

Innovating Physical Education Teacher Training Programs in the Context of General Education Reform in Vietnam: Evidence from a Case Study at Can Tho University

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ABSTRACT:

Educational reform in Vietnam necessitates innovation in physical education teacher training using an outcomes-based approach, in line with the 2018 General Education Program and the trend of higher education reform. This study investigates the current situation and aims to improve the physical education teacher training program at Can Tho University (CTU), Vietnam. The study utilizes document analysis, interviews, sociological surveys, and statistical mathematics to address its research objectives effectively. The research has improved the physical education teacher training program using an outcome-based approach. The program enhances digital skills, innovation, sustainable education, and professional development, contributing to improved training quality and meeting the requirements of educational reform in the context of international integration. Improving the training program contributes to enhancing the quality and adaptability of physical education teacher training to the requirements of the 2018 General Education Program and the trends in higher education reform.

Keywords: Physical education teacher education; curriculum innovation; outcome-based education; general education reform; case study.

1. Introduction

In recent decades, educational reforms and the development of a knowledge-based society have created new demands on teacher training systems worldwide. For the field of physical education, physical education teacher training (Physical Education Teacher Education - PETE) is shifting from a content-based approach to a competency-based approach, focusing on the learner and emphasizing the development of professional skills to meet the demands of modern educational practice (Casey & Kirk, 2020). This trend is driven by the need for holistic student development, advancements in science and technology, and the digital transformation in education. Physical education is increasingly recognized for its crucial role in improving health, fostering positive lifestyles, and developing social skills for learners (Uhlenbrock & Meier, 2021).

In this context, many countries have reformed their physical education teacher training programs to strengthen the link between theory and practice, develop professional competencies, integrate technology, and promote experiential learning (MacPhail & Lawson, 2020). Simultaneously, outcome-based education (OBE) and competency-based approaches have become important directions in higher education, emphasizing the clear definition of outcomes, increased stakeholder participation, and continuous improvement of training programs (Biggs et al., 2022). In addition, the evaluation and assurance of training program quality are receiving increasing attention in order to improve training effectiveness and meet the needs of society (Stufflebeam & Zhang, 2017).

In Vietnam, fundamental and comprehensive reform of education and training has been identified as a strategic task aimed at developing high-quality human resources in the context of international integration. Resolution No. 29-NQ/TW of the 11th Central Committee of the Communist Party of Vietnam sets the goal of shifting the education process strongly from a content-based approach to developing the qualities

and competencies of learners (Central Committee of the Communist Party of Vietnam, 2013). Regarding the field of physical education, the Politburo's Conclusions No. 76-KL/TW and No. 70-KL/TW continue to affirm the role of physical education and school sports in the comprehensive development of human beings, while emphasizing the need to improve the quality of teachers and lecturers and strengthen scientific research in this field (Politburo, 2020, 2024).

In parallel, the 2019 Education Law, the 2018 amended Higher Education Law, the Strategy for the Development of Physical Education and Sports in Vietnam to 2030, with a vision to 2045, and the Strategy for the Development of Education to 2030, with a vision to 2045, all emphasize the requirement for comprehensive human development, improving the quality of human resources, and reforming education towards developing learners' competencies (National Assembly of the Socialist Republic of Vietnam, 2018, 2019; Prime Minister, 2024a, 2024b).

Based on that, the 2018 General Education Program, issued under Circular No. 32/2018/TT-BGDDT, marked a significant shift from a content-based approach to an approach focused on developing learners' qualities and competencies. The new curriculum places demand on physical education teachers not only in terms of professional knowledge but also in their ability to design and organize teaching activities, assess learners, apply technology, and adapt to the changes in the modern educational environment (Ministry of Education and Training [MOET], 2018). At the same time, Circular No. 17/2021/TT-BGDDT on training program standards for higher education levels also emphasizes developing training programs in the direction of capacity development, ensuring quality, and increasing the participation of relevant parties in the process of building and improving the program (MOET, 2021).

