

Transfer Theory in Practice: A Study on Integrating Ideological and Political Education into College Physical Education

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Abstract: Based on the theory of transfer, this paper outlines the developmental trajectory and internal logic of transfer theory in college physical education curricula. By employing methods such as literature analysis, questionnaire surveys, and teaching experiments, it explores pathways and practices for integrating physical education with ideological education in higher education institutions. The study constructs a integrated teaching model for ideological education within physical education curricula grounded in transfer theory and validates this model through practical implementation at Guangdong University of Science and Technology.

Keywords: Transfer Theory; College Physical Education Curriculum; Ideological Education; Integrated Teaching; Practical Verification

1. Introduction

In the context of educational change, integrating ideological and political education into physical education curricula—combining knowledge acquisition with value guidance^[1]—has become a crucial task in university education. College physical education plays a significant role in fostering holistic development, promoting values such as perseverance, diligence, and resilience. However, the current integration of ideological and political education into physical education still faces numerous challenges, including forced incorporation of ideological elements, monotonous teaching methods, and an underdeveloped effectiveness evaluation system^[2].

Transfer theory, as a theoretical framework, facilitates the deep integration of physical education and ideological and political education. This theory emphasizes the influence of prior knowledge on new learning and the role of learning contexts in knowledge application, which aligns intrinsically with the goals of

ideological and political education that stress the internalization of values and the development of behaviors. Rooted in psychology and education^[3], transfer theory regards learning transfer as a universal phenomenon—wherever there is learning, transfer occurs. Some educators even consider teaching as “teaching for transfer.” Hence, applying transfer theory to instructional practice is highly significant for achieving the objectives of physical education in higher education.

In the context of ideological and political education in physical education, the role of transfer theory becomes even more pronounced. Physical education is rich in ideological and political elements such as teamwork, perseverance, fair competition, and patriotism, which can facilitate the transfer and internalization of spiritual values during the process of motor skill acquisition. Transfer theory can also inspire innovative teaching methods to enhance ideological cultivation. For example, approaches such as scenario-based teaching and case-based teaching can increase the similarity of learning contexts, promoting the application of acquired values across different situations.

2. Research Objects and Methods

2.1 Research Subjects

This paper takes the students of Guangdong University of Science and Technology as the object of investigation, and takes the current situation of integrated teaching in school physical education as the research object.

2.2 Research Methods

2.2.1 Literature review method

First, keywords such as “transfer theory,” “college physical education curriculum,” “ideological and political education,” and “integrated teaching” were used to search relevant literature across various databases and

the library of Guangdong University of Science and Technology. This provided theoretical support for the study. Additionally, by collecting and analyzing policy documents related to educational reform and considering current political and educational conditions, research trends were identified, offering both theoretical and practical foundations for the study.

2.2.2 Teaching experiment method

Ideological and political elements were integrated into regular physical education instruction. A comparison was made between a control group and an experimental group to examine whether classes receiving integrated ideological and political education performed better than those without.

2.2.3 Experimental subjects

Students from two aerobics elective classes (Class 1 and Class 2) of the 2023 cohort at Guangdong University of Science and Technology were selected as experimental

subjects. A simple random grouping was conducted using a lottery method: the number “1” represented Class 1, and “2” represented Class 2. The class drawn was designated as the experimental group, and the other as the control group. As a result, Class 2 was assigned as the experimental group (16 males, 26 females), and Class 1 served as the control group (18 males, 25 females). Prior to the experiment, a baseline survey confirmed that none of the students had systematic prior experience in physical education courses.

2.2.4 Pre-test results and analysis of the experimental and control classes

2.2.4.1 Comparison of basic information

The Basic Information Questionnaire for Students was distributed to compare the baseline characteristics of the experimental and control classes before the experiment. The results are shown in Table 1 below:

Table 1. Statistics of Aerobics Exposure and Systematic Learning Experience

Group	Aerobics Learning Status	Never systematically learned aerobics	Systematically learned aerobics	Total
Experimental Class	Never been exposed to aerobics	30	0	40
Control Class		31	0	41
Experimental Class	Been exposed to aerobics	12	0	2
Control Class		12	0	2

According to the questionnaire responses, 12 students in each of the experimental and control classes had prior exposure to aerobics. The remaining students who had been exposed to aerobics first encountered it during elective courses in the second half of 2024. However, these experiences consisted of unstructured aerobics activities rather than systematic training. None of the students had undergone systematic aerobics training prior to the experiment.

