

An Examination of the Connotation of Graduation Requirements for Physical Education Majors in Regular Universities

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Abstract: This study focuses on the graduation requirements for physical education majors in higher education institutions and systematically investigates the essential competence structure that graduates should possess by employing a range of research methods, including logical analysis, questionnaire surveys, and case studies. The findings indicate that teacher ethics standards are considered the most critical criterion and should be maintained throughout a teacher's professional career. Dimensions such as educational commitment, subject-matter proficiency, teaching competence, classroom management, holistic educational capacity, and self-reflective practice collectively form an integrated framework of graduation requirements. However, the study reveals that classroom management competence receives relatively less emphasis in current perceptions. Taking volleyball courses as an example, while they significantly support teaching competence, subject literacy, and communication and collaboration skills, their contribution to classroom management is comparatively limited. This suggests variability in the extent to which different courses support specific graduation requirement indicators. Therefore, the study concludes that the implementation of graduation requirements should be aligned with the unique characteristics of individual courses to enable targeted and effective competency development.

Keywords: physical education; graduation requirements; connotation; support level; volleyball

1. Introduction

The major in physical education bears the significant responsibility of cultivating qualified middle school physical education teachers, and the quality of talent development directly influences the physical well-being and holistic growth of adolescents. Professional graduation requirements serve as the core standard for evaluating program effectiveness and constitute the foundation for designing curriculum systems and defining instructional objectives. In light of increasing expectations regarding the professionalization of physical education teachers in the current era, it is both theoretically valuable and practically significant to thoroughly examine the connotations of graduation requirements and clarify their alignment with course-based instruction.

Currently, physical education programs across higher education institutions generally adhere to the principles of "Student-contentedness, outcome orientation, and continuous improvement", having established a comprehensive set of graduation requirements encompassing domains such as teacher ethical standards, educational commitment, disciplinary proficiency, pedagogical competence, classroom management, integrated education, reflective learning, and communication and collaboration. However, during actual implementation,

disparities exist in students' perception of the relative importance of these requirements. For example, greater emphasis is often placed on teacher ethics and subject-specific literacy, whereas implicit competencies—such as classroom management and educational empathy—are frequently underappreciated. Furthermore, the extent to which individual courses support specific graduation requirements remains inadequately defined. Achieving precise alignment between course objectives and graduation requirements thus emerges as a critical factor in refining talent development strategies.

To address this issue, this study conducts a systematic analysis of the meanings and contemporary implications of each graduation requirement indicator. It investigates students' perceptions of the importance of these requirements and identifies potential cognitive biases through questionnaire-based surveys. Taking the volleyball course as a case study, the research further examines its specific contribution to fulfilling graduation requirements, highlighting both strengths and limitations, thereby clarifying the mapping relationship between the course and the required competencies.

Through conceptual clarification and empirical investigation, this study aims to provide actionable insights for the accurate implementation of graduation requirements, the optimization of curriculum matrix design, and the enhancement of the relevance and effectiveness of talent cultivation.

2. Research Objects and Methods

This study focuses on the connotation of graduation requirements for physical education majors in regular colleges and universities. Through a literature review and logical analysis, the meanings and implications of relevant indicators are systematically examined. A questionnaire survey (with 109 valid responses) and mathematical statistics were employed to analyze faculty and students' perceptions regarding the importance of graduation requirements and the extent of curriculum support. Additionally, a case study approach was adopted, using the volleyball course as an illustrative example, to empirically investigate the actual alignment between specific courses and the defined graduation requirements. This integrated methodology aims to provide empirical evidence for optimizing the professional training program.

3. Research Results and Analysis

3.1. Connotation of Graduation Requirement Indicators

Physical Education majors are required to demonstrate a firm political stance and a commitment to the educational principles of the Party, focusing on moral education. Professionally, they must command a strong theoretical foundation in education and sports science, possess practical sports skills and teaching competencies, and be capable of effectively applying this comprehensive knowledge to teaching, coaching, competitions, and research.