In addition, regulations on standards for higher education institutions (MOET, 2024), accreditation

of training programs (MOET, 2025), and internal guidelines of CTU on reviewing, evaluating, and improving the quality of training programs (CTU, 2024) have created an important legal and academic basis for the process of reforming the Physical Education training program. These documents emphasize the need for continuous improvement based on learning outcomes, meeting quality accreditation requirements, enhancing the interconnectedness between training programs, and ensuring relevance to the needs of society and the labor market. This also serves as the basis for CTU to review and update its undergraduate training programs, applicable from the 2025 enrollment cohort, aiming to improve training quality and meet the requirements of educational reform in the current period.

Considering changes in general education, Vietnamese higher education is also shifting from a traditional training model to a learner-centered model, enhancing accountability and quality assurance to meet the requirements of socio-economic development and international integration (Nghia & Tran, 2020; Harman et al., 2009). For the field of physical education teacher training, the need for innovation is even more urgent to meet the goal of improving health, fitness, and the quality of human resources in the new era.

Although many studies have addressed the development of competency-based training programs, outcome-based education, and quality assurance in higher education (Biggs et al., 2022; Darling-Hammond, 2017; Stufflebeam & Zhang, 2017), research on physical education teacher training has primarily focused on innovative teaching methods and professional competency development (Casey & Kirk, 2020; MacPhail & Lawson, 2020). In Vietnam, research in this field is relatively limited and mainly descriptive. In particular, there is still a lack of empirical evidence on the process of innovating physical education teacher training programs to meet the requirements of the 2018 General Education Program, as well as studies evaluating the effectiveness of the improved program based on a combination of different data sources.

Addressing that research gap, this study aims to analyze the innovation process of physical education teacher training programs at CTU within the context of general education reform in Vietnam, while also evaluating the program's effectiveness through student learning outcomes and stakeholder satisfaction. Through a case study at CTU, the study hopes to provide further empirical evidence and useful implications for the innovation process of physical education teacher training programs in Vietnam as well as in other developing countries with similar conditions.

2. Methodology

Design

This study combines quantitative and qualitative methods to provide a comprehensive overview of the innovation process in physical education teacher training programs within the context of general education reform in Vietnam. A case study design was chosen to conduct an in-depth analysis of the development, implementation, and evaluation of the physical education training program at CTU.

Quantitative data collected were used to assess student learning outcomes and stakeholder satisfaction with the improved training program. Meanwhile, qualitative data were collected to clarify the program innovation process, stakeholder needs, and issues arising during implementation. Combining the two research methods helps to improve the reliability, objectivity, and comprehensiveness of the research results.

Participants

The research subject is the Bachelor of Physical Education program at CTU, which was developed and implemented to meet the requirements of the 2018 General Education Program.

The research subjects included four main groups:

100 students majoring in Physical Education are currently studying at CTU;

25 former students have graduated and are currently working in the field of education;

10 lecturers are directly involved in teaching the training program;

5 employers and administrators at general education institutions.

The research subjects were selected using judgmental and simple random sampling methods to ensure representativeness and relevance to the research objectives.

Instruments

The study utilized various data collection tools to ensure the objectivity and comprehensiveness of the research results.

Document analysis and synthesis

This study synthesizes and analyzes legal documents, educational development strategies, the 2018 general education curriculum, curriculum standards, curriculum dossiers, and related materials to identify the theoretical and practical basis for curriculum reform.

Expert Interview

The questionnaire was developed based on previous research and adapted to the research context. The questionnaire content focused on:

- The effectiveness of the training program;
- Learning outcomes and professional competence;
- Levels of satisfaction among students, alumni, faculty, and employers;

The questions were designed using a 5-point Likert scale, from 1 (Strongly disagree) to 5 (Strongly agree). The reliability of the questions was tested using Cronbach's Alpha.

Interviews were conducted with experts, faculty, and administrators to gather in-depth information about the development and implementation of the training program.

Student academic results

Data on the academic and training performance of 100 students from the 51st cohort of the Physical Education major were collected from the training management system of CTU to evaluate the effectiveness of the teacher training program in Physical Education after improvement.

Procedure

The research was conducted in five steps.

Step 1: Analyzing the theoretical basis, policy documents, and assessing the current state of the training program.

Step 2: Surveying needs and gathering feedback from stakeholders, including students, alumni, faculty, and employers.

Step 3: Developing and refining the training program based on competency development, meeting the requirements of the 2018 General Education Program.

Step 4: Implementing the improved training program and monitoring its progress.

