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Exploration and Application of the BOPPPS Teaching Model in the Context of Teacher Education Accreditation: A Case Study of School Physical Education Curriculum

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Abstract: *Accreditation of teacher education programs can enhance the quality of teacher preparation. School physical education kinesiology is one of the core courses in physical education (teacher training) programs. Using school kinesiology as an example, this study integrates the teaching philosophy of "student-centered, continuous improvement, and outcome-oriented" into six stages: introduction, learning objectives, pre-assessment, participatory learning, post-assessment, and summary. This paper explores the application and reform of the BOPPPS model in physical education teaching within the framework of teacher education program accreditation. The results indicate that the BOPPPS teaching model significantly improves the achievement of teaching objectives and enhances the quality of instruction in the school kinesiology course. These findings provide valuable insights for implementing blended teaching in the context of teacher education program accreditation.*

Keywords: *BOPPPS model; Teacher education accreditation; School physical education; Physical education teaching*

1. Introduction

In 2018, the Ministry of Education issued the "Opinions on Promoting the Construction of High-Level Undergraduate Education and Comprehensively Enhancing Teacher Training Capacity." This document emphasizes the importance of focusing not only on "effective teaching" but also on "effective learning" to foster the holistic development of students [1]. This raises the standards for university teaching. As a critical platform for higher education, classroom teaching plays a vital role in developing students' cognitive, practical, and innovative skills [2]. However, current university teaching predominantly follows traditional models where lectures are the primary method, and students remain passive listeners. This approach leads to insufficient retention and comprehension of abstract theoretical concepts, coupled with a lack of meaningful interaction between teachers and students, resulting in suboptimal learning outcomes [3]. Additionally, the common practice of evaluating student performance solely through final exams fails to adequately assess their overall competencies. To address these challenges, there is an urgent need to adopt advanced teaching methodologies and diversified assessment models that encourage active learning, thereby improving the effectiveness of classroom instruction.

2. Theoretical Basis Analysis Manuscript Preparation

2.1. Teacher Education Certification in the Professional Field

Teacher education program accreditation is a mechanism through which evaluation and accreditation agencies externally assess the quality of teacher preparation programs based on established standards [4]. The accreditation process adheres to the principles of "student-centered, outcome-oriented, and continuous improvement," emphasizing the developmental stages and learning progressions of teacher education students [5]. The entire instructional process should be grounded in students' learning outcomes and guided by the design of professional training objectives. By establishing a scientifically sound and unified accreditation mechanism, a closed-loop operation mode of "evaluation-feedback-improvement" is created. The purpose is to promote the professional development of educators, build a new teacher

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education framework responsive to social needs, and continuously enhance the quality of teacher preparation programs [6].

The accreditation for physical education programs requires students to meet the graduation standard of "one practice, three competencies" over four years of coursework, ultimately developing into well-rounded individuals in terms of morality, intelligence, physical fitness, aesthetics, and labor [4]. These graduates must gain a thorough understanding of modern educational theories and methods, the design and instruction of school physical education curricula, and the foundational theories and practices of extracurricular training management. Additionally, they need to possess advanced sports skills and exceptional physical education teaching abilities, ensuring their competence in school physical education roles [7].

2.2. BOPPPS Teaching Model

The BOPPPS teaching model is based on the principles of constructivism and the communicative approach. It focuses on "student-centered learning, participatory learning, and timely feedback," and segments the classroom teaching process into six stages: Bridge-in, Objective, Pre-assessment, Participatory learning, Post-assessment, and Summary [8]. This model aims to achieve learning objectives, encourage students' active participation, and promote comprehensive development. The Bridge-in stage primarily stimulates students' critical thinking and introduces the teaching content. The Objective stage sets clear learning goals for the students. The Pre-assessment stage assesses students' prior knowledge and individual learning abilities. The Participatory learning stage emphasizes a teacher-guided, student-centered approach, actively involving students through questioning, classroom exercises, and other interactive activities [9]. The Post-assessment stage evaluates students' achievement of learning objectives using assignments, questionnaires, and other assessment tools. The Summary stage synthesizes and reviews the entire class content [10].

