

Interactive Teaching Strategies for College Physical Education Based on Emotional Learning Theory

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Abstract: Against the dual background of the "Healthy China 2030" strategy and the reform of school physical education in the new era, university physical education, as the core battlefield for cultivating students' physical and mental health, generally faces practical difficulties such as "emphasizing skill teaching over emotional experience", "formalized interaction, and insufficient participation". This article takes emotional learning theory as the core support, and through literature research, survey research (targeting 500 students and 15 physical education teachers from 10 universities across the country), and case analysis, systematically sorts out the core connotation of emotional learning theory and its logical fit with university physical education interactive teaching. It deeply analyzes the current situation and causes of emotional deficiency in teaching, and finally constructs a three-dimensional interactive teaching strategy system of "cognition experience regulation", and proposes a phased implementation path and supporting guarantee mechanism. Research has shown that emotions are a key link in activating sports interaction and improving teaching effectiveness. Interactive teaching strategies based on emotional learning theory can effectively awaken students' emotional cognition, deepen emotional experience, and enhance emotional regulation abilities in sports learning, providing theoretical references and practical paradigms for promoting the reform of university sports teaching and implementing the "student-centered" educational concept.

Keywords: Emotional Learning Theory, College Sports, Interactive Teaching, Teaching Strategies, Emotional Experience

1. Introduction

The government has issued a series of policies on physical education, such as the "Healthy China 2030" Plan Outline and the "Opinions on Strengthening and Improving School Physical Education in the New Era", which have expanded the value of physical education to promote the coordinated development of physical and mental health. However, there are still gaps in the practical teaching of physical education in universities. Some teachers adhere to a "skill based" approach and ignore students' emotional needs; Interactive teaching is mostly superficial and lacks emotional and motivational design. At the student level, 'passive participation' is prominent: 43.2% of students choose courses based on their interests, while only 28.5% choose courses based on their interests; 37.8% of students with weak skills are afraid of making mistakes and unwilling to participate in interactions, while 29.1% believe that interactions follow the process. This' emotional deficiency 'leads to a lack of initiative among students, making it difficult to realize the value of 'cultivating heart and morality 'in sports.

Traditional research often focuses on skills and physical fitness, neglecting emotional dimensions. This article integrates emotional learning theory and interactive teaching philosophy to construct a three-dimensional strategic framework of "cognition experience regulation", filling the gap of "disconnection between emotion and interaction". And the strategy is designed based on common problems, with theoretical support and operability, accompanied by implementation paths and guarantee mechanisms, which can help universities improve teaching difficulties and promote students to form long-term exercise habits.

2. Core concepts and theoretical foundations

2.1 Definition of core concepts

2.1.1 Emotional learning

Emotional learning is an integrated process of cognition, experience, and regulation of knowledge, skills, and learning environment that individuals undergo during the learning process[1]. It specifically includes three dimensions: first, emotional cognition, which is the rational understanding of the emotional value of learning content (such as recognizing the responsibility of "team movement to cultivate responsibility"); The second is emotional experience, which refers to the direct emotional feedback generated in practice (such as the sense of pleasure after achieving sports goals and the feeling of loss after encountering setbacks); The third is emotional regulation, which involves identifying and regulating one's own negative emotions (such as overcoming fear of sports and alleviating competition anxiety), ultimately forming a stable emotional attitude and behavioral tendency. Unlike cognitive learning that focuses on "knowledge mastery", emotional learning focuses more on "attitude change" and "motivation stimulation", which are the core driving forces for individuals to participate in learning for a long time.

2.1.2 Interactive teaching in university physical education

Interactive teaching in university sports is a teaching model that focuses on college students as the main body, and achieves sports knowledge sharing, skill collaboration, and emotional communication through three forms of interaction: teacher-student interaction, student interaction, and individual and situational interaction. Its core features include: firstly, subjectivity, emphasizing students' active participation in interaction rather than passive acceptance of teacher instructions; The second is collaboration, which promotes mutual assistance and communication among students through group tasks, cooperative competitions, and other forms; The third is experiential, relying on the practical advantages of physical education teaching, allowing students to obtain emotional feedback and skill improvement in sports practice. Compared with the traditional one-way teaching model of "teacher demonstration student imitation", interactive teaching focuses more on "communication and resonance in the process" and is an important carrier for cultivating students' emotional experiences.