Step 5: Evaluating the effectiveness of the training program through student learning outcomes and stakeholder satisfaction levels.

Data Analysis

Quantitative data were processed using SPSS version 22.0 software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to characterize the study sample and assess the effectiveness of the training program.

The reliability of the scale is tested using Cronbach's Alpha coefficient. Appropriate statistical analyses are used to assess differences and relationships between research variables when necessary.

Research ethics

The research was conducted in strict adherence to ethical principles in scientific research. All survey and interview participants were fully informed about the research objectives, data collection methods, and their right to participate voluntarily. Participants had the right to refuse or terminate their participation in the research at any time without any consequences.

Participants' personal information is kept confidential and will only be used for research purposes. Collected data is encrypted, stored, and processed in an aggregated form to ensure privacy and confidentiality. Research results are presented

truthfully, objectively, and in compliance with academic ethics regulations, without distorting or misrepresenting research data.

Ethical considerations

All participants provided informed consent before participation. The study protocol complied with the ethical principles of the Declaration of Helsinki and was approved by the institutional research committee. Participation was voluntary, and all collected data were treated confidentially

3. Results

3.1. Current status of the physical education teacher training program at CTU

3.1.1. Current status of the Bachelor of Physical Education program at CTU in 2024

The analysis results show that the Bachelor of Physical Education program at CTU in 2024 is designed in accordance with the regulations of the Ministry of Education and Training (MOET, 2021a, 2021b, 2024) (Circular 17, Circular 08, Circular 01), the objectives of higher education (Education Law 2005 (Article 2)) (Law on Higher Education 34/2018/QH14, 2018) and the development orientation of CTU (CTU Council, 2022) (CTU Council (2022), Resolution No. 45/NQ-HDT approving the development strategy of CTU for the period 2021-2025 with a vision to 2030). The program is designed with a competency-based approach, ensuring alignment between training objectives, learning outcomes, and course content, while also meeting the requirements of the teacher professional standards and the 2018 General Education Program (MOET, 2018).

The program comprises 104 courses with a total of 141 credits, structured into three knowledge blocks: general education (33 courses with 40 credits), foundational subjects (20 courses with 39 credits), and specialized subjects (51 courses with 62 credits). The learning outcomes encompass requirements regarding knowledge, skills, level of autonomy and professional responsibility, aiming to develop learners' teaching competence, scientific research, application of information technology, foreign languages, and lifelong learning ability. In addition, the program is built in an integrated, systematic manner and is regularly updated to meet the requirements of educational practice and the needs of stakeholders (CTU, 2024) [2602/QD-DHCT dated June 28, 2024].

Overall, the 2024 Bachelor of Physical Education program has laid an important foundation for training physical education teachers to meet the requirements of general education reform. However, in light of the new requirements of the 2018 General Education Program and the development trends of higher education, continued review and improvement of the training program is necessary to enhance the quality of training and the career adaptability of students.

3.1.2. The current situation regarding the fulfillment of the requirements of the 2018 General Education Program for the Bachelor of Physical Education program at CTU.

A comparative study of the 2024 Bachelor of Physical Education program at CTU regarding its fulfillment of the 2018 General Education requirements is shown in Table 1.

Table 1. Comparison of the 2024 Bachelor of Physical Education program at CTU in terms of meeting the 2018 General Education requirements.