3.1.1. The Connotation of Professional Ethics Standards

Professional ethics represent the fundamental code of conduct for teachers in their professional practice. This encompasses loving the motherland and abiding by the law, being dedicated and diligent, caring for students, educating them through teaching, serving as a role model, and pursuing lifelong learning.

Teacher candidates must adhere to the principle of establishing themselves and conducting their teaching through virtue. They are required to practice the Core Socialist Values in their ideological and political stance, strengthen their identification with Socialism with Chinese Characteristics, fully implement the Party's education policy, and treat "Fostering Virtue and Civic Virtue" as their fundamental mission. Concurrently, they should cultivate an awareness of teaching in accordance with the law, consciously abide by the professional ethics code for teachers, and strive to grow into the "Four-Good" Physical Education teachers, who possess ideals and convictions, moral integrity, solid expertise, and a benevolent heart.

Professional ethics education permeates the entire continuum of a teacher's career development. It requires continuous nurturing throughout academic preparation and active practice in future teaching endeavors [1].

3.1.2. The Connotation of Educational Sentiment

Educational sentiment refers to a teacher's profound sense of identity, enduring passion, and steadfast commitment to the education cause. It is primarily demonstrated through a strong motivation to teach, an appreciation for the profession's value, and the possession of a positive outlook and sound values. Furthermore, it demands that teachers integrate humanistic qualities with a scientific spirit, respect students' individuality, and exhibit both care and responsibility. In the teaching process, educators should be observant and patient, guiding students in their lifelong physical development, character formation, knowledge acquisition, development of innovative thinking, and cultivation of a patriotic spirit.

Research indicates that for preservice teachers, educational sentiment encompasses not only fundamental components like professional identity, passion, and dedication but also incorporates the specific demands of the teaching profession. It serves as the core driver for their sustained engagement in educational practice, their commitment to students' holistic development, and their pursuit of self-improvement and professional growth [2].

3.1.3. The Connotation of Subject Literacy

Disciplinary literacy refers to the comprehensive quality of knowledge, ability and values formed by an individual within a specific disciplinary field. In terms of the physical education major, disciplinary literacy is specifically manifested as a systematic mastery of professional theories such as sports training, sports physiology, and sports anatomy, as well as specialized sports skills like basketball, football, and volleyball. At the same time, be familiar with the national sports policies and guidelines, possess the ability to analyze and solve practical problems by applying professional theories and skills, and have an initial ability for scientific research and an innovative consciousness.

Disciplinary literacy integrates knowledge, skills, and emotional attitudes and values, reflecting the educational essence of the physical education discipline. Its cultivation should focus on the combination of theory and practice, guiding students to form an integrated knowledge system and comprehensive quality on the basis of mastering professional content [3].

3.1.4. The Connotation of Teaching Ability

Teaching ability is a comprehensive manifestation of the professional qualities and practical skills that teachers, as facilitators of students' learning and development, should possess in educational and teaching activities. From the perspective of pedagogy, it encompasses elements such as knowledge imparting, classroom management, and learning assessment. From a psychological perspective, it is emphasized that teaching ability is closely related to the individual psychological characteristics and career development of teachers [4].

The teaching abilities of students majoring in physical education specifically include language expression, classroom organization, textbook handling, curriculum development, understanding of students' learning situations, interpersonal communication and self-monitoring, etc., and emphasize student-centered course design and implementation. This ability integrates the understanding of subject knowledge, the application of teaching methods, the insight into learning needs, and the integration of educational technology. It aims to stimulate students' interest, guide their thinking development, and adapt to diverse learning styles. It is a key support for achieving effective teaching and all-round education.

3.1.5. The Connotation of Class Management

Class management is an educational activity in which teachers apply the principles of educational psychology, management and education to plan, organize, guide and control the class collective and individual students, aiming to create a good order and promote the all-round development of students. Under the background of the credit system in colleges and universities, the boundaries of traditional classes tend to fade, and class management is facing new challenges of being dynamic and diverse [5].