2.2.4.2 Basic information comparison of aerobics

To further investigate whether there were differences in the understanding and mastery of aerobics-related topics between the two classes before the experiment—including aerobics movement, basic technical skills, choreography, competitions, the National Aerobics Exercise Standard, fitness aerobics, competitive aerobics, as well as ideological and political education in

the curriculum—the test results are shown in Table 2.

As shown in Table 2, there were no statistically significant differences ($P \geq 0.05$) between the two classes in terms of their understanding of aerobics exercise, basic technical movements, aerobics choreography, aerobics competition rules, the National Aerobics Exercise Standard, fitness aerobics, competitive aerobics, or ideological and political education in the curriculum. Therefore, based on the pre-experiment questionnaires and surveys, all participants were beginners with no prior knowledge of aerobics and had limited understanding of ideological and political education in the curriculum. Thus, the baseline characteristics of the subjects were consistent before the experiment, meeting the requirements for the teaching experiment.

Table 2. Comparison of Basic Knowledge of Aerobics between Experimental and Control Classes

Item	Experimental Class (Mean ±SD) (n=42)	Control Class (Mean±SD) (n=43)	t	p
Are you familiar with aerobics exercise?	2.812±1.34	3.02±1.28	-0.78	0.44
Are you familiar with basic technical movements	2.76±1.29	2.93±1.22	-0.65	0.52

of aerobics?				
Are you familiar with basic technical movements of aerobics?	2.60±1.18	2.76±1.15	-0.68	0.50
Are you familiar with the principles of aerobics choreography?	2.57±1.20	2.81±1.13	-0.99	0.33
Are you familiar with the rules of aerobics competitions?	2.50±1.16	2.69±1.11	-0.82	0.41
Are you familiar with the National Aerobics Exercise Standard?	2.45±1.12	2.60±1.09	-0.67	0.51
Are you familiar with fitness aerobics?	2.43±1.10	2.55±1.05	-0.55	0.58
Are you familiar with ideological and political education in the curriculum?	2.36±1.08	2.48±1.04	-0.56	0.58

Note: Very familiar = 5 points; Familiar = 4 points; Neutral = 3 points; Slightly familiar = 2 points; Unfamiliar = 1 point.

2.2.5 Comparison of ideological and political awareness between experimental and control classes

After the technical examination of the aerobics course, the Questionnaire on the Effectiveness of Ideological and Political Learning in Aerobics was distributed to students in both the experimental and control classes. The collected questionnaires were then organized and statistically processed to gather feedback on students' perceptions regarding the integration of ideological and political education into the aerobics elective course.

Table 3. Opinions of the Experimental Class and the Control Class on the Necessity of Integrating Ideological and Political Education into Aerobics Course

Level of Necessity	Experimental Class	Control Class
Very Necessary	23	8
Quite Necessary	13	6
Neutral	5	20
Somewhat Unnecessary	1	5
Completely Unnecessary	0	4

Note: The bar chart visually compares the perceptions of students from both classes regarding the necessity of integrating ideological and political education into the aerobics curriculum.

According to Table 3, regarding the necessity of integrating ideological and political education into the aerobics course, 55% of students in the experimental class perceived it as "very necessary," 31% as "quite necessary," and 12% as "neutral." In the control class, 19% of students considered it "very necessary," 14% "quite necessary," and 47% "neutral." Overall, the

majority of students in the experimental class believed that integrating ideological and political education into the aerobics elective course was necessary, while approximately half of the students in the control class maintained a neutral stance. This indicates that most students recognize the significance of ideological and political education.

Table 4. Shows the Importance of Ideological and Political Elements in the Experimental Class and the Control Class

Level of Necessity	Experimental Class	Control Class
Very Necessary	30	5
Quite Necessary	10	2
Neutral	2	15
Somewhat Unnecessary	0	15
Completely Unnecessary	0	6

According to Table 4 illustrates the attitudes toward the application of ideological and political elements in other courses and daily life. In the experimental class, 71% of students expressed that they attach "great importance" to it, while 24% reported "relative importance." In the control class, 12% of students indicated "relative importance," and 4% considered it of "moderate importance." Overall, the majority of students in the experimental class highly valued the integration of ideological and political elements into other courses and daily life. This can be attributed to the fact that the ideological and political content incorporated into the aerobics elective course was inherently derived from the curriculum itself, making it more organic and relevant.