Criteria and requirements of the 2018 General Education Curriculum	Required content (according to the 2018 General Education Curriculum – Circular 32/2018/TT-BGDĐT)	Response of the Physical Education curriculum /Can Tho University (2024)	Evidence	Comment
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1. Orientation for developing qualities and competencies	Education is the main quality; general capacity and motor capacity; Competency-oriented teaching.	The curriculum objectives emphasize the development of qualities and competencies, critical thinking, communication, collaboration, and lifelong learning.	Decision No. 2602/QD-DHCT (June 28, 2024)	Well response
2. Knowledge of Physical Education and Sports Science	Requirements include understanding the physiology and psychology of sports, and physical education methods according to the 2018 curriculum.	The curriculum includes the following modules: Physiology of Sports, Psychology of Sports, Principles and Methods of Physical Education, Curriculum Design, and Competency Assessment.	learning outcomes - Fully response Decision 2024; Plan 1022/KH-DHCT (March 29, 2024); Document 1023/DHCT	
3. Course content according to the 2018 curriculum.	Topics include basic movement, sports, experiential activities, and sports safety.	The curriculum includes 51 specialized courses in Physical Education and Sports; many of which are sports such as ball games, martial arts, swimming, etc. However, the content "sports safety - accident prevention" has not yet been established as a separate course.	Training Program 2024; Training Matrix – Learning outcomes	Fairly good response; there is still room for improvement.
4. Organizing physical education activities	Organize teaching, extracurricular activities, sports clubs, and experiential learning activities.	The curriculum includes the following modules: Competition Organization, Refereeing, Extracurricular Activities, and Sports Training.	Course Syllabus	Well response
5. Assessing student abilities	Assessment of the process, assessment of motor skills, qualitative and quantitative evaluation.	The curriculum includes a course on "Assessment in Physical Education," with assessment methods based on the 2018 curriculum.	Course Outline; Document 1023/Can Tho University	Well response
6. Modern teaching methods	Utilize active learning methods, differentiated instruction, and technical modeling.	The curriculum is updated with active learning methods, integrated learning, competency-based learning, etc.	Teacher training	The response is fairly good to well, depending on the instructor.

7. Application of IT and digital transformation in physical education.	Using digital devices, video technical analysis, and LMS.	The curriculum requires basic IT skills; it includes courses in IT applications; but it lacks in-depth courses such as motion analysis.	Learning outcomes - Decision 2024	Average response, needs improvement.
8. Scientific research, professional development.	Teachers must have the capacity for research, self-learning, and keeping up-to-date with innovations in physical education.	The curriculum includes courses on scientific research in sports, research methods, self-learning skills, and professional qualities.	Learning outcomes - Decision 2024	Well response
9. Integrating practical applications into school settings.	Teachers must understand the actual school context and the 2018 curriculum.	Can Tho University offer pedagogical internships; organizes workshops, and updates according to the 2018 General Education curriculum.	Learning outcomes - Decision 2024	The response was good, but more practice is needed.
10. Professional qualities of a teacher	Compliance with professional standards (Circular 20/2018).	The curriculum clearly defines personal, professional, and social qualities; autonomy and responsibility.	Learning outcomes - Decision 2024	Fully response

Table 1 shows the results of a comparison between the 2024 Bachelor of Physical Education program at CTU and the requirements of the 2018 General Education Program. The current program basically meets the requirements for developing students' qualities and competencies, innovating teaching methods, assessing according to competency development, organizing physical education activities, and developing teachers' professional skills (MOET, 2018a, 2018b). The training objectives, learning outcomes, and program structure are designed using a competency-based approach, ensuring alignment between modules and the requirements of teacher professional standards and the Physical Education curriculum in general schools.

The training program has a relatively comprehensive system of modules, including modules on educational science, sports psychology, teaching methods, assessment, scientific research, and specialized sports. Simultaneously, the

curriculum is regularly reviewed and updated to meet the requirements of educational reform in general education and the development trends of higher education. These results show that the training program has created an important foundation in preparing professional competencies for students in the Physical Education major.

However, the analysis also revealed several areas that need further improvement to better meet the requirements of the 2018 General Education Program. Specifically, the application of digital technology in physical education teaching remains limited, the content on sports safety and injury prevention has not been designed as a separate course module, while the time allocated for pedagogical practice and the level of engagement with practical applications in general schools need to be increased. These limitations highlight the need for continued review and innovation of training programs to improve the quality of

physical education teacher training in the context of general education reform in Vietnam.

3.2. Improving the Bachelor of Physical Education training program at CTU

3.2.1. Developing a Bachelor's degree program in Physical Education at CTU

This study aims to improve the undergraduate Physical Education program at CTU based on the current situation, the requirements of the 2018 General Education Program, regulations on the development and accreditation of university-level training programs, the Vietnamese National

Qualifications Framework, along with the needs of stakeholders and the development trends of higher education in the context of digital transformation and international integration (Prime Minister, 2016; Ministry of Education and Training [MOET], 2018, 2021a, 2021b, 2025). In addition, the study references the training experiences of several universities in Vietnam and abroad to improve articulation, career adaptability, and meet the requirements of educational reform in Vietnam. A comparison of the changes in the 2024 curriculum and the improved curriculum is shown in Tables 2 and 3.