Students majoring in physical education should master the principles of moral education and the basic

methods of class construction, be good at using the spirit and rules of sports to guide students' collective life, mobilize their enthusiasm and creativity, and treat and assist the growth of every student fairly. At the same time, it is necessary to have the ability to coordinate the educational forces of schools, families and society, and build an educational community with the class as the base and unified goals. Class management is not only a manifestation of organizational ability, but also the concrete implementation of professional ethics and educational sentiments in practice. It requires a strong sense of responsibility and dedication to promote the formation of a good atmosphere of cooperation and progress in the class.

3.1.6. The Connotation of Comprehensive Educational Capacity

Comprehensive education refers to the integration of knowledge imparting and quality cultivation in the educational process, emphasizing the development of students' moral qualities, thinking abilities, innovative spirit, practical abilities, and non-intellectual factors such as physical and mental health, in order to promote the all-round development of students and the construction of a sound personality.

Colleges and universities should fully leverage the comprehensive educational value of sports in terms of physical, intellectual and mental development, and serve the construction of a "Healthy China" and a "Sports Power" [6]. Students majoring in physical education need to have a deep understanding of the physical and mental development laws of middle school students, grasp the unique educational function of the physical education discipline, and organically integrate educational goals into physical education teaching, theme activities and club practices. At the same time, individual differences among students should be respected, diverse development paths should be provided, and they should be guided to establish correct values and life aspirations.

Comprehensive education not only promotes the innovation of educational concepts and teaching methods, enhances the interactivity and practicality of education, but also continuously improves teachers' professional capabilities. It has profound significance for students' growth, educational progress and social development.

3.1.7. Learn the Connotation of the Ability to Reflect

Learning to reflect refers to the ability of teachers to continuously examine their own behaviors, thoughts and emotions through self-examination and critical thinking in teaching practice, in order to promote professional growth and optimize future teaching practice. It not only emphasizes the establishment of reflective awareness, but also pays more attention to mastering scientific reflective methods to achieve a virtuous cycle of reflecting while learning and learning while reflecting. For instance, how to promote the transformation of teaching methods from "explanation, demonstration and imitation" to "autonomy, cooperation and inquiry", and how to implement the new curriculum concept to promote the all-round healthy development of students, all require continuous teaching reflection to constantly adjust strategies, truly implement the idea of "health first", and serve the lifelong physical development of students [7].

For students majoring in physical education, reflection is a core link in lifelong learning and professional development. It helps identify teaching deficiencies, stimulate innovative thinking, and enhance professional judgment. It is an important way to update teaching concepts and continuously improve personal abilities.

3.1.8. The Connotation of Communication and Cooperation Skills

Communication and cooperation skills refer to the ability of teachers to effectively communicate, understand others' viewpoints and solve problems collaboratively in teams or interpersonal interactions, covering key skills such as listening, expressing, coordinating, adapting and conflict resolution. This ability can be systematically cultivated through classroom Q & A, group discussions, project presentations and outcome reports, etc. It is an important component of teachers' comprehensive qualities, including multi-dimensional abilities such as expression, listening, empathetic response and social interaction [8].

Communication and cooperation are of fundamental significance for career development, team building and social collaboration. In the context of diversity and globalization, good communication helps to reduce misunderstandings, enhance cohesion, improve organizational efficiency, and promote innovative thinking.

Students majoring in physical education should actively integrate into the collective in activities such as teaching and research collaboration and curriculum development to achieve consensus and co-construction. At the same time, they should pay attention to establishing an equal and cooperative interactive relationship with parents and students, promote mutual growth in teaching and learning through communication, and achieve common development.