2.3. Comparative Analysis of Teacher Education Certification Philosophy and the BOPPPS Teaching Model

The theoretical analysis reveals a high degree of consistency between the teacher education program accreditation philosophy and the BOPPPS teaching model. Firstly, the accreditation philosophy emphasizes a "student-centered" approach, focusing on what students have learned rather than what teachers have taught. This highlights the primary role of students in the classroom and emphasizes the cultivation of self-directed learning skills. Secondly, the accreditation philosophy's outcome-oriented approach, which involves designing courses backward from desired student outcomes and implementing them forward, aligns with the Bridge-in, Objective, Pre-assessment, and Post-assessment stages of the BOPPPS teaching model. Additionally, the emphasis on continuous improvement in the accreditation philosophy aligns with the Post-assessment and Summary stages of the BOPPPS teaching model. Therefore, applying the BOPPPS teaching model in classroom teaching under the accreditation philosophy is both necessary and feasible.

3. Exploration of Teaching Practices in School Physical Education Curriculum

3.1. Analysis of School Physical Education Curriculum

School Physical Education is a crucial compulsory course for physical education majors in colleges and universities. It primarily covers the structure and function of school physical education and the teaching of physical education curricula. As a core course, it requires students to integrate theoretical knowledge with practical teaching and to develop strong skills in analyzing, solving, and reflecting on problems. This course holds a significant place in the teacher training program. However, many students exhibit a passive learning attitude during the course. Typically, teachers deliver lectures while students passively receive information, resulting in insufficient interaction, low participation, and poor learning outcomes [11]. Guided by the principles of teacher education program accreditation and incorporating the BOPPPS teaching model, the teaching team has developed a BOPPPS blended teaching model using the "Chaoxing Learning" platform.

Classroom teaching is structured into three phases: online pre-class preparation, offline in-class implementation, and online post-class review. The initial three steps of BOPPPS - Bridge-in, Objective, and Pre-assessment - are conducted online, while participatory learning predominantly occurs offline in

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the classroom. Post-assessment and Summary are then conducted online after the class session. This teaching model embraces a student-centered approach, focusing on achieving specific outcomes and fostering continuous improvement. By combining online self-study with offline teaching, it aims to stimulate proactive student engagement in learning activities.

3.2. Implementation of School Physical Education Teaching

Using Chapter 1, Section 6 "Physical Education Course Objectives" from the school physical education curriculum edited by Professors Tang Yan and Liu Xin as a case study, describe in detail the implementation process of the BOPPPS teaching model.

3.2.1. Pre-class Preparation

(1)Bridge-in

Teachers use the Learning Management System to distribute online learning resources on "Physical Education Course Objectives." They introduce the video case of "Changyang Learning Archery" and prompt students to consider the role of physical education teaching objectives, aiming to stimulate students' active thinking and guide them to delve into the teaching content of this chapter. This method of introducing case information sparks students' interest in learning and enhances their intrinsic motivation to learn.

(2)Objective

Teachers categorize learning objectives into knowledge and skills, process and method, and affective and attitudinal objectives based on the curriculum, content, and student analysis. Subsequently, they clearly convey these objectives to students for the teaching unit, emphasizing its key and challenging aspects. Preparing students with advanced knowledge of learning objectives aids them in focusing on key concepts, and assessing their progress in knowledge acquisition, methodology, and emotional development throughout the learning process, thereby improving the attainment of teaching objectives.

(3)Pre-assessment

Teachers utilize the Chaoxing Teaching Platform to administer quizzes in formats such as multiple-choice, true/false, and short-answer questions, covering fundamental concepts of the chapter. Students complete these quizzes according to the assigned tasks and submit their responses. Using the data analytics tools available on the online teaching platform, teachers accurately gauge students' readiness through pre-assessment scores, which contribute to their overall grades. Guided by students' performance in the pre-assessment, teachers develop targeted learning strategies, focusing particularly on areas where students have demonstrated weaknesses, to enhance the effectiveness of in-person teaching activities.

3.2.2. In-class Implementation

(1)Participatory learning

Participatory learning is the focal point and core component of teaching, emphasizing interaction and communication between teachers and students, as well as among students themselves, to fully immerse students in the classroom environment. Participatory learning is structured into three parts: knowledge consolidation, practical application, and extension activities.