Table 2. Comparison of objectives, learning outcomes, and curriculum structure of the 2024 program and the improved program.

Intension	2024 curriculum	Improved curriculum	Change
<i>Purpose of Education (PEO)</i>			
Way to present objectives	Traditional, unencoded description	Encoding according to PEO1–PEO6	- Clearly, according to OBE standards.
Orientation towards serving the Mekong Delta region.	Not emphasized	Emphasize clearly	- Enhance regional specificity
Digital capabilities – digital transformation	Not specified	Have (PEO3, PEO5)	- New content
Innovation – entrepreneurship	Do not have	Have (PEO5)	- Additional information as requested by the Ministry of Education and Training.
International integration – multiculturalism	Mention limitations	Strong mention	- Stay up to date with trends.
Sustainable education	Not mentioned	Have (PEO1, PEO2)	- According to UNESCO 2030
<i>Program Learning Outcomes (PLO)</i>			
Number of PLO	8–10 PLO, The groups haven't been clearly divided yet.	12 PLO Divided into Knowledge – Skills – Self-reliance & Competence	- According to TT17/2021

Digital capabilities	Not specified or very general	PLO9 clearly	- New features
Soft skills (critical thinking, collaboration, etc.)	No details	Have (PLO7, PLO10)	- Additional
Sustainable and inclusive education	Do not have	Have (PLO1, PLO3)	- According to the 2018 General Education Curriculum
Scientific research	General statement	3 PLO (PLO5,6,8)	- Significant improvement
Foreign Languages	Achieved B1	Achieve B1 level + digital skills & integration	- Expanding the scope of capabilities
<i>Program structure – Course system</i>			
General Studies Group			
Information technology	Basic Computer Science	Digital Skills Application 1 & 2	- Modernize
Environmental/Sustainability Education	Do not have	Comparative education and sustainable education	- Brand new
Inclusive education	Do not have	Have	- New
Soft skills	Do not have	Soft skills, innovation & entrepreneurship	- New addition
Major base group			
Anatomy	1 course module	Separated into Human Anatomy + Sports Anatomy	- More in-depth
Physiology, biochemistry	Infrequent updates	Update everything	- Modernize
IT applications	Not yet linked to teaching	Application of Information Technology in Physical Education Teaching	- Practical
Specialized group			
Pickleball	Do not have	Have (TC153)	- New course
Ballroom dancing	Have but small	Update and upgrade credits	- Increase practice
Handball, Chess...	Have, but they are scattered.	Restructure the system	- Clearly, more logical.

Tennis	Have, but few credits	Increase duration	- Suitable for professional standards
Internship	Intern early once	Large-scale graduate internship	- Increase practical integration

Table 3. Comparison of Approach Method – Program Philosophy, Internship – Professional Practice, Job Positions & Development Directions of the 2024 Curriculum compared to the Improved Curriculum.

Intension	2024 curriculum	Improved curriculum
Approach Method – Program Philosophy		
Training philosophy	Content knowledge –	OBE – Capacity development
Structure	Mainly describes	Have PEO – PLO – Course matrix
Connected with the 2018 General Education Program	Not much is shown	Clear and complete
Integration	Average	High: reference UK, Australia, Ireland, China
<i>Internship – professional practice</i>		
Internship scale	Small, 1 batch	Internship 2 major + Graduation internship
Student assessment skills	Rarely mentioned	Have a module on Measurement and Evaluation of Physical Education.
Connecting general schools	Not strong enough	Integrating the 2018 General Education Curriculum, closely aligned with reality.
<i>Job position and career development</i>		
Job position	Mainly: teachers, coaches	Expansion: sports businesses, clubs, health services, sports media
Startup	Not mentioned	Have a module on innovation.
Pursue postgraduate studies	General description	Provide clear suggestions based on relevant industries.

The comparative results in Tables 2 and 3 show that, based on the evaluation of the current program, the requirements of the 2018 General Education Program, and regulations on the development of university-level training programs, the Bachelor of Physical Education program at CTU has been reviewed and improved according to the Outcome-Based Education - OBE (Ministry of

Education and Training [MOET], 2018, 2021a, 2021b). The program is designed with a training duration of 4 years, comprising 141 credits.