3.2. Analysis of Physical Education Majors' Perception of the Importance of Graduation Requirement Indicators

The survey results show (see Table 1) that there are significant differences in the perception of the importance of various graduation requirements among students majoring in physical education. Among them, "Teacher Ethics Norms" and "Subject literacy" rank among the top, reflecting that students have a high level of recognition for such explicit and fundamental abilities. However, the recognition of the importance of abilities such as "educational sentiment", "class management", "comprehensive education" and "communication and cooperation" is relatively weak, especially "class management" ranks last, indicating that students do not pay enough attention to some implicit and comprehensive educational abilities.

Table 1. Understanding of the Importance of Each graduation requirement Index Point by Students majoring in Physical Education.

Items/%	Critically Important (Score: 4)		Important (Score: 3)		Less Important (Score: 2)		Not Important (Score: 1)		Weighted Score (Rank)
	N	%	N	%	N	%	N	%	
Professional ethics	77	76	22	22	0	0	2	2	376 (1)
Educational sentiment	62	61	36	36	2	2	1	1	361 (7)
Subject literacy	69	68	31	31	0	0	1	1	370 (3)
Teaching ability	71	70	27	27	1	1	2	2	369 (4)
Class management	59	58	36	36	5	5	1	1	355 (8)
Comprehensive education	67	66	29	29	4	4	1	1	364 (6)
Learning to reflect	69	68	29	29	2	2	1	1	372 (2)
Communication and cooperation	68	67	31	31	1	1	1	1	368 (5)

Note: N = 101 students; percentages are rounded; the final column reports the weighted score and rank (in parentheses).

Students' high recognition of the norms of teachers' ethics reflects their consensus on the core position of teachers' professional ethics and also reflects the strict requirements for teachers' ethics in the current educational environment. In contrast, the insufficient understanding of class management ability may be related to the common phenomenon that physical education teachers seldom assume the responsibility of class advisors in reality, which leads to students' vague understanding of their actual educational value.

Further analysis shows that the causes of cognitive bias include: in terms of educational sentiment, some students lack the willingness to teach for a long time and professional commitment; In terms of class management, insufficient practical experience and the absence of role identity weaken their learning motivation. In terms of comprehensive education, there exists a one-sided teaching concept of "emphasizing skills over qualities". In terms of communication and cooperation, it is related to the fact that some students are accustomed to completing tasks independently and lack teamwork training.

To this end, colleges and universities should, in the process of course construction and teaching implementation, strengthen targeted guidance on the above-mentioned weak cognitive links. By integrating practical scenarios, deepening case teaching, and creating collaborative tasks, they can enhance students' understanding of the overall and interrelated nature of various graduation requirements, and promote the cultivation of their comprehensive professional qualities.

3.3. Application of the Connotation of Graduation Requirements in the Volleyball Course Syllabus

Based on a systematic analysis of the connotation of graduation requirements, combined with the results of the questionnaire survey (Table 2) and teaching practice cases, it can be known that the volleyball course has a certain supporting effect on all graduation requirements, but there are obvious differences in the intensity of support. Most teachers believe that this course provides a high level of support for the three graduation requirements of “teaching ability”, “subject literacy” and “communication and cooperation”.

Table 2. The Degree of Support of Volleyball Courses for Graduation Requirements (Measurement Unit: score).

Items/Support Degree	No Support	Low Support	Medium Support	High Support	Weighted Score (Rank)
	(Score: 0)	(Score: 1)	(Score: 2)	(Score: 3)	
Professional ethics	0	3	2	3	16 (6)
Educational sentiment	0	3	2	3	16 (6)
Subject literacy	0	0	2	6	22 (2)
Teaching ability	0	0	1	7	23 (1)
Class management	2	2	3	1	11 (8)
Comprehensive education	0	3	1	4	17 (4)
Learning to reflect	0	3	1	4	17 (4)
Communication and cooperation	0	0	3	5	21 (3)

Note: N = 8 teachers; the final column reports the weighted score and rank (in parentheses).

