BUILDING ASSESSMENT CRITERIA FOR SUSTAINABLE DEVELOPMENT OF PHYSICAL TRAINING AND SPORTS FOR VIETNAMESE STUDENTS

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Abstract:
Sustainable development of physical training and sports to improve the young generation’s stature and health has become a key strategy of each country in preparation for future human resources capable of constructing and protecting the nation. This study employed the methods of literature synthesis, interviews, and statistical analysis with participants, including 80 experts and specialists in the field of sports. Based on the literature synthesis, interviews, examination of the reliability of the research scale using Cronbach’s Alpha, and exploratory factor analysis (EFA; KMO and Barlett’s Test), the study opted for 4 clusters with 10 specific criteria surveying the sustainable development of sports for students. The 4 clusters included: (1) Implementing guidelines and policies on physical education and sports for students, (2) Human resources organizing physical education and sports for students, (3) Intracurricular physical education and extracurricular sports activities for students, and (4) Facilities for teaching, training, and competing of sports for students.

Keywords: criteria, sustainable development, sports, students

1. Introduction

Physical training and sports development in general and for the masses, in particular, are always the Vietnamese Government’s and Party’s major social policy to promote human factors and social resources. Along with improving and protecting personal, community, and social health, sport is also one of the tasks and solutions to attract everyone to create cohesion and social support towards the goal of "rich people, strong country".

President Ho Chi Minh identified sport as a revolutionary task and aimed for sport as a means to reach the goal of “strong people, prosperous country”. Sports activities not only improve the people’s health but also develop the economy, culture, society, and

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education of a country. He pointed out that: “Under a democratic regime, sports and physical training must become common activities of the masses, with the aim of enhancing people’s health. If people are healthy, all jobs can be done well. Therefore, exercising and improving health is the duty of every patriot.” Thus, he suggested: “We should launch a widespread movement of physical education and sports.”

Due to leading the revolution, the Communist Party of Vietnam has been intensively and completely aware of the role of physical training and sports in the course of building and developing the country, contributing to maximizing the strengths of humans, the community and society to create social solidarity and resources. Arisen from the position and role of physical training and sports in the country’s innovation, physical training and sports for the masses has become an urgent issue. In respect of the development path, the Communist Party of Vietnam always values and promotes leadership and direction in mass sports and physical activities. This is considered one of the essential conditions for forming and developing generations of Vietnamese people who are physically healthy and morally pure, contributing to improving the stature and physical strength of the Vietnamese people and fostering social cohesion among and between individuals, communities and society. Additionally, the effort creates a healthy living environment that repels social evils and contributes to the economic, social, and cultural development of the country.

Entering the period of comprehensive national innovation, mass sports and physical activities have received special attention from the Party. The goal and motivation of innovation stem from the people and are for the people. In other words, people are the subjects, the driving force, and the goal of the innovation process. Accordingly, the Party increasingly affirms the role of mass sports and physical activities in promoting human factors and mobilizing community and social involvement. In fact, innovation can only succeed as it creates individuals who are conscious, bonded and work together to build the community and society.

Sustainable development of sports and physical education for students meets the needs of the present generations without harming the ability of future generations to meet their demands. This is based on a close, reasonable and harmonious combination of economic development, social development, and environmental protection. In other words, the sustainable development of sports and physical education for students is a strategic, long-term and intentional process aiming at equipping students with good health to successfully complete their academic tasks, and to become future citizens with the health and intellect ready to effectively serve the pursuit of building and protecting the socialist Republic of Vietnam. This development is ensured through the Sports Law, the Education Law, the Party’s and Government’s sports and physical activities development strategies, and through various decrees, resolutions, and documents relating to investment in facilities, equipment, policy regimes, and sports and physical training for human resources in schools, in specific, and in the entire field in general.

Developing a set of criteria for evaluating the sustainable development of sports and physical training for students in Vietnamese physical training schools is a practical
and necessary endeavor. This facilitates accurate assessment of the sustainable
development of sports and physical training for the target research subjects, thereby
proposing appropriate solutions for the sustainable development of the field for students
in physical training schools in Vietnam.

