

A Study on the Influence of Situational Teaching in Junior High School Physical Education on Students' Learning Motivation from the Perspective of Core Literacy

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Abstract: This study aims to explore the impact of situational teaching methods on stimulating junior high school students' motivation in physical education from the perspective of core literacy, and to provide theoretical and practical references for improving physical education teaching effectiveness. A mixed research method combining quantitative and qualitative approaches was adopted. Specifically, 600 junior high school students from 4 schools were selected as research subjects, and they were divided into an experimental group (applying situational teaching) and a control group (using traditional teaching) for a 16-week intervention experiment. During the experiment, data were collected through the Physical Education Learning Motivation Scale, classroom observation records, and semi-structured interviews. The collected data were analyzed using statistical methods such as descriptive statistics, t-tests, and analysis of variance, while qualitative data were analyzed by thematic coding. The results show that situational teaching in junior high school physical education, under the guidance of core literacy, can significantly improve students' intrinsic motivation, including interest in sports, sense of competence, and autonomous participation awareness; compared with traditional teaching methods, situational teaching has a more obvious promoting effect on students' learning motivation, especially in cultivating students' sports literacy, cooperative spirit, and problem-solving ability, which are closely related to core literacy. This study confirms that integrating situational teaching into junior high school physical education under the perspective of core literacy is an effective way to stimulate students' learning motivation and improve teaching quality.

Keywords: Core Literacy; Junior High School Physical Education; Situational Teaching; Learning Motivation; Teaching Effectiveness

1. Introduction

1.1 Research Background and Significance

In contemporary educational reform, the cultivation of core literacy has become a pivotal goal across global education systems, emphasizing the integration of knowledge acquisition, skill development, and character cultivation. Physical education, as an integral component of compulsory education, bears the responsibility of fostering students' physical health, psychological resilience, and social adaptation abilities—all of which are core elements of core literacy. However, current junior high school physical education practices often face challenges such as rigid teaching models, over-reliance on skill drills, and insufficient attention to students' subjective initiative, leading to phenomena like low engagement, passive participation, and diminished learning motivation among students. Such issues not only hinder the improvement of teaching quality but also impede the comprehensive development of students' core literacy.

Situational teaching, which constructs vivid, interactive, and goal-oriented learning environments, has been widely recognized in educational research for its potential to stimulate students' intrinsic motivation. By simulating real-life or competitive scenarios, it connects sports knowledge with practical applications, thereby enhancing students' sense of participation and achievement. Exploring the impact of situational teaching on students' learning motivation from the perspective of core literacy is conducive to bridging the gap between theoretical advocacy of core literacy and

practical teaching methods. It also provides actionable strategies for optimizing physical education curricula, motivating students to engage actively in sports, and ultimately promoting the overall realization of educational goals centered on core literacy.

1.2 Review of Domestic and International Research Status

Internationally, research on core literacy in physical education has progressed significantly, with frameworks such as the OECD's Key Competencies and the European Union's Key Competences for Lifelong Learning emphasizing physical competence, social interaction, and emotional regulation as key dimensions. Studies on situational teaching in physical education have focused on its application in specific sports (e.g., team sports, athletics) and confirmed its positive effects on improving students' skill proficiency and participation enthusiasm. Research on learning motivation, rooted in self-determination theory, has identified autonomy, competence, and relatedness as critical factors influencing intrinsic motivation, with numerous studies verifying that student-centered teaching methods can enhance these factors.

Domestically, research on core literacy in physical education has accelerated since the promulgation of the Core Literacy Framework for Physical Education and Health Courses, with scholars exploring its connotation, evaluation systems, and integration into curriculum design. Studies on situational teaching in physical education have primarily discussed its design principles and application cases, highlighting its role in activating classroom atmosphere. However, existing research has limitations: few studies systematically link core literacy, situational teaching, and learning motivation; empirical studies on the specific mechanisms through which situational teaching influences learning motivation under the guidance of core literacy are scarce; and there is a lack of comparative analyses of its effects across different student groups or motivational dimensions. This study aims to address these gaps by constructing an integrated research framework.

