
Formulation of Standards for Assessing the Impact of Physical Education on Hue University Students

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Abstract. Assessing the influence of physical education on students is crucial for enhancing both the physical education training and its associated components. To ensure precise assessment outcomes, it's vital to establish a set of evaluation standards that align with the scientific rigor and the unique aspects of physical education. We've undertaken research using conventional sports science research techniques to establish a comprehensive set of standards for evaluating the effects of physical education on university students, encompassing three standards, fifteen criteria, and forty-two indicators.

Keywords: Assessment, impact, physical education, students, Hue University

Introduction

Assessing the influence of physical education on students is highly essential to ascertain the progress made, identify existing issues, and delve into their underlying causes. This analysis serves as the foundation for making necessary adjustments and enhancements to various components. To achieve accurate, objective assessment results that truly reflect the status of physical education training, it is crucial to establish a set of evaluation standards characterized by scientific rigor, objectivity, and alignment with the specific nature of physical education training. Regrettably, there is currently a lack of scholarly interest in this subject within our country. Consequently, it is imperative to embark on research and formulate such assessment standards for evaluating the impact of physical education, with students from Hue University participating in the study.

Literature Review

An examination of research topics related to this subject reveals that, despite the evident importance of assessing the impact of physical education on students, there is a notable absence of such research in Vietnam. Currently, research efforts have primarily concentrated on evaluating specific aspects only, such as the present state of students' physical development and its fitness (Le, 2018; Ho, 20; Can, 2010); the effectiveness and status of personal education initiatives (Dao, 2022; Vo, 2021; Do, 2015); and the current conditions, demands, and effectiveness of extracurricular sports activities (Le, 2022; Dang, 2018; Phung, 2017).

Subject, Objective and Scope of Research

Subject of Research: Formulation of assessment standards for evaluating the impact of physical education on Hue University students.

Objective of Research: To conduct comprehensive research, both theoretical and practical, in order to formulate a set of assessment standards for evaluating the effects of physical education activities on students at Hue University.

Scope of Research: This study is specifically focused on assessing physical education training, encompassing physical education activities and sports programs within schools and colleges affiliated with Hue University.

Research Methods

Analyzing and Synthesizing Documents

The article gathers research materials from a variety of sources, including the Vietnam National Library, the Hue University library, libraries at domestic sports universities, and the library at Central China Normal University in China. Additionally, it utilizes internet search engines such as Google, Baidu, and CNKI. From the compiled documents, the research is conducted thorough reading, analysis, and synthesis of content pertaining to the evaluation of physical education's impact on students.

Expert Informants

To gain a deeper understanding of the research problem and to seek advice on addressing the research questions, we conducted interviews with a diverse group of experts. Our interview subjects encompassed researchers, educational administrators, and lecturers who specialize in the field of physical education. This engagement with experts provided valuable insights and guidance for our research endeavor.

Interview

In order to address the two research problems, we conducted interviews with a panel of experts consisting of researchers, educational managers, and lecturers specializing in the field of physical education. Here's how we approached these research objectives:

(1) Selection of standards, criteria, and indicators:

We interviewed a total of 71 experts, managers, and lecturers. During these interviews, we assessed the importance of the assessment standards we had developed. This assessment was conducted using a 5-level Likert scale, where respondents rated the importance as follows: Very important (5 points), Important (4 points), Neutral (3 points), Not important (2 points), and Not important at all (1 point). We determined the significance of the assessment criteria by calculating the average score (average score). For inclusion in the set of evaluation standards, we selected standards, criteria, and indicators that experts evaluated as important and very important. The general evaluation was based on the average score, categorized into five levels: Not important at all (1.00-1.80 points), Not important (1.81-2.60 points), Neutral (2.61-3.40 points), Important (3.41-4.20 points), and Very important (4.21-5.00 points).

(2) Appraisal of scientificity, effectiveness, and appropriateness:

After formulation the set of evaluation criteria, we sought feedback from 30 experts. These experts evaluated the scientificity, effectiveness, comprehensiveness, feasibility, and suitability of the established set of evaluation criteria.

Mathematical and Statistical Method

We use Excel 2013 and SPSS 22.0 software to process and analyze data collected during the process.

Findings and Discussion

Principles and Structure of the Set of Assessment Standards of the Impact of Physical Education on Hue University Students

Principles for formulation of a set of assessment standards

The formulation of the assessment standards adheres to the following fundamental principles: scientific rigor, comprehensiveness, objectivity, feasibility, user-friendliness, and alignment with the unique attributes of physical education training.