Teaching ability is regarded as the core supporting item of volleyball courses. In actual teaching, a teacher's teaching ability is directly related to students' technical mastery efficiency and learning experience. Good teaching design, explanation and error correction abilities help students quickly establish correct movement images and improve their skill levels. The effective exertion of teaching ability, in turn, relies on solid subject literacy as the content foundation, including volleyball technical and tactical theories, rule cognition and teaching methods, etc. The two complement each other and jointly form the professional pillar of volleyball teaching.

In addition, volleyball itself has a strong attribute of collective collaboration. Its rule restrictions (such as “each player can touch the ball at most once per round”) determine that it is difficult for an individual to dominate the game. Only by relying on team communication and cooperation can one win. Therefore, volleyball courses naturally enhance students' sense of cooperation and communication skills in teaching, which also becomes the internal driving force for its high support in the dimension of “communication and cooperation”.

In contrast, the support strength of indicators such as “class management” in volleyball courses is relatively weak, reflecting the realistic differences in the correlation between course objectives and some graduation requirements. In the implementation of teaching, teachers should, based on the characteristics of the course, clearly define the key supporting points and rationally allocate teaching resources to achieve an effective connection between graduation requirements and course objectives.

4. Conclusions

4.1. The Connotative Characteristics of the Graduation Requirement Indicators for the Physical Education Major

Each graduation requirement indicator point has a clear connotation orientation and educational value. The code of ethics for teachers emphasizes that teachers should abide by professional standards, take the “Four Haves” standard as the development goal, and run through the entire process of a teacher's career. Educational sentiment, as the internal driving force for teaching, encompasses emotional identification, humanistic spirit and a sense of educational mission. Subject literacy requires students to build a systematic professional knowledge structure and comprehensive practical ability. Teaching ability emphasizes the integration of knowledge

imparting and learning guidance, and stresses the ability of teaching judgment and design. Class management is reflected in the systematic guidance and educational integration of the student collective. Comprehensive education emphasizes the all-round development of students in terms of morality, intelligence, physical fitness, aesthetics and labor on the basis of knowledge imparting. Learning to reflect is a key mechanism for promoting students' continuous growth. Communication and cooperation are reflected in the ability and quality of collaborative interaction and shared construction in the modern educational environment.

4.2. Structural Differences in Students' Perception of the Importance of Graduation Requirements

Students have a relatively high recognition of explicit abilities such as teacher ethics norms, but they have relatively insufficient awareness of the importance of comprehensive abilities such as class management, educational sentiment, comprehensive education, and communication and cooperation. Specifically, it is manifested as follows: Some students lack educational sentiment and have a weak willingness to teach. Class management has been neglected due to the fact that physical education teachers have fewer practical opportunities to serve as class advisors. The comprehensive educational ability has not been effectively integrated in teaching. There is a tendency of individualism in communication and cooperation, and the sense of collaboration is weak. These cognitive biases reflect the insufficiency of guidance for some implicit abilities in the current training process, which needs to be improved through course reinforcement and practical immersion.

4.3. The Volleyball Course Provides Differential Support for the Graduation Requirements

Research shows that volleyball courses play a strong supporting role in teaching ability, subject literacy and communication and cooperation. Volleyball, as a typical team sport, not only relies on teachers' teaching design and skill imparting abilities, but also requires students to have good teamwork and communication qualities. Therefore, it is significantly supported in the above dimensions. In contrast, abilities such as class management are relatively weak in volleyball courses, and the corresponding cultivation tasks are mainly undertaken by other courses. It can be seen from this that different courses should have their own focuses in supporting the graduation requirements, and a systematic and complementary course support system should be constructed.

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Institutional Review Board Statement

This study was approved by the Biomedical Ethics Committee of Zhaoqing University (approval No. 2024023).

Informed Consent Statement

Informed consent was obtained from all participants involved in the study. The purpose of the study was stated on the introductory page of the online questionnaire, and participants voluntarily completed the questionnaire.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflict of interest.

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