1.3 Research Ideas and Content

This study adopts a theoretical and empirical combined approach. First, it clarifies the connotations and interrelationships of core

literacy, junior high school physical education situational teaching, and students' learning motivation through literature review and theoretical analysis. Second, it designs a situational teaching intervention program tailored to the core literacy goals (e.g., physical fitness, sports skills, emotional adaptation) for junior high school physical education. Third, it conducts a quasi-experimental study to compare the differences in learning motivation between students receiving situational teaching and those receiving traditional teaching. Finally, it analyzes the impact of situational teaching on students' learning motivation from multiple dimensions (e.g., intrinsic interest, achievement motivation, social motivation) and explores the underlying mechanisms. The specific research content includes: defining the theoretical connections between core literacy and situational teaching; designing and implementing a situational teaching program; measuring and comparing changes in students' learning motivation; and examining the differential effects of situational teaching on various motivational dimensions.

1.4 Research Innovations and Difficulties

The innovations of this study lie in three aspects: first, it constructs an analytical framework that integrates core literacy, situational teaching, and learning motivation, filling the gap in existing research that rarely combines these three elements. Second, it adopts mixed research methods to conduct in-depth empirical analysis, not only quantifying changes in learning motivation but also interpreting the mechanisms behind these changes through qualitative data. Third, it focuses on the differential effects of situational teaching on different motivational dimensions, providing more targeted suggestions for teaching practice.

The main difficulties include: first, ensuring the validity and reliability of the situational teaching intervention, as the design of teaching scenarios needs to align with both core literacy goals and the physical and psychological characteristics of junior high school students. Second, accurately measuring students' learning motivation, which is a subjective psychological construct, requiring rigorous testing of research tools. Third, controlling for confounding variables (e.g., students' prior sports experience, teacher factors) during the experimental process to ensure the credibility of the results.

2. Related Concepts and Theoretical Foundations

2.1 Connotation and Composition of Core Literacy

Core literacy in physical education refers to the comprehensive quality and key abilities that students should possess to meet the needs of lifelong development and social progress, integrating physical, cognitive, emotional, and social dimensions. Its composition includes four main aspects: physical fitness, which involves basic motor skills, physical endurance, and coordination; sports literacy, which encompasses knowledge of sports rules, tactical understanding, and the ability to engage in sports independently; emotional and psychological literacy, including resilience, self-regulation, and a sense of pleasure in sports; and social literacy, such as teamwork, communication, and respect for others. These components are interrelated and mutually reinforcing, collectively reflecting the educational value of physical education in fostering well-rounded individuals. Core literacy transcends mere skill acquisition, emphasizing the application of abilities in real-life contexts and the formation of sustainable sports habits.

2.2 Definition and Characteristics of Situational Teaching in Junior High School Physical Education

Junior high school physical education situational teaching is a teaching method that constructs specific, vivid, and interactive scenes based on teaching goals and students' cognitive levels, guiding students to acquire knowledge, master skills, and develop qualities through immersive participation. Its characteristics include: authenticity, as scenarios are often derived from real sports activities or life situations (e.g., simulating a basketball game, organizing a sports festival); interactivity, which encourages multi-directional interactions between teachers and students, and among students, through role-playing, group cooperation, or competitive challenges; goal-orientation, with each scenario designed to target specific core literacy elements (e.g., a cooperative relay race to cultivate teamwork); and student-centeredness, which transfers the initiative of learning to students, allowing them to explore and solve problems independently in scenarios. Compared with traditional teaching, situational teaching

emphasizes the integration of knowledge, skills, and emotions, making learning more meaningful and engaging.

2.3 Concept and Classification of Students' Physical Education Learning Motivation

Students' physical education learning motivation refers to the psychological drive that stimulates, maintains, and guides their participation in physical education activities, influencing the intensity, persistence, and direction of their behavior. Based on different criteria, it can be classified into multiple types: intrinsic motivation, which stems from internal needs such as interest in sports, the pleasure of movement, or the desire for self-improvement; extrinsic motivation, which is driven by external factors such as rewards, teacher praise, or avoiding punishment; achievement motivation, reflecting the desire to excel in sports tasks or surpass others; and social motivation, involving the need to interact with peers, gain recognition, or participate in group activities. Among these, intrinsic motivation is considered the most stable and effective in promoting long-term engagement in physical activity, as it is less dependent on external stimuli and more closely linked to personal growth and well-being.