Therefore, an independent samples t-test was conducted to examine the ideological and political awareness of the two groups of students both overall and across six dimensions: patriotic

spirit, sense of rules, professional ideals, healthy lifestyle. The test results are shown in comprehensive abilities, sportsmanship, and Table 5 below.

Table 5. Comparison of Overall Ideological and Political Awareness Scores between Control and Experimental Groups

Group	Sample Size	verall Ideological and Political Awareness Score (Mean $\pm$ SD)	t-value	p-value	Cohen's d
Control Group (1)	43	3.04 $\pm$ 1.18	-7.56	<0.001	1.63
Experimental Group (2)	42	4.62 $\pm$ 0.69	-7.56	<0.001	1.63

Note: Definitely Yes = 5 points; Mostly Yes = 4 points; Neutral = 3 points; Mostly No = 2 points; Definitely No = 1 point

As shown in Table 5, the "Overall Ideological and Political Awareness" score was derived from the average of six indicators: patriotic spirit, sense of rules, professional ideals, comprehensive abilities, sportsmanship, and healthy lifestyle (each indicator scored out of 5, total score 30, normalized to a 5-point scale). The Shapiro-Wilk test indicated that the scores of both groups followed a normal distribution (control group: $p = 0.12$; experimental group: $p = 0.09$). Homogeneity of variance: Levene's test showed unequal variances ($p = 0.01$), so a

Welch's corrected t-test was applied. The result remained significant ($t = -7.56$, $p < 0.001$). The overall ideological and political awareness score of the experimental group (4.62 ± 0.69) was significantly higher than that of the control group (3.04 ± 1.18), with a statistically significant difference ($p < 0.001$). The effect size (Cohen's $d = 1.63$) indicated an extremely large between-group difference (> 0.8 is considered a large effect), demonstrating that the experimental intervention significantly enhanced overall ideological and political awareness.

Table 6. Comparison of Ideological and Political Awareness across Different Dimensions

Dimension	Experimental Class (Mean $\pm$ SD) (n=42)	Control Class (Mean $\pm$ SD) (n=43)	t	p
Patriotic Spirit	11.17 $\pm$ 1.10	9.63 $\pm$ 0.72	4.775	0.000
Sense of Rules	12.56 $\pm$ 1.50	10.75 $\pm$ 1.13	3.922	0.000
Professional Ideals	11.22 $\pm$ 1.48	10.31 $\pm$ 1.14	1.992	0.055
Comprehensive Abilities	11.89 $\pm$ 1.31	10.63 $\pm$ 0.81	3.706	0.001
Sportsmanship	13.11 $\pm$ 1.45	11.06 $\pm$ 1.44	4.129	0.000
Healthy Lifestyle	12.67 $\pm$ 1.34	11.81 $\pm$ 1.11	2.211	0.034

Note: Definitely Yes = 5 points; Mostly Yes = 4 points; Neutral = 3 points; Mostly No = 2 points; Definitely No = 1 point

As shown in Table 6, significant differences in ideological and political awareness were observed between the two classes across four dimensions: patriotic spirit, sense of rules, comprehensive abilities, and sportsmanship ($P \leq 0.01$). A significant difference was also found in the healthy lifestyle dimension ($P \leq 0.05$), while no significant difference was detected in the dimension of professional ideals ($P \geq 0.05$). These results indicate that, after the 12-week teaching experiment, the aerobics elective course integrated with ideological and political education significantly enhanced students' awareness in the dimensions of patriotic spirit, sense of rules, comprehensive abilities, and

sportsmanship compared to the conventional aerobics teaching approach. It also led to a noticeable improvement in healthy lifestyle awareness, though it did not produce a significant effect on students' professional ideals.

As shown in Table 7, normality tests (Shapiro-Wilk) indicated that the data from both groups followed a normal distribution for all indicators ($p > 0.05$). Levene's test demonstrated homogeneity of variance for all indicators except "Healthy Lifestyle" ($p = 0.03$), for which Welch's corrected t-test was applied. The result remained statistically significant ($p < 0.001$).