The revised training program clearly defines training objectives, learning outcomes, and job positions for graduates, ensuring a link between training objectives, learning outcomes, and the content of the modules. The learning outcomes are

structured around three competency groups: knowledge, skills, and levels of autonomy and professional responsibility. Emphasis is placed on developing scientific research capabilities, digital skills, foreign language proficiency, innovation, and lifelong learning abilities. Graduates can fill a wide range of positions in education, sports, and healthcare.

Notably, the program structure and course content have been updated to be more modern, enhancing the integration of specialized knowledge, pedagogical skills, and the application of technology in physical education teaching. The program is developed based on the Vietnamese National Qualifications Framework, quality accreditation standards for training programs, and the experience of several universities in Vietnam and abroad to ensure continuity, international integration, and meet the requirements of reforming general education (Prime Minister, 2016; MOET, 2021a; MOET, 2025). Overall, the improved training program has laid an important foundation for enhancing the quality of physical education teacher training, meeting the requirements of general education and the needs of human resource development in the new context of education and international integration.

3.2.2. The level of response of the 2025 improved training program meets the requirements of the 2018 General Education Program.

The benchmarking results show that the improved 2025 bachelor's program in Physical Education meets the requirements of the 2018 General Education Program well, focusing on developing students' qualities and competencies, innovating teaching methods, and evaluating and assessing with a competency development and teacher career development orientation (MOET, 2018a, 2018b). The system of training objectives and learning outcomes is built on Outcome-Based Education, ensuring the integration of knowledge, skills, and levels of autonomy and professional responsibility, in line with the requirements for physical education teachers in the context of general education reform.

The revised program has enhanced the courses on teaching methods, curriculum design, assessment and evaluation, scientific research, and the application of information technology in physical education teaching. At the same time, content on inclusive education, sustainable education, soft skills, innovation, and digital competence has been integrated to meet the requirements of digital transformation and the development trends of modern education. In addition, the program is expanded to enhance practical skills, career experiences, and update new sports subjects, contributing to improving students' adaptability to the realities of general education.

Overall, the improved training program not only meets the core requirements of the 2018 General Education Program but also approaches new demands for international integration, sustainable education, and digital transformation. These improvements create an important foundation for training a team of physical education teachers with comprehensive professional competencies, meeting the requirements for educational innovation in Vietnam (MOET, 2018a, 2021, 2025).

3.2.3. Evaluation of the improved bachelor's program in Physical Education

The improved bachelor's degree program in Physical Education has been evaluated by the Education Science Subcommittee of the Science and Training Council of CTU according to the university's internal quality assurance process (CTU, 2025). The evaluation results show that the program basically meets the requirements for training objectives, learning outcomes, program structure, and course content according to the output-based education orientation and the current regulations of the Ministry of Education and Training (MOET, 2021; MOET, 2025). Some contents have been adjusted to standardize the training objectives system, learning outcomes and update the modules according to the requirements of digital transformation and the development trends of modern physical education.

Based on the evaluation results of the specialized subcommittee, the Science and Training Council of

CTU has reviewed and approved the revised bachelor's program in Physical Education. This result shows that the program has been developed and completed according to the quality assurance process, providing an important foundation for the implementation, evaluation, and continuous improvement of the training program in the future.

3.3. Evaluating the effectiveness of the improved bachelor's program in Physical Education at CTU.

Research on the implementation of the improved training program for the 51st cohort of physical

education bachelor's students at CTU; evaluating the effectiveness of the improved training program by analyzing the academic results of the 51st cohort of students in the 2025 – 2026 academic year and by surveying the satisfaction levels of the 51st cohort of alumni, lecturers, and employers regarding the improved physical education bachelor's training program.