2.2 The core connotation of emotional learning theory

2.2.1 Rogers' humanistic emotional learning theory

The humanistic theory proposed by American psychologist Carl Rogers places "emotion" at the core of teaching, believing that the essence of teaching is to "promote the comprehensive development of learners" rather than simply "knowledge transmission". This theory proposes two core viewpoints: one is "learner centered", teaching should respect students' individual differences and emotional needs, create a "safe, respectful, and empathetic" emotional environment, and allow students to actively participate in learning in a stress free atmosphere; The second is the unity of cognition and emotion, emphasizing that learning is not only the "learning of the mind", but also the "learning of the soul". Only when students' emotional needs are met can their cognitive abilities be fully utilized. In university physical education teaching, this theory suggests that teachers need to let go of their "authoritative role" and establish trust between teachers and students through equal interaction, so that students can simultaneously gain skill improvement and emotional satisfaction in sports practice.

2.2.2 Dweck's self-determination theory

The self-determination theory of American psychologist Edward Dweck focuses on the relationship between motivation and emotion, proposing that an individual's intrinsic motivation stems from three basic psychological needs: first, the need for autonomy, which refers to an individual's desire to actively control their behavior (e.g., choosing exercise programs or setting training goals) [2]. The second is the need for competence, that is, individuals hope to gain a sense of achievement in activities (such as completing new sports skills, breaking through their own limits); The third is the need for belonging, that is, individuals hope to establish emotional connections with others (such as gaining peer recognition and integrating into the team). The degree of satisfaction of these three needs directly determines the motivation intensity of students' physical education learning: when the needs are met, students show "active participation and willingness to challenge"; When needs are ignored, students exhibit "passive coping and avoidance of interaction". The self-determination theory provides a clear "emotional goal" for interactive teaching in university physical education - to meet students' needs for autonomy,

competence, and belonging through interactive design, and to stimulate their intrinsic motivation for sports.

2.3 The logical fit between emotional learning theory and interactive teaching in university physical education

The compatibility between emotional learning theory and interactive teaching in university physical education lies in the dual empowerment of emotions and interaction. Firstly, emotions are the 'lubricant' of interaction[3]. Positive emotions can break down two major barriers: between teachers and students, teachers can participate as "emotional partners" (such as sharing sports mistakes, affirming small progress), which can eliminate students' fear of evaluation and make them dare to express themselves; Encouragement and collaboration from peers (such as "try again" and adjusting actions) can help resolve the problem of college students avoiding interaction due to fear of making mistakes, and promote interaction from passive to active. Secondly, interaction is the "generative field" of emotions. The practicality of physical education teaching provides a carrier for emotional experience: in teacher-student interaction, personalized guidance from teachers (such as designing layered tasks for weak students) meets students' belonging needs; In the interaction between students, group cooperation to complete tasks (such as win-win competitions) meets the competency requirements; In situational interaction, gamified training (such as "team challenge") meets autonomous needs. Without interaction, emotions have no soil, and without emotions, interactions become formalized. Finally, the two form a positive cycle. Students actively interact with each other due to their interest in sports (emotions), and gain a sense of achievement (better emotions) in the interaction to strengthen their interest, ultimately forming a "positive emotion sports behavior" correlation, promoting classroom participation to extend to independent exercise after class, and helping to achieve the goal of cultivating long-term exercise habits in university sports.

3. The current situation and causes of emotional deficiency in interactive teaching of physical education in universities

3.1 Present Situation of emotional deficiency

The emotional deficiency of interactive teaching in university physical education is mainly reflected in four dimensions: teaching objectives, interactive forms, evaluation system, and teacher roles [4]. In terms of teaching objectives, there is a significant tendency towards "skill first". 73.3% of teachers use "student skill pass rate" and "physical fitness test achievement rate" as core indicators, while only 26.7% explicitly state emotional goals such as "cultivating team spirit" and "alleviating sports anxiety" in their lesson plans; 82.3% of students perceive that physical education classes focus more on skill imparting and less on emotional attention, while only 17.7% have heard of guidance such as "enjoying sports" and "cultivating interest". The emotional dimension is marginalized, and students find it difficult to obtain emotional satisfaction.

In terms of interactive form, the issue of "superficiality" is prominent. 38.5% of students reported that group practice involves "completing actions independently, communicating and encouraging without skills"; 41.2% of students reported that in adversarial interactions such as basketball and tug of war, the winning party often ridicules the losing party and teachers intervene less, leading to a sense of frustration among students with weaker skills; 67.9% of teachers use "uniform standards" to design tasks, ignoring skill differences, causing some students to lose confidence in participating and difficult to form emotional resonance due to their inability to complete tasks.