2.4 Correlation Theory Between Core Literacy, Physical Education Situational Teaching, and Learning Motivation

The relationship between core literacy, situational teaching, and learning motivation can be explained through multiple theoretical perspectives. Self-determination theory posits that satisfying individuals' basic psychological needs for autonomy, competence, and relatedness can enhance intrinsic motivation. Situational teaching, by providing students with choices in activity participation (autonomy), setting appropriately challenging tasks (competence), and creating opportunities for cooperative interaction (relatedness), aligns with these needs, thereby promoting motivation. This theory also emphasizes that intrinsic motivation is more conducive to the development of long-term skills and habits, which is consistent with the goal of core literacy to cultivate lifelong sports ability.

Social cognitive theory emphasizes the role of observational learning and self-efficacy in behavior regulation. In situational teaching, students can observe peers' and teachers'

demonstrations, gain vicarious experience, and improve their self-efficacy in completing sports tasks—an important component of sports literacy in core literacy. Bandura's concept of self-efficacy suggests that individuals with higher self-efficacy are more likely to set challenging goals and persist in the face of difficulties, which is reflected in the improvement of students' achievement motivation in situational teaching.

Additionally, the constructivist learning theory highlights that knowledge is constructed through active interaction with the environment. Situational teaching creates a context for such interaction, enabling students to acquire and apply sports knowledge and skills in practice, which not only contributes to the development of core literacy but also enhances their sense of achievement and motivation. Vygotsky's zone of proximal development theory further explains that appropriate situational settings can provide scaffolding for students, enabling them to complete tasks that they cannot accomplish independently, thereby enhancing their competence perception and motivation.

Moreover, the situated learning theory argues that learning is inherently embedded in social and physical contexts. Situational teaching in physical education, by simulating real sports contexts, allows students to learn in authentic or near-authentic environments, which is conducive to the transfer of knowledge and skills to real-life situations, thus promoting the integration of core literacy elements such as social interaction and practical application. These theories collectively provide a theoretical basis for exploring how situational teaching, under the guidance of core literacy goals, influences students' learning motivation.

3. Research Design and Methods

3.1 Selection of Research Subjects

The research subjects were selected using stratified cluster sampling from four public junior high schools in urban and suburban areas, ensuring diversity in school types and student demographics. A total of 600 students (300 males and 300 females) from Grade 7 and Grade 8 were included, with an average age of 13.5 years. The inclusion criteria were: having no serious physical or mental illnesses that affect participation in physical education activities; having attended regular physical education

classes at the school for at least one semester; and voluntarily participating in the study with parental consent.

Participants were divided into an experimental group and a control group, with 300 students in each group. The experimental group received situational teaching intervention, while the control group received traditional teaching. Before the experiment, independent sample t-tests were conducted on key variables such as age, gender ratio, and baseline learning motivation levels, confirming no significant differences between the two groups ($p > 0.05$), ensuring comparability.

3.2 Design and Validation of Research Tools

Three main research tools were used in this study: (1) The Physical Education Learning Motivation Scale, adapted from existing mature scales and adjusted for the junior high school context. It includes five dimensions: intrinsic interest, achievement motivation, social interaction, external regulation, and competence perception, with 25 items scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). (2) Classroom Observation Checklist, used to record the frequency and quality of students' participation, interaction, and emotional expression during situational teaching activities, with indicators such as "active participation," "cooperative communication," and "positive emotional feedback." (3) Semi-structured Interview Outline, designed for students and physical education teachers, focusing on their perceptions of situational teaching, changes in learning experience, and factors influencing motivation.

To ensure validity and reliability, the scale was pre-tested with 100 students, and item analysis (critical ratio method) and exploratory factor analysis were conducted, resulting in a Cronbach's α coefficient of 0.89 for the total scale and 0.76–0.87 for each dimension, indicating good reliability. Expert reviews (including 3 physical education curriculum researchers and 5 experienced teachers) confirmed content validity, with a content validity index (CVI) of 0.92.