Regarding the academic performance of the 51st cohort of Physical Education majors in the 2025 – 2026 academic year (Table 4)

Table 4. Academic results of the 51st cohort of Physical Education undergraduates – CTU

Academic year		Quantity	Excellent, Very Good (A, B+)		Good (B, C+)		Average (C)		Weak (D+, D)		Not achieved (F)		Average score
			Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	$\bar{X}$
First Semester													
Class 1	2025	50	16	32%	34	68%	0	0	0	0	0	0	3.33
Class 2	2026	50	16	32%	33	66%	0	0	1	2%	0	0	3.28
Second Semester													
Class 1	2025	50	16	32%	29	58%	4	8%	1	2%	0	0	2.99
Class 2	2026	50	16	32%	32	64%	2	4%	0	0	0	0	3.02

The evaluation results after two semesters of implementing the improved training program for 2025 show that students of the 51st cohort in Physical Education achieved positive academic results, with an average GPA ranging from 2.99 to 3.33, and the majority of students attained a Good Regarding the level of satisfaction (Table 5)

grade or higher. Especially, there were no recorded cases of students failing, indicating that the training program initially meets the requirements for developing students' competencies and learning outcomes.

Table 5. Comparison of the satisfaction levels of undergraduate students in Physical Education with alumni, lecturers, and employers regarding the improved undergraduate program in Physical Education.

Intension	Students N = 100	Alumni, lecturers, and employers	Comparison results
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N = 40				χ^2	Sig
Purpose of Education và Program Learning Outcomes (PEO – PLO)					
1	The Purpose of Education of the program are clear and appropriate.	96 (96.0)	40 (100)	4.08	0.043
2	Program Learning Outcomes (PLO) are clearly announced.	92 (92.0)	36 (90.0)	0.24	0.621
3	PLO meets the job requirements.	91 (91.0)	38 (95.0)	1.23	0.268
4	PLO meets social needs.	98 (98.0)	40 (100)	2.02	0.155
5	The program develops ethical qualities and professional responsibilities.	95 (95.0)	40 (100)	5.13	0.024
Content and structure of the training program					
6	General knowledge block is appropriate	93 (93.0)	39 (97.5)	2.24	0.135
7	The foundational knowledge of the field is useful	95 (95.0)	40 (100)	5.13	0.024
8	A substantial amount of specialized knowledge in sports	94 (94.0)	39 (97.5)	1.51	0.220
9	Reasonable course structure	95 (95.0)	39 (97.5)	0.87	0.352
10	Elective course suitable	91 (91.0)	38 (95.0)	1.23	0.268
Teaching and learning activities					
11	Appropriate teaching methods	82 (82.0)	34 (85.0)	0.33	0.568
12	Practice - internship sufficient to develop professional skills	92 (92.0)	39 (97.5)	3.04	0.081
13	Clear syllabus, clear materials	81 (81.0)	34 (85.0)	0.57	0.451
14	Lecturers support students	82 (82.0)	32 (80.0)	0.13	0.718
Facilities – equipment					
15	Classrooms and training areas meet the learning needs.	85 (85.0)	33 (82.5)	0.23	0.632
16	Fully stocked sports equipment	51 (51.0)	18 (45.0)	0.72	0.396
17	The library's learning materials meet the needs	86 (86.0)	34 (85.0)	0.04	0.841
18	IT system supporting learning	95 (95.0)	40 (100)	5.13	0.024
Career skills					
19	Specialized subject for developing vocational skills	85 (85.0)	35 (87.5)	0.26	0.608
20	The training program includes the development of soft skills.	92 (92.0)	39 (97.5)	3.04	0.081

21	The Training Program includes the development of IT and foreign language skills.	58 (58.0)	25 (62.5)	0.42	0.516
Overall satisfaction level					
22	Satisfied with the Physical Education program	92 (92.0)	38 (95.0)	0.74	0.390
23	Ready to introduce the program	95 (95.0)	39 (97.5)	0.87	0.352

Comparative data show no differences in survey results among students, alumni, lecturers, and employers regarding satisfaction with the physical education program at CTU ($\text{sig} > 0.05$). The survey results show that students, alumni, lecturers, and employers all have a positive evaluation of the improved training program. The satisfaction rate of students, alumni, lecturers, and employers is mostly 80.0% or higher; the above results indicate that the surveyed subjects highly value the training objectives, learning outcomes, program structure, and the level of meeting professional requirements. However, infrastructure and the development of digital and foreign language skills remain areas that need continued attention in the process of improving the training program. Overall, the research results indicate that the improved bachelor's program in physical education has initially achieved positive outcomes, meeting the requirements for training physical education teachers in the context of general education reform in Vietnam.