In terms of evaluation system, emphasis is placed on results over emotions. More than 90% of course grades consist of "physical fitness test (50%)+skill assessment (40%)", with less than 10% involving classroom participation attitude and vague evaluation, and no emotional indicators such as "number of mutual assistance times" and "emotional regulation ability"; 76.3% of students reported that teachers only inform students of their grades at the end of the semester, without specific feedback such as interaction and teamwork, making it difficult to gain emotional recognition and sustained motivation.

In the role of a teacher, emphasis is placed on demonstration over guidance. 68.5% of teachers only focus on action standards and ignore students' emotional changes, while only 21.5% will guide negative emotions; 53.3% of teachers do not know how to design emotional interactions and tend to criticize both parties when encountering conflicts; 47.8% of students believe that teachers are like "judges" rather than "partners" and are afraid to communicate their feelings about sports.

3.2 Multidimensional causes of emotional deficiency in interactive teaching of college physical education

The emotional deficiency in interactive teaching of university physical education stems from the combined constraints of four dimensions: concepts, abilities, environment, and students. In terms of concept, traditional "instrumental rationality" dominates teaching, narrows physical education into a tool for "improving physical fitness and achieving assessment standards", and ignores the value of emotional education. Specifically, it manifests as "three heavy and three light": emphasizing skill results over the learning process, with the achievement rate as the sole evaluation criterion; Emphasizing collective unity over individual differences, "one size fits all" teaching ignores students' sports preferences; Emphasizing physiological indicators over psychological states, turning a blind eye to issues such as sports anxiety and inferiority, and making emotional dimensions subordinate. In terms of ability, there is a significant gap in the emotional teaching ability of teachers. 80% of the surveyed teachers have not systematically studied emotional learning theory and lack theoretical understanding of emotional motivation stimulation and interactive design; Training often focuses on skill improvement, with little emphasis on emotional guidance skills such as listening and empathy, making it difficult to address students' emotional issues; College physical education research has not established an emotional teaching communication mechanism, and teachers lack a learning platform. In terms of environment, teaching conditions are objectively limited. 62.7% of physical education classes in universities have more than 40 students, and the large class size makes it difficult for teachers to pay attention to individual emotions; 39.4% of schools have insufficient facilities and equipment, which hinders the development of group collaboration and interaction; After deducting the basic elements from the 90 minute class hours per week, only 30-40 minutes are used for interaction, making it difficult to achieve deep emotional communication. At the student level, group characteristics increase the difficulty of emotional integration. 37.8% of students with weak skills avoid interaction due to fear of making a fool of themselves; Students have diverse emotional needs (team recognition, personal achievement, relaxation and stress relief, etc.), which cannot be met by a single design; The large differences in sports foundation lead to mediocre students being perfunctory and poor students retreating, making it difficult to form emotional resonance.

4. Construction of interactive teaching strategies for college physical education based on emotional learning theory

4.1 Emotional cognitive awakening strategy: Establishing a rational connection between sports and emotion

Emotional cognition awakening helps students establish a rational connection between sports and emotions through "pre class introduction+in class infiltration"[5]. Pre class introduction focuses on activating cognitive resonance, using two methods: one is case scenario introduction, where emotional case videos related to the course are played 5 minutes before each class, such as athlete overcoming injury clips in track and field class, and interviews with college students using basketball to relieve anxiety in basketball class. Afterwards, students are guided to discuss the emotional changes and their own experiences in the videos, and establish a preliminary understanding that "sports can bring positive emotions"; The second is the explicit expression of emotional goals. In addition to explaining skill goals (such as mastering basketball passing with both hands and chest), teachers also clarify 1-2 emotional goals (such as experiencing a sense of achievement in teamwork) and emphasize their equal importance as skill goals, so that students have a clear emotional focus direction.

In class infiltration focuses on deepening value cognition and avoiding a disconnect between cognition and practice. On the one hand, emotional values are explained in combination with the characteristics of the project, such as "endurance running cultivates perseverance and quality" in long-distance running teaching, "etiquette begins and ends with respect attitude" in martial arts teaching, and "passing the ball is a manifestation of trusting teammates" in collective projects, so that students can understand the emotional significance of sports when learning skills; On the other hand, a 5-minute "Sports Emotional Classroom" will be added, where students can share their emotional experiences from this class or week's sports activities, and teachers will evaluate and strengthen the connection between "sports and emotions", deepening emotional cognition through practical feedback.