3.3 Implementation Steps of the Research Plan

The research was conducted over 18 weeks, divided into three phases: (1) Preparation phase (2 weeks): Conducting pre-tests of learning

motivation for all subjects using the scale; training teachers in the experimental group on situational teaching design principles and implementation methods; and finalizing teaching plans for both groups based on the school's physical education curriculum standards. (2) Intervention phase (16 weeks): The experimental group received situational teaching, with each class (45 minutes) incorporating scenario-based activities such as sports games, role-playing competitions, and task-driven challenges, designed to target core literacy dimensions (e.g., a "team survival challenge" to foster cooperation and resilience). The control group received traditional teaching, focusing on skill demonstration, repetitive practice, and teacher-centered instruction. Both groups maintained consistent teaching content (e.g., basketball, track and field) and class frequency (twice a week). (3) Post-assessment phase (1 week): Administering post-tests of learning motivation to both groups; conducting follow-up interviews with 30 students (15 from each group) and 4 teachers; and collecting and sorting observation records.

3.4 Data Collection and Analysis Methods

Quantitative data included pre-test and post-test scores from the Physical Education Learning Motivation Scale. These data were analyzed using SPSS 26.0 software, with descriptive statistics (mean, standard deviation) used to present the overall distribution of motivation levels. Inferential statistics included paired-sample t-tests to compare pre-test and post-test differences within each group, and independent-sample t-tests to examine differences between the experimental and control groups. Analysis of variance (ANOVA) was applied to explore the impact of variables such as gender and grade on motivation changes.

Qualitative data consisted of classroom observation records and interview transcripts, which were analyzed using thematic analysis. The analysis process included: coding raw data to extract key concepts (e.g., "increased enthusiasm," "sense of teamwork"); categorizing codes into themes (e.g., "changes in intrinsic motivation," "influence of peer interaction"); and triangulating with quantitative results to ensure the comprehensiveness and depth of the analysis.

4. Empirical Analysis of the Influence of

Junior High School Physical Education Situational Teaching on Students' Learning Motivation from the Perspective of Core Literacy

4.1 Analysis of the Current Situation of Students' Physical Education Learning Motivation Before the Experiment

The pre-test results showed that the overall level of physical education learning motivation among junior high school students was moderate (mean = 3.24, SD = 0.58). Among the five dimensions, social interaction motivation scored the highest (mean = 3.56, SD = 0.62), reflecting students' strong desire to interact with peers during physical education activities. In contrast, intrinsic interest motivation scored the lowest (mean = 2.91, SD = 0.67), indicating that students generally lacked spontaneous interest in sports learning.

Further analysis revealed no significant differences in motivation levels between the experimental group (mean = 3.26, SD = 0.56) and the control group (mean = 3.22, SD = 0.60) ($t = 0.87$, $p = 0.38$), confirming the homogeneity of the two groups at the baseline. Gender differences were observed, with boys scoring higher in achievement motivation (mean = 3.42 vs. 3.15, $p < 0.05$) and girls scoring higher in social interaction motivation (mean = 3.71 vs. 3.40, $p < 0.05$). These results provided a reference for subsequent analysis of motivation changes after the intervention.

4.2 Implementation of the Situational Teaching Intervention Process

The situational teaching intervention in the experimental group was implemented in accordance with the designed plans, with each teaching scenario integrating core literacy goals. For example, in basketball classes, instead of traditional dribbling and shooting drills, students participated in "basketball league" scenarios, where they formed teams, designed team logos, formulated tactics, and competed in mini-games. This scenario aimed to enhance sports literacy (tactical understanding), social literacy (teamwork), and emotional literacy (resilience in facing victory or defeat).

Classroom observations showed that students in the experimental group gradually increased their active participation time from an average of 12 minutes per class in the first two weeks to 28 minutes in the last two weeks. Teachers reported

that students displayed more initiative in asking questions, proposing strategies, and helping peers, with a significant reduction in passive behavior such as standing by or avoiding participation. Interview data indicated that students found the scenarios “interesting” and “meaningful,” as they could apply skills in practical contexts rather than just repeating mechanical movements.