4. Discussion

The research results show that the bachelor's degree program in Physical Education at CTU has been improved toward an Outcome-Based Education (OBE) approach, ensuring the alignment between training objectives, learning outcomes, and course content, while also meeting the requirements of the 2018 General Education Program. This result aligns with the perspective of Biggs et al. (2022), who argue that designing programs with constructive alignment enhances the effectiveness of training and the development of learners' professional competencies (Biggs et al., 2022). Similarly, Spady (1994) emphasized that outcome-based education is an inevitable trend to meet the demands of the labor market and societal changes (Spady, W. G., 1994).

Improvements in training objectives, learning outcomes, digital competencies, sustainable education, and enhanced professional practice in the new training program are also in line with global trends in teacher training innovation. According to Darling-Hammond (2012), effective teacher training programs need to closely integrate theory with practice, enhance professional experiences, and develop learners' adaptive capacities (Darling-Hammond, 2012). The research results of Tawil, S., & Locatelli, R. (2015) also affirm that sustainable education, global citizenship competence, and lifelong learning are important contents that need to be integrated into teacher training programs in the 21st century (Tawil, S., & Locatelli, R., 2015).

In Vietnam, this research result is consistent with the studies of Nguyễn Đức Chính (2017) and Trần Khánh Đức (2014), as both authors believe that developing training programs based on a competency approach is an inevitable trend to meet the requirements of educational innovation and ensure training quality (Nguyễn Đức Chính, 2017, and Trần Khánh Đức, 2014). In addition, the research results of Phạm Thanh Việt and colleagues (2026) show that the innovation of management and organization of physical education in high schools contributes to improving the quality of teaching and meeting the requirements of the 2018 General Education Program (Phạm Thanh Việt et al., 2026). This shows that the improvement of the physical education teacher training program at CTU is in line with the practical requirements and current trends in education.

The initial evaluation results of the improvement program also show that the majority of students achieve satisfactory academic results and have a high level of satisfaction with the training program.

At the same time, alumni, lecturers, and employers all positively evaluate the training objectives, learning outcomes, and the program's ability to meet professional requirements. This result is consistent with the study by Gamage et al. (2020), in which the involvement of stakeholders and continuous improvement mechanisms are considered important factors in ensuring the quality of higher education programs. However, the study also indicates that infrastructure, equipment, and the development of digital and foreign language competencies need continued attention to better meet the demands of digital transformation and international integration in higher education (Gamage et al., 2020).

In general, the research results affirm that the improved bachelor's program in physical education at CTU not only meets the requirements of the 2018 General Education Program but also aligns with global trends in teacher training innovation. This is an important basis for continuing to improve the training program, contributing to enhancing the quality of physical education human resources in the context of fundamental and comprehensive educational reform and international integration.

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5. Conclusions

The study evaluated the current status of the bachelor's program in physical education at CTU and proceeded to improve the program based on an output-driven education approach, meeting the requirements of the 2018 General Education Program and the trend of higher education innovation. The improved program enhances digital competencies, innovation, sustainable education, inclusive education, and career development, contributing to the quality of training physical education teachers in the context of international integration.

The initial implementation results show that the improved training program has achieved positive outcomes, as evidenced by the students' academic performance and the high satisfaction levels of students, alumni, lecturers, and employers. These results affirm the relevance and applicability of the program, while also providing a practical basis for the renewal of physical education teacher training programs at higher education institutions in Vietnam.

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8. Author Declaration

Compliance with ethical standards

This article does not contain any studies with human participants or animals performed by the authors. Extracting and inspecting publicly accessible files (scholarly sources) as evidence, before the research began no institutional ethics approval was required.

Data availability statement

All data produced or examined in this study are presented within the published article. The authors will provide the raw data underpinning the study's findings upon reasonable request. Anonymized datasets can be obtained by contacting the corresponding author via email.

Author contributions

Each author listed has contributed significantly, both directly and intellectually, to the completion of this work and has approved the final version for publication. The authors collectively assume responsibility for the accuracy and integrity of the data analysis..

Conflict of interest statement

The authors affirm that the research was carried out without any commercial or financial affiliations that could be interpreted as a potential conflict of interest.