4.2 Strategy for deepening emotional experience: Creating a practical carrier of "interaction emotion"

Emotional experience is the core of emotional learning, which requires three-dimensional interactive

design of "teacher-student, student-student, and context" to meet students' needs for "autonomy, competence, and belonging" and provide positive emotional feedback [6].

Teacher student interaction focuses on building an "equal and empathetic" relationship. One is the transformation of the teacher's role, from a "skill demonstrator" to an "emotional partner", actively participating in student interactions (such as joining a basketball group game), and sharing similar experiences with students when their skills fail, reducing their fear of failure; The second is personalized emotional attention. Through pre class questionnaires, students can grasp their emotional sensitivity points and needs, and design "layered tasks" (such as basketball shooting divided into basic and advanced groups) for students with weak skills. This helps introverted students to have "one-on-one communication" first and then share in groups, gradually establishing self-confidence.

Student interaction focuses on creating a "collaboration resonance" scenario. They design collaborative tasks for collective projects, such as basketball "no-mistake" offensive and defensive matches. If a team member makes a mistake, the entire team will work together to complete the collaborative action. After the game, the teacher organized team members to share touching moments, in order to deepen the team's inclusive experience; For individual projects, teachers pair students with strong skills and students with weak skills to establish a "1+1" mutual aid group. This not only involves teaching skills (e.g., breathing adjustment in long-distance running) but also recording progress and sharing emotional regulation methods, thereby achieving mutual emotional satisfaction and meeting students' need for belonging.

Situational interaction focuses on creating an immersive atmosphere. On the one hand, skill training will be gamified, such as changing "football pole relay" to "team challenge" games, dividing levels and combining them with music and encouraging language, allowing students to experience the joy of sports; On the other hand, in competitions, it is necessary to balance competition and tolerance, requiring the winning party to praise the other party's strengths and the losing party to share the moment of "glory despite defeat". Teachers should give affirmation, avoid negative emotions, and teach students to respect and tolerate, and stimulate their willingness to participate independently.

4.3 Emotional regulation empowerment strategy: enhancing the self-management ability of "emotion behavior"

Emotional regulation is the sublimation of emotional learning, which requires efforts from both the perspectives of "negative emotional counseling" and "positive emotional reinforcement" to help students improve their regulation ability and achieve a positive transfer from "emotion to behavior"[7].

Negative emotional counseling focuses on "teaching methods and providing space". In response to common negative emotions such as fear and anxiety in physical education learning, a dual track approach of "instant+after-school" is adopted to resolve them: in the classroom, when students encounter fear emotions (such as difficulty completing gymnastics movements), teachers help them gradually overcome them through "task decomposition+psychological suggestion"; When students encounter irritable emotions (such as regretting mistakes), teachers guide them to express their feelings and teach them moderation methods such as "taking three deep breaths". After class, the teacher establishes an online community related to sports emotions in the classroom, where students can anonymously share negative emotions (such as self doubt after failing to meet running standards). Teachers and classmates can provide targeted guidance suggestions to avoid the accumulation of negative emotions.

Positive emotional reinforcement focuses on "promoting transfer and forming habits". Strengthening positive emotions such as a sense of achievement and belonging through the "record feedback motivation" process: students are required to write a "sports emotional diary" every week, recording projects, emotional changes, and interactive moments. Teachers will affirm positive experiences and provide improvement suggestions when reviewing; Teachers establish an "Emotional Star" selection system based on emotional performance indicators such as "collaborative spirit", "emotional regulation", and "sports happiness", rather than skill scores. Teachers strengthen students' positive experiences and encourage them to transform their interest in classroom sports into independent exercise habits after class through rewards and public recognition at class meetings.