Structure of of the set of assessment standards

For comprehensive assessment standards, a pyramidal structure can be used for formulation. First, the assessment objective is decomposed into first-level criteria, then the first-level criteria are decomposed into second-level criteria, and each second-level criterion is decomposed into third-level criteria... (Yuanjun, 2004). Assessing the impact of physical education on students needs to be comprehensive, so we use a pyramid structure and divide the assessment criteria into 3 levels (see Figure 1).

Selection of assessment standards

To initially identify standards, criteria and indicators (hereinafter collectively referred to as *assessment criteria*), we conducted an analysis of the physical education programs of some universities (including its schools and colleges; related documents (Ministry of Education and Training, 2008; 2020; 2022a; 2022b; Ministry of Culture, Sports and Tourism, 2019), combined with analysis of a number of related studies and opinions of experts). After initially identifying the *assessment criteria*, we use the interview method to select the standards, criteria and indicators of the *assessment criteria*.

Table 1: Results of interviews with experts, managers, and teachers to evaluate the importance of assessment standards (n = 71)

Standards	Number of Participants					Scores achieved	Average score	Importance
	Very important (5 scores)	Important (4 scores)	Neutral (3 scores)	Not important (2 scores)	Not important at all (1 score)			
1. Assessment of the physical education programs	43	26	1	1	0	324	4.56	Very important
2. Assessment of the university (including schools and colleges) sports activities	47	21	3	0	0	328	4.62	Very important
3. Assessment of student physical fitness	49	19	3	0	0	330	4.65	Very important