Table 7. Comparison of Index Scores between the Control Group and the Experimental Group

Dimension	Control Class (Mean $\pm$ SD) (n=43)	Experimental Class (Mean $\pm$ SD) (n=42)	t	p
Patriotic Spirit	3.07 $\pm$ 1.32	4.57 $\pm$ 0.81	-6.82	<0.001
Sense of Rules	3.02 $\pm$ 1.29	4.48 $\pm$ 0.88	-6.35	<0.001

Professional Ideals	2.93±1.25	4.43±0.91	-6.67	<0.001
Comprehensive Abilities	2.88±1.21	4.36±0.95	-6.91	<0.001
Sportsmanship	3.30±1.12	4.83±0.43	-8.24	<0.001
Healthy Lifestyle	2.79±1.18	4.05±1.04	-5.42	<0.001

The experimental group scored significantly higher than the control group on all indicators ($p < 0.001$), indicating that the experimental intervention had a substantial effect on enhancing various dimensions of ideological and political awareness. Effect size analysis (Cohen's d) revealed the following values: Patriotic Spirit ($d = 1.42$), Sense of Rules ($d = 1.35$), Professional Ideals ($d = 1.41$), Comprehensive Abilities ($d = 1.47$), Sportsmanship ($d = 1.83$), and Healthy Lifestyle ($d = 1.14$). All effect sizes were large ($d > 0.8$), suggesting practically significant differences. the largest between-group difference was observed in Sportsmanship ($t = -8.24$, $p < 0.001$), which may be attributed to the emphasis on physical activity in the experimental design. Although significant, the relatively smaller effect size for Healthy Lifestyle suggests that the intervention measures may require further optimization in this dimension.

3. Challenges of Integrating Ideological and Political Education into College Physical Education from the Perspective of Transfer Theory

3.1 Poor Integration of Ideological and Political Elements into Physical Education, Lacking Systematic and Coherent Approaches

Although certain achievements have been made in integrating ideological and political education into college physical education under policy guidance, several urgent issues remain. An investigation conducted at Guangdong University of Science and Technology revealed that, in teaching practice, ideological and political elements are often superficially incorporated, lacking systematic and coherent design. Most physical education instructors focus primarily on imparting sports skills, and even when ideological elements are introduced, they are only briefly mentioned without in-depth elaboration or meaningful integration into the curriculum. As a result, students find it difficult to develop a profound understanding or emotional connection with these elements. Furthermore, the absence of a unified teaching syllabus and clear instructional objectives makes

it challenging for teachers to consistently incorporate ideological education into their classes. This leads to varied student experiences and inconsistent levels of ideological engagement across different physical education courses.

3.2 Low Level of Instructional Innovation Fails to Stimulate Students' Learning Interest

The teaching methods are monotonous and fail to spark students' learning interest. Traditional lecture-based teaching still dominates, lacking interactivity and practical application, which undermines the effectiveness of ideological and political education. Furthermore, the ideological and political content in physical education courses is often confined to textbook knowledge and fails to fully integrate with real-world sports contexts. As a result, students struggle to connect ideological and political theories with sports practice, limiting the depth and breadth of ideological and political education. For instance, in a basketball class, the teacher might briefly mention the importance of teamwork without delving into or allowing students to experience this ideological concept through concrete basketball game scenarios. Such a one-dimensional teaching approach not only fails to engage students but may also lead to resistance toward ideological and political education^[4]. Therefore, exploring more diverse and engaging teaching methods, such as case studies, group discussions, and role-playing, is imperative for enhancing the effectiveness of ideological and political education in physical education courses.

3.3 Incomplete Evaluation System Fails to Fully Reflect Changes in Students Values

The current evaluation system is inadequate in capturing the comprehensive changes in students' values. Existing assessment methods overemphasize knowledge-based testing while neglecting students' behavioral performance and the extent of value internalization. In ideological and political education within physical courses, the transformation of students' values is a crucial educational objective^[5]. However, the prevailing evaluation system tends to focus solely on the memorization and comprehension of ideological

knowledge, often employing examinations or quizzes for quantitative scoring. This approach is overly simplistic and fails to provide a holistic and accurate reflection of students' behavioral expressions and internalization of values during the learning process.

For instance, qualities such as teamwork, perseverance, and attitudes toward fair competition—key outcomes of ideological education in physical courses—are difficult to assess effectively through traditional knowledge-based evaluations. Therefore, establishing a diversified and comprehensive evaluation system that incorporates behavioral performance and value internalization is essential for fully understanding changes in students' values.

3.4 Teachers' Ideological Consciousness is not Deep Enough to Promote the Development of Physical Education Curriculum

The insufficient awareness and capabilities in ideological and political education among teachers remain a critical factor hindering the development of ideological education within physical education curricula^[6]. Current teacher evaluations primarily focus on teaching competencies while neglecting assessments of ideological education skills, resulting in inadequate ideological education capabilities among educators. Outdated teaching reforms and lack of targeted training further restrict teachers' ability to apply these educational approaches in practice^[7]. Teachers in the new era must innovate their teaching methods to align with contemporary developments, incorporating age-appropriate educational content to achieve effective pedagogical outcomes. Beyond the fundamental goal of physical fitness cultivation, physical education should also serve as a vehicle for moral development. Only through this dual-purpose approach can physical education truly fulfill its societal significance^[8].