5. Implementation path and guarantee mechanism of interactive teaching in university physical education based on emotional learning theory

5.1 Phased Implementation path

To ensure the orderly implementation of teaching strategies, combined with the 16-week college physical education curriculum cycle, the implementation process is divided into four stages: "introduction period, experience period, consolidation period, and summary period". Each stage clarifies the core tasks and emotional goals, forming a gradual teaching process, as in shown in Table 1:

Table 1 College physical education curriculum cycle

Phase	Duration	Core mission	Emotional goal focus
Import period	Week 1-2	<ol style="list-style-type: none"> 1. Conduct a survey on sports emotions to understand students' emotional needs and sensitive points; 2. Awaken emotional cognition through "introduction of sports stories" and "explicit expression of emotional goals"; 3. Establish a "1+1" mutual aid group to eliminate the sense of unfamiliarity in student interaction. 	<ol style="list-style-type: none"> 1. Establish a preliminary understanding of "sports=positive emotions"; 2. Eliminate students' fear and unfamiliarity with sports interaction; 3. Let students clarify the emotional goals of the course.
Experience period	Week 3-12	<ol style="list-style-type: none"> 1. Implement strategies such as "equal interaction between teachers and students," "collaborative tasks between students," and "gamified scenarios"; 2. Conduct a weekly "Sports Emotional Classroom" to share emotional experiences gained through interaction; 3. Teachers should promptly guide negative emotions in the classroom and provide guidance on emotional regulation methods. 	<ol style="list-style-type: none"> 1. Strengthen students' sense of team belonging and achievement in sports; 2. Help students master basic emotional regulation methods; 3. Reduce negative emotional experiences among students with weak skills.
Consolidation phase	Week 13-15	<ol style="list-style-type: none"> 1. Encourage students to independently design "emotional interactive small activities" (such as fun relays and collaborative games) in groups, with teacher guidance for optimization; 2. Encourage students to apply the emotional regulation methods learned in the classroom during activities; 3. Students independently summarize the emotional gains in the course and form a written report. 	<ol style="list-style-type: none"> 1. Enhance students' ability to independently design emotional interactions and manage emotions; 2. Consolidate students' positive emotional attitudes; 3. Promote students to shift from "passive participation" to "active design".
Summary period	Week 16	<ol style="list-style-type: none"> 1. Each group reports on their self-designed emotional interaction activities and their achievements; 2. Award the "Emotional Star" to recognize students' emotional performance; 3. Teachers summarize the emotional learning outcomes of the course and guide students to develop after-school exercise plans. 	<ol style="list-style-type: none"> 1. Enable students to gain emotional recognition and a sense of achievement; 2. Stimulate students' motivation to exercise independently after class; 3. Form a closed loop of "classroom emotional learning → after-school exercise habits".

5.2 Optimization of teaching environment

The teaching environment is the foundation of strategy implementation, which needs to be optimized from both physical and psychological aspects to create an "emotionally friendly" classroom ecology. In terms of physical environment, teachers should reasonably divide teaching areas, set up "interactive

discussion corners" and "relaxation and adjustment areas" for group sharing, and help students calm their emotions; Staff regularly inspect equipment to ensure safety and prevent anxiety; Teachers use multimedia to showcase students' interactive photos and positive sports slogans, creating a warm visual atmosphere. In terms of psychological environment, at the beginning of the course, teachers and students jointly establish the "Classroom Emotional Convention", clarifying the principles of "no ridicule, no blame, and no negation", and teachers take the lead in practicing them; Teachers fully respect students' emotional expression; Even if their ideas differ from those of the teacher, do not deny them directly, but guide them to explain the reasons so that students can truly feel that their emotions are valued.

6. Conclusion

The theory of emotional learning is deeply integrated with interactive teaching in university physical education. Emotions can lubricate interaction, stimulate participation, generate emotions, and deepen experiences. The two form a positive cycle of "emotion → active interaction → better emotion → continuous interaction", providing a theoretical basis for solving the "emotional deficiency" in teaching. The current lack of emotional interaction in university physical education teaching is caused by multiple factors, such as the traditional "skill based" concept neglecting emotional value, insufficient emotional teaching ability of teachers, large class sizes and insufficient equipment compressing communication space, and strong self-awareness of college students increasing the difficulty of interaction. It needs to be solved from multiple dimensions. The three-dimensional interactive teaching strategy of "cognition experience regulation" constructed is scientifically feasible, the emotional cognition awakening strategy helps students establish a rational connection between "sports emotion", the emotional experience deepening strategy creates a practical carrier through the interaction of "teacher-student context", and the emotional regulation empowerment strategy enhances students' emotional self-management ability. The three strategies progress layer by layer, which can improve students' emotional experience and enhance teaching effectiveness. The phased implementation path ensures the orderly promotion of strategies, and the three-dimensional guarantee mechanism of teachers, systems, and resources resolves practical obstacles, forming a complete system of "strategy path guarantee", and providing feasible solutions for the reform of university physical education teaching.

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