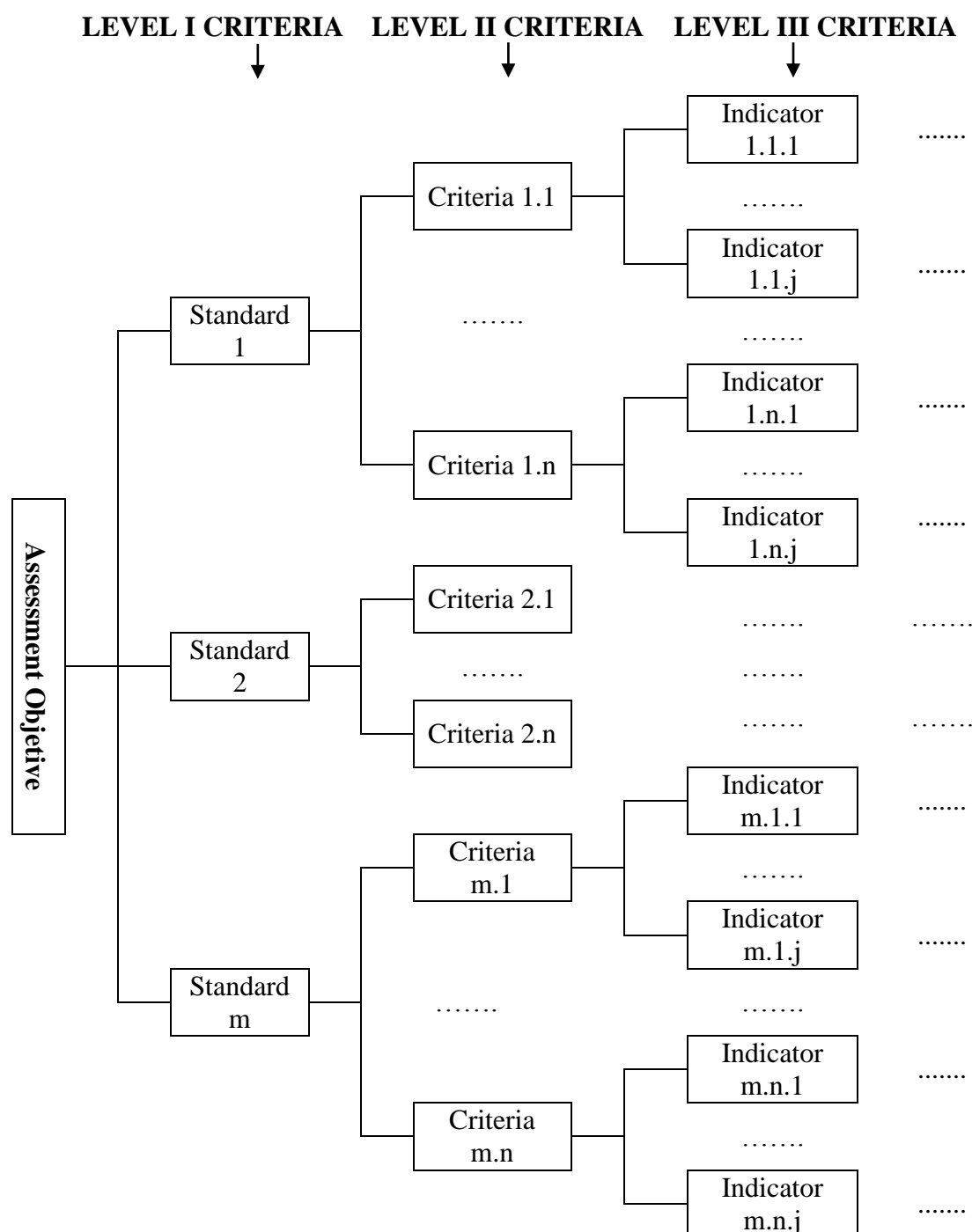


Figure 1: Structure of the standard assessment set

According to Table 1, we see that the experts all rated the importance of the standards at a very important (>4.21), so all 3 standards were selected. Similarly with the Assessment Criteria và các Indicator, this study formulates a set of assessment criteria including 3 standards, 15 criteria and 42 indicators.

Table 2: The set of assessment criteria of the impact of physical education on Hue University students

Standard (Average Score)	Criteria (Average Score)	Indicator (Average Score)
1. Assessment of the program of the physical education training (4.56)	1.1. Objectives and output standards (4.49)	1.1.1. The objectives of the training are clearly defined, consistent with the mission and vision of the higher education institution and the objectives of higher education (4.23)
		1.1.2. The learning outcomes of the training are clearly defined, covering the general and specific requirements that learners need to achieve (4.92)
		1.1.3. The learning outcomes of the investment program reflects the requirements of relevant parties, is periodically reviewed, adjusted and publicly announced (4.41)
	1.2. Detailed outline of the modules (4.13)	1.2.1. Detailed outline of modules with full information and updates (4.44)
		1.2.2. Detailed outlines of the modules are publicly announced and easily accessible to relevant parties (4.06)
	1.3. Program's structure and content (4.04)	1.3.1. Teaching training is designed based on learning outcomes (4.55)
		1.3.2. The contribution of each module in achieving learning outcomes is clear.
		1.3.3. Teaching training has structure and logical sequence; up-to-date and integrated content (4.24)
	1.4. Approaches to teaching and learning (4.23)	1.4.1. Educational philosophy or educational objectives are clearly stated and communicated to relevant stakeholders (4.66)
		1.4.2. Teaching and learning activities are designed appropriately to achieve learning outcomes (4.45)
		1.4.3. Teaching and learning activities promote skills training and enhance learners' lifelong learning abilities (4.44)
	1.5. Assessment of learners' learning outcomes (4.30)	1.5.1. The assessment of learners' learning outcomes is designed in accordance with the level of achievement of learning outcomes (4.34).
		1.5.2. Regulations on assessing learning outcomes (including time, methods, criteria, weights, feedback mechanisms and related content) are clear and publicly announced to learners (4.21)
		1.5.3. Diverse methods of assessing learning outcomes, ensuring validity, reliability and fairness (3.83)
		1.5.4. Assessment results are responded to promptly so learners can improve their learning (3.83)
		1.5.5. Learners have easy access to the complaints process about learning outcomes (3.80)
	1.6. Teachers' and staffs' abilities (4.78)	1.6.1. The planning of teaching staff and services is carried out to meet the needs of training, scientific research and community activities (3.84)
		1.6.2. The teacher/learner ratio and the workload of the teaching and service team are measured and monitored as a basis for improving the quality of training activities, scientific research and community activities (4.22)
		1.6.3. Criteria for recruitment and selection of teachers and service (including ethics and academic capacity) for appointment and transfer are determined and publicly disseminated (3.82)
		1.6.4. The capacity of the teaching and service team is determined and evaluated (4.52)