4. Strategies for Integrating Ideological and Political Education into College Physical Education from the Perspective of Transfer Theory

4.1 Clarify the Core Objectives of Ideological and Political Education and Effectively Promote Their Integration with Sports Activities

Concretizing them into specific values such as

patriotism, teamwork, perseverance, and fairness^[9]. By participating in various sports activities, students can learn and internalize different sports spirits through practice, thereby transforming them into personal values. Through such organic integration, an easily implementable teaching goal can be established—one that not only fulfills the objectives of ideological and political education but also fully leverages physical education to cultivate students' overall capabilities.

4.2 Deeply Explore Ideological and Political Elements in Sports to Construct Relevant Teaching Content

It is essential to thoroughly explore the ideological and political elements inherent in physical education to advance the integration of ideological and political education into sports courses. By organizing diverse sports activities, educators can delve into the ideological and political aspects embedded in various sports, such as perseverance, never giving up, and adherence to rules. These elements ensure that the teaching process not only enhances physical fitness but also fosters spiritual and moral growth.

For instance, in table tennis classes, instructors can introduce the historical background, cultural development, and outstanding achievements in Olympic games related to the sport. This approach helps stimulate students' patriotic spirit and encourages a determined and hardworking attitude. In skating programs, real-life examples of athletes winning championships in events like the Asian Winter Games or the Winter Olympics can be used to highlight the importance of unity, cooperation, mutual support, and perseverance, particularly in relay races.

Furthermore, teachers can incorporate current affairs and social phenomena to guide students in reflecting on the relationships between sports and morality, sports and rules, as well as sports and teamwork. This method further deepens students' understanding of ideological and political education elements through practical and relatable contexts.

4.3 Enrich Teaching Methods and Propose Diversified Strategies to Facilitate Knowledge Transfer and Value Internalization

Enriching teaching methods and proposing diversified teaching strategies are essential to promote the internalization of knowledge

transfer and values. In physical education courses, adopting approaches such as scenario-based teaching, case-based teaching, project-based learning, and modern technology-enhanced instruction can significantly improve teaching effectiveness^[10].

For example, scenario-based teaching allows students to immerse themselves in simulated environments, enabling them to better experience and understand the integration of sports spirit, thereby stimulating their patriotic enthusiasm. Case-based teaching, widely used and highly relatable, leverages examples of athletes' competitions and training experiences. Through the influence of role models, it inspires students' learning motivation and emotional resonance, contributing to the achievement of teaching goals. Project-based learning enables students to apply knowledge and develop values through completing teaching tasks.

4.4 Optimize the Teaching Evaluation Domain and Construct a Diversified Evaluation System

Optimizing the teaching evaluation domain and constructing a diversified evaluation system are crucial steps in enhancing the effectiveness of education. Teaching evaluation has always been of paramount importance, as it comprehensively and accurately reflects students' learning outcomes. This, in turn, facilitates teachers' post-class reflection and adjustments, making the teaching process more student-centered and better aligned with students' needs. Therefore, teaching evaluation should not be limited to assessing knowledge acquisition but should also emphasize the learning process, students' daily performance, and their teamwork skills. Additionally, methods such as observation, interviews, and reflective journals can be employed to gain insights into changes in students' values and behavioral performances. Introducing peer evaluation and self-evaluation into the assessment framework can help students develop a habit of reflection during their learning process.

5. Conclusion

Guided by transfer theory, this study explores the integration of ideological and political education into university physical education curricula, with practical validation conducted at Guangdong University of Science and Technology. The findings demonstrate that the

transfer-based teaching model significantly enhances students' knowledge acquisition and value formation, achieving the educational goal of "cultivating individuals through sports". However, limitations remain due to sample size constraints and time limitations in experimental verification. Future curriculum design should deepen research on transfer theory, continuously innovate teaching methodologies, and contribute to nurturing well-rounded adolescents.

Acknowledgment

2024 Guangdong University of Science and Technology "Quality Engineering" Project: "A Study on the Integrated Teaching Practice of Ideological and Political Education in University Physical Education from the Perspective of Transfer Theory" (GKZLGC2024319).

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