In the first part, foundational knowledge is reinforced through explanation. Teachers use online case studies, questioning techniques, and offline resources to present the lesson's content, helping students build a cohesive understanding. Students complete corresponding exercises in their study guides, with their scores directly contributing to their regular assessments, encouraging them to strengthen their grasp of the material.

The second part focuses on practicing and overcoming key and difficult knowledge. During lessons, teachers employ questioning and task-based learning methods to prompt students to actively learn and master the process of formulating course objectives. In this process, students progress from mimicking writing to independent writing, engaging in mutual discussion, checking, deep thinking, and exploration. Meanwhile, teachers guide students through error correction, encouragement, and gradual mastery of key concepts, thereby achieving the instructional and methodological goals, as well as fostering emotional and attitudinal development in this lesson.

The third part focuses on the application and extension of knowledge, exploring through two questions: What is Bloom's taxonomy of educational objectives? How should teaching objectives be

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determined under the "student-centered" teaching philosophy? Students engage in open discussions and mutual exploration in a relaxed classroom atmosphere, fostering teamwork and communication skills. During this phase, teachers introduce the latest research findings in the field of school kinesiology to broaden students' perspectives and cultivate their innovation awareness, thereby igniting their enthusiasm for learning. Finally, teachers provide constructive feedback on student discussions and summarize the lesson's content.

This approach ensures that participatory learning effectively integrates theoretical concepts with practical applications, fostering a comprehensive learning experience for students.

3.2.3. Post-class Study

(1)Post-assessment

Post-assessment serves as a crucial stage in monitoring students' learning quality. Teachers can design various post-assessment questions based on teaching objectives and content, and publish them on platforms such as Chaoxing Teaching Platform. This is to evaluate students' comprehensive application abilities and the attainment of course objectives, reinforcing their knowledge consolidation, identifying and addressing gaps, and promoting further internalization and absorption of the learned content. Teachers can upload research papers related to this chapter and assign assignments involving literature review to enhance students' intrinsic motivation for learning and expose them to cutting-edge knowledge in relevant fields. Students summarize the article content themselves, fostering good research skills.

(2)Summary

During the final segment of the course, teachers guide students to actively summarize and reflect on the knowledge acquired in this lesson, and preview the learning objectives for the next session. Teachers can encourage students to use concept maps to summarize key learning points, solidify their understanding of the content, and engage in group activities for communication and sharing to deepen their knowledge. Simultaneously, teachers closely monitor students' learning progress through real-time learning analytics on the Study platform, providing each student with personalized and differentiated guidance and support.

Please review the revised translation and let me know if it aligns with your expectations or if there are any adjustments you would like to suggest.

3.3. Teaching Evaluation

In the BOPPPS teaching model, instructional assessment focuses on student development, aligned with teaching objectives and graduation requirements. Assessment comprises regular grades and final evaluations. Regular grades include both online (attendance, video viewing, tests) and offline components (classroom learning, thematic discussions). Students use learning data for self-reflection, while teachers optimize their teaching through data analysis. This diversified assessment approach helps move away from the traditional "one-size-fits-all" evaluation model, encouraging students to adopt autonomous learning practices and enhancing their skills [12].

At the end of the course, a survey was conducted among 2022-level students majoring in physical education to analyze self-assessed goal achievement under the BOPPPS teaching model. This covered professional knowledge and skills, course design and implementation, and teamwork capabilities. A total of 120 valid questionnaires were collected and analyzed (Table 1). Quantitative assessment of course objectives revealed that a majority of students reported high levels of goal achievement.

Table 1: Student Self-assessment of Achievement in School Physical Education Curriculum Learning Objectives

Survey Item	Fully Achieved (%)	Mostly Achieved (%)	Essentially Achieved (%)	Mostly Not Achieved (%)	Not Achieved (%)
Sense of Professional Identity	37.5%	45%	17.5%	0%	0%
Professional Knowledge and Skills	32.5%	47.5%	20%	0%	0%
Course Design and Implementation Process	36.67%	42.5%	20.83%	0%	0%
Teaching Reflection and Improvement	34.17%	42.5%	23.33%	0%	0%
Team Spirit	35.83%	40%	24.17%	0%	0%

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4. Reflections and Insights on Teaching

In traditional classrooms, many teachers tend to create PowerPoint presentations and rely on reading from them, thus heavily transmitting knowledge to students, often without fully embracing a student-centered teaching approach [8]. In contrast, the BOPPPS teaching model sets higher expectations for teachers, requiring them to shift from being "knowledge disseminators" to "academic guides". BOPPPS instructional design must permeate the entire teaching process, be carefully crafted to suit the learning characteristics of each chapter and be focused on fostering students' comprehensive competencies. Moreover, establishing an effective, diverse assessment system is crucial. This system can dynamically and objectively reflect students' performance throughout the course, not only enhancing student learning but also improving teachers' instructional strategies.