		1.6.5. The needs for training and professional development of teachers and staffs are identified and activities are created to meet those needs (4.22).
		1.6.6. Management based on teachers' work results and service (including rewards and recognition) is implemented to create motivation and support for training, scientific research and community activities (3.96).
		1.6.7. Types and quantities of research activities of teachers and services are established, monitored and compared to improve quality (4.22)
	1.7. Facilities and equipment (4.39)	1.7.1. There is a system of classrooms, practice rooms and functional rooms with appropriate equipment to support student activities (3.96)
		1.7.2. Library and appropriate, up-to-date learning resources to support student activities (4.15)
		1.7.3. Training grounds and equipment are appropriate and updated to support students' learning and practice activities (4.52)
		1.7.4. IT system (including online learning infrastructure) is appropriate and updated to support student activities (4.01)
		1.7.5. Environmental, health and safety standards are identified and implemented, taking into account the needs of people with disabilities (4.07)
	1.8. Output results (4.76)	1.8.1. Program completion rate and time are established, monitored and benchmarked to improve quality (4.49)
		1.8.2. Stakeholder satisfaction levels are established, monitored and benchmarked to improve quality (4.46)
		1.8.3. Student learning outcomes and grading (4.71)
	2. Sports activities of the university (including schools and colleges) (4.62)	2.1. Objectives (4.18)
2.2. Facilities (4.39)		2.2.1. Areas serving sports activities (4.72)
		2.2.2. Equipment for sports activities (4.66)
2.3. Multi-level tournament system (3.97)		2.3.1. Tournament system at ministerial and national levels (3.82)
		2.3.2. Tournament system at Hue University and Provincial levels (3.94)
		2.3.3. Tournament system at department, school and college levels (4.34)
2.4. Activities of student clubs in Hue University (4.46)		2.4.1. Current status of sports clubs at Hue University (4.52)
		2.4.2. Achievements of club at Hue University (3.96)
		2.4.3. Students' need for club-oriented training (4.71)
		2.4.4. Orientation for club development at Hue University (4.15)
3. Assessment of students' physical fitness (4.65)	3.1. Speed (4.83)	3.1.1. 30m run (4.55)
	3.2. Strength (4.52)	3.2.2. Standing long jump (4.66)
	3.3. Durability (4.79)	3.3.1. 5 minute free run (4.44)
	3.4. Skills (4.61)	3.4.1. 4x10m Shuttle Run Test (4.34)

Assessing the Scientific Rigor, Effectiveness and Appropriateness of the Set of Standards

After formulating the set of *assessment criteria*, the project solicited opinions from 30 experts to evaluate the scientific rigor, effectiveness, comprehensiveness, feasibility and suitability of the set of *assessment criteria*. After processing the interview results, experts evaluated the *assessment criteria* as follows:

Table 3: Results of expert interviews to assess the set of standards (n=30)

Content of appraisal	Opinion	Number of people selected this criteria	Percentage %	Remark
Scientific rigor	Very high	3	10.00	
	High	14	46.67	
	Normal	11	36.67	
	Low	2	6.67	
	Very low	0	0.00	
Feasibility	Very high	2	6.67	
	High	18	60.00	
	Normal	8	26.67	
	Low	2	6.67	
	Very low	0	0.00	
Comprehensiveness	Very high	3	10	
	High	15	50	
	Normal	10	33.33	
	Low	2	6.67	
	Very low	0	0.00	
Accuracy	Very high	2	6.67	
	High	14	46.67	
	Normal	11	36.67	
	Low	3	10.00	
	Very low	0	0.00	
Suitability	Very high	7	23.33	
	High	19	63.33	
	Normal	3	10.00	
	Low	1	3.33	
	Very low	0	0.00	

Table 3 clearly illustrates that the set of assessment standards has garnered substantial acclaim from experts. In fact, over 50% of the experts have given high and very high ratings to each aspect. Conversely, only a minimal fraction, less than 10% of the experts, have provided low ratings, and none have rated it as very low. This resounding endorsement from the expert panel underscores the robustness and effectiveness of the assessment standards.

Conclusion

Drawing from the outcomes of our research, which encompass both theoretical and practical foundations, we have successfully crafted a comprehensive set of *Assessment Criteria*. This set comprises 3 overarching Standards, underpinned by 15 Criteria and further detailed by 42 Indicators. Moreover, the feedback garnered from expert interviews, assessing scientific rigor, effectiveness, and alignment with the unique facets of physical education training, affirms that these *Assessment Criteria* meet the highest standards of scientific rigor,

effectiveness, and suitability. Consequently, they are well-suited for practical application in evaluating the impact of physical education on students at Hue University.

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