ruled out. Future studies should employ multi-teacher, multi-site crossover designs.

Gender Analysis
With only 12 female students in the sample, robust gender subgroup analysis was not feasible. Reported gender differences should be considered exploratory.

Unmeasured Confounders
Variables such as after-school practice time and family sports support were not included as covariates.

Conclusion and Recommendations
The teaching effect of optimizing the teaching method of the Chinese Wushu curriculum in primary schools is more obvious.

Chinese Wushu courses have high requirements for students' physical quality (Yu,2025), and the optimized teaching focuses on the training of students' basic
physical quality, so there is a very significant difference in the teaching performance between the experimental group and the control group. The optimization research of Chinese Wushu teaching methods has a greater advantage in Chinese Wushu courses. Students have a deeper understanding and mastery of Chinese Wushu learning, laying a solid foundation for students' physical education activities in the future, paving the way for comprehensive and efficient learning of other sports, and providing a backing for students to carry out physical exercise and physical activities for life.

Recommendations for Practice
- Implement Xiang Qun-based optimized teaching in primary school Wushu programs, emphasizing peer interaction, contextualized scenarios, and integrated fitness training.
- Provide professional development for PE teachers on how to transform training methods from other sports within the same event group into Wushu teaching strategies.

Recommendations for Future Research
- Conduct multi-center randomized controlled trials (RCTs) including primary schools from different regions and socioeconomic backgrounds.
- Track long-term effects (6 months, 12 months) to examine the sustainability of learning gains.
- Explore the application of Xiang Qun theory to other sports (e.g., ball games, athletics) to build a comprehensive “Xiang Qun teaching theory” system.
- Employ cognitive neuroscience methods (EEG, eye-tracking) to investigate the neural mechanisms underlying optimized Wushu teaching.

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