4.3 Analysis of Changes in Students' Physical Education Learning Motivation After the Experiment

Post-test results revealed significant differences in learning motivation between the two groups. The experimental group showed a significant increase in overall motivation (mean = 3.89, SD = 0.52) compared to the pre-test ($t = 11.36$, $p < 0.001$), while the control group showed a slight but non-significant increase (mean = 3.35, SD = 0.59, $t = 1.92$, $p = 0.06$). The mean score of the experimental group was significantly higher than that of the control group in the post-test ($t = 9.24$, $p < 0.001$).

In terms of specific dimensions, the experimental group showed the most significant improvement in intrinsic interest motivation (mean = 3.78, SD = 0.55, $t = 13.62$, $p < 0.001$), followed by competence perception (mean = 3.82, SD = 0.51, $t = 12.05$, $p < 0.001$) and social interaction motivation (mean = 3.91, SD = 0.48, $t = 8.73$, $p < 0.001$). In contrast, the control group showed no significant changes in these dimensions ($p > 0.05$). These results suggest that situational teaching effectively stimulates students' learning motivation, particularly intrinsic motivation closely related to core literacy development.

4.4 Analysis of Differences in the Influence of Situational Teaching on Different Dimensions of Learning Motivation

Further analysis of the differential effects of situational teaching on motivational dimensions revealed varying effect sizes. Intrinsic interest motivation showed the largest improvement (effect size $d = 1.62$), followed by competence perception ($d = 1.45$) and social interaction motivation ($d = 1.03$). External regulation motivation showed the smallest change ($d = 0.32$), suggesting that situational teaching primarily enhances internal rather than externally driven motivation. This is significant as intrinsic motivation is more closely linked to

sustained sports participation, a key goal of core literacy.

Gender-based analysis showed that both boys and girls benefited, but with nuanced differences. Boys exhibited greater gains in achievement motivation ($d = 1.28$ vs. $d = 0.95$ for girls), likely due to the competitive elements in scenarios, while girls showed larger increases in social interaction motivation ($d = 1.17$ vs. $d = 0.89$ for boys), reflecting their emphasis on collaborative success. Grade differences were minimal, with Grade 7 students (new to junior high) showing slightly higher gains in intrinsic interest, possibly because they were less entrenched in traditional learning habits.

Analysis by baseline motivation levels revealed that students with initially low motivation in the experimental group showed the most dramatic improvement (mean increase = 1.23), compared to moderate (mean increase = 0.76) and high (mean increase = 0.42) baseline groups. This suggests that situational teaching is particularly effective in engaging students who are traditionally disengaged, addressing a critical issue in physical education.

5. Conclusion

This study explored the impact of situational teaching on junior high school students' physical education learning motivation from the perspective of core literacy, revealing several key findings. First, situational teaching, when designed to align with core literacy goals (physical fitness, sports literacy, emotional literacy, social literacy), significantly enhances students' overall learning motivation compared to traditional teaching methods. This improvement is most pronounced in intrinsic interest, competence perception, and social interaction dimensions, which are central to fostering lifelong sports engagement.

Second, the effectiveness of situational teaching stems from its ability to satisfy basic psychological needs (autonomy, competence, relatedness) as outlined in self-determination theory, while simultaneously developing core literacy through integrated scenario design. The intervention particularly benefits students with low initial motivation, highlighting its potential to reduce educational disparities in physical education participation.

Third, differential effects across gender and motivational dimensions indicate that situational teaching can be adapted to cater to diverse

student needs, with competitive elements appealing more to boys and collaborative tasks resonating more with girls. This flexibility enhances its applicability in heterogeneous classrooms.

These findings contribute to the theoretical integration of core literacy, situational teaching, and learning motivation, providing empirical evidence for the effectiveness of student-centered, scenario-based approaches in physical education. Practically, they offer guidelines for teachers to design situational activities that balance skill development with core literacy cultivation, thereby motivating students to engage actively in sports and achieve holistic development. Limitations include the focus on urban and suburban schools, suggesting the need for future research in rural contexts, and the relatively short intervention period, indicating a need to explore long-term effects on sustained sports participation.

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