5. Conclusions

In the context of teacher certification, the BOPPPS teaching model successfully shifts the teacher's instructional process into the student's learning process, emphasizing a student-centered approach. It prioritizes the cultivation of students' capabilities, fosters sustainable development, and enhances students' achievement of course objectives. However, there are challenges in the teaching process, such as the ongoing need for systematic development and enhancement of online classroom learning. The design of course instruction needs to be more scientifically grounded and logically structured to ensure continuous optimization and improvement.

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References

[1] Ministry of Education. Opinions on Accelerating the Construction of High-level Undergraduate Education and Comprehensive Improvement of Talent Training Capability [A/OL]. (2018-09-17) [2024-05-28]. Available: http://www.moe.gov.cn/srcsite/A08/s7056/201810/t20181017_351887.html.

[2] Ding Kun. "Using Competition to Promote Innovation": Strategies for Cultivating Innovative Entrepreneurial Talents in Universities [J]. Educational Theory and Practice, 2022, 42 (21): 9-12.

[3] Qin Yue, Tan Liqiong. Short Video Teaching Method Enhances Student Satisfaction in Ideological and Political Courses in Universities — Review of "Exploration of Diverse Three-dimensional Teaching Models for Ideological and Political Courses" [J]. News Enthusiast, 2021, (06): 105-106.

[4] Dong Cuixiang, Han Gailing, Zhu Chunshan, et al. Exploration of Moral and Political Education Teaching Practices in Physical Education Major Courses under the Background of Teacher Education Certification [J]. Journal of Tianjin Institute of Physical Education, 2022, 37 (01): 32-37.

[5] Education Department, Education Working Office. Higher Education Teacher Education Certification Guidelines (Trial) [EB/OL]. [2024-05-28]. Available: http://www.moe.gov.cn/srcsite.

[6] Shi Shaojie, Guo Jing. Strategic Tasks and Basic Paths for the High-quality Development of Vocational Education from the Perspective of Integrated Development of Education, Science, Technology, and Talent [J/OL]. Modern Education Management, 2024, 02 (21): 1-11.

[7] Ministry of Education. National Standards for Undergraduate Professional Teaching Quality in Ordinary Higher Education Institutions [EB/OL]. [2024-05-28]. Available: http//www.moe.gov.cn/ jyb_xwfb/ gzdt_gzdt/s5987/201801/t20180130_325920.html.

[8] Wu Yuan, Zhao Hanning, Zhao Zuguo, et al. Application of Blended Learning Model Incorporating BOPPPS in Medical Immunology [J/OL]. Chinese Journal of Immunology, 2024, 01 (23): 1-10.

[9] Fang Zhongming. Reform and Innovation of Genetic Engineering Courses under the Background of

ISSN 2618-1576 Vol. 6, Issue 4: 175-180, DOI: 10.25236/FSR.2024.060428

"New Agricultural Science" [J]. Journal of Biology, 2024, 41 (01): 126-130.
[10] Yao Daoyu, Cui Dongxue. Application Research of Problem-based Learning (PBL) in Theoretical Courses of "School Physical Education" [C] // Chinese Society of Sports Science. Abstract Compilation of the 12th National Sports Science Conference — Poster Exchange (School Physical Education Branch). Hebei Normal University; 2022: 3.
[11] He Yuchen. Exploration and Practice of BOPPPS Teaching Model under OBE Concept in "Fundamentals of Circuit Analysis" Course Teaching [J]. Heilongjiang Education (Theory and Practice), 2024, (02): 57-60.
[12] Zheng Weimin, Zhang Xiaojuan. Cultivation of Students' Awareness and Ability of Autonomous Learning under the "Blended Learning" Model—A Case Study of Teaching Work at Gansu Minzu Normal College [J]. Physics Bulletin, 2020, (06): 12-15.