2. Materials & methods

2.1 Methods
In addressing the research aims, the following methods were employed:
Literature synthesis: This method was employed to synthesize relevant literature through
various references: books, research articles, published works, etc. The synthesis was
utilized to establish the theoretical framework and hypotheses, determine the research
purpose and analysis, and discuss the criteria for sustainable development of physical
training and sports for students.

2.1.1 Interview
This method was to collect constructive feedback from experts and specialists about the
selection of criteria for the sustainable development of physical training and sports for
students. The interview questions were classified according to the level of necessity
(highly necessary, necessary, and unnecessary) to consult with the experts and specialists.

2.1.2 Statistical method
This method was utilized to process and analyze the collected data through descriptive
statistics, test of reliability (Cronbach’s Alpha), and exploratory factor analysis of KMO
in EFA with the support of SPSS 22.0 software.

2.2 Participants
Surveyed subjects selecting criteria to evaluate the sustainable development of sports and
physical education for students included 80 experts and specialists knowledgeable in
sports and physical training in Vietnam,

2.2.1 Research ethics
This paper was extracted from the project coded B2023-TDH-01 by principal investigator
Nguyen Thu Nga in 2024: “Research on theoretical and practical foundations for the
sustainable development of sports and physical education for students.”

3. Results

3.1 Selection of criteria for evaluating the sustainable development of sports and
physical training for students
The criteria for evaluating the sustainable development of sports and physical training
for students were determined by the relevant literature synthesis and especially the
feedback of experts and researchers. The research first identified 4 clusters of criteria with specific contents. Subsequently, it conducts interviews with the experts. The results are presented in Table 1.

**Table 1:** Synthesized results of responses on the necessity of the criteria for evaluating the sustainable development of sports and physical training for students

<table>
<thead>
<tr>
<th>No.</th>
<th>Criterion (TC)</th>
<th>Highly necessary</th>
<th>Necessary</th>
<th>Unnecessary</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TC1.1. Issuing and implementing documents on sports and physical training for students.</td>
<td>n 78 2 0</td>
<td>238 2.975</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RC1.2. Disseminating and communicating policies on sports and physical training for students</td>
<td>n 76 4 0</td>
<td>236 2.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>TC1.3. The degree of staff, teachers and parents’ awareness of policies on sports and physical training for students</td>
<td>n 77 3 0</td>
<td>237 2.963</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>TC1.4. Benefits and policies towards sports and physical training staff, teachers, lecturers</td>
<td>n 46 20 14</td>
<td>192 2.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>TC2.1. Quantity of sports and physical training managers</td>
<td>n 50 22 8</td>
<td>202 2.525</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>TC2.2. Quantity of sports and physical training teachers and lecturers</td>
<td>n 80 0 0</td>
<td>240 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>TC2.3. Quantity of sports and physical training collaborators and instructors</td>
<td>n 51 18 11</td>
<td>200 2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>TC2.4. Professional qualifications of sports and physical training managers</td>
<td>n 52 18 10</td>
<td>202 2.525</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>TC2.5. Professional qualifications of sports and physical training teachers and lecturers</td>
<td>n 79 1 0</td>
<td>239 2.988</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>TC2.6. Professional qualifications of sports and physical training collaborators and instructors</td>
<td>n 52 18 10</td>
<td>202 2.525</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>TC3.1. Curriculum for Physical Education</td>
<td>n 80 0 0</td>
<td>240 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>TC3.2. Extracurricular sports and physical training activities</td>
<td>n 78 0 0</td>
<td>238 2.975</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>TC3.3. Quantity of sports and physical training clubs and sports tournaments held in the year.</td>
<td>n 53 15 12</td>
<td>201 2.513</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>TC3.4. Results of sports and physical training courses, and the percentage of students meeting the physical fitness standards</td>
<td>n 77 3 0</td>
<td>237 2.963</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>TC4.1. Quantity of sports fields used for training and competing, and facilities serving sports and physical training activities</td>
<td>n 80 0 0</td>
<td>240 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>TC4.2. Quantity of training and competition sports fields, and facilities for sports and physical activities to ensure the training environment</td>
<td>n 56 14 10</td>
<td>206 2.575</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results from Table 1 revealed that the percentage of responses on the necessity of the criteria has varied. The mean based on the Likert scale ranged from the highest score of 3.0 to the lowest score of 2.4. This study selected the criteria with a minimal mean of 2.95. As such, most of the responses opted for the 4 mentioned clusters of criteria evaluating the sustainable development of physical training and sports for students and focused on 10 specific criteria in the 4 clusters.

After testing the reliability of the scale by Cronbach’s Alpha, we validated whether the theoretical model (established for each cluster corresponding to the criteria) correlated with practice using KMO in EFA. The results are presented in Table 2.

**Table 2**: Validation results of the correlation between the criteria for sustainable development of physical education and sports for students

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Initial Eigenvalues</th>
<th>Extraction sums of squared loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% Variance</td>
</tr>
<tr>
<td>1</td>
<td>2.213</td>
<td>26.342</td>
</tr>
<tr>
<td>2</td>
<td>0.978</td>
<td>19.342</td>
</tr>
<tr>
<td>3</td>
<td>0.764</td>
<td>15.334</td>
</tr>
<tr>
<td>4</td>
<td>0.662</td>
<td>11.353</td>
</tr>
</tbody>
</table>

As can be seen in Table 2, the selected and examined criteria for evaluating the sustainable development of sports and physical training for students were entirely appropriate, proved by the Kaiser-Meyer-Olkin (KMO) equalling 0.756 which satisfied the requirement of 0.5≤KMO≤1.00 with Sig.<0.001. The factor loading equaled 2.213>1.00,
and the total variance explained ranged from 0.688 to 0.776, meeting the requirement within the range of 0.5 to 1.00.

Results of factor analysis of criteria for evaluating the sustainable development of sports and physical training for students were presented in Table 3.

Table 3: Results of factor analysis of criteria for evaluating the sustainable development of sports and physical training for students

<table>
<thead>
<tr>
<th>Code</th>
<th>Standard 1</th>
<th>Standard 2</th>
<th>Standard 3</th>
<th>Standard 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC1.1</td>
<td>0.875</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC1.2</td>
<td>0.866</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC1.3</td>
<td>0.841</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC2.2</td>
<td></td>
<td>0.856</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC2.5</td>
<td></td>
<td>0.853</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC3.1</td>
<td></td>
<td></td>
<td>0.848</td>
<td></td>
</tr>
<tr>
<td>TC3.2</td>
<td></td>
<td></td>
<td>0.837</td>
<td></td>
</tr>
<tr>
<td>TC3.4</td>
<td></td>
<td></td>
<td>0.819</td>
<td></td>
</tr>
<tr>
<td>TC4.1</td>
<td></td>
<td></td>
<td></td>
<td>0.825</td>
</tr>
<tr>
<td>TC4.4</td>
<td></td>
<td></td>
<td></td>
<td>0.808</td>
</tr>
</tbody>
</table>

Thus, based on the interviews and the internal reliability of the scale using Cronbach’s Alpha, and the validation of the suitability of the theoretical model with practice using the KMO test, we selected four clusters comprising 10 particular criteria to survey and evaluate the sustainable development of sports and physical training for students. Specifically:

- **Cluster 1**: Implementation and dissemination of policies on sports and physical training for students, including:
  - TC1.1. Issuing and implementing documents on sports and physical training for students
  - TC1.2. Disseminating and communicating policies on sports and physical training for students
  - TC1.3. The degree of staff, teachers and parents’ awareness of policies on sports and physical training for students

- **Cluster 2**: Human resources organizing physical education and sports for students, including:
  - TC2.2. Quantity of sports and physical training teachers and lecturers
  - TC2.5. Professional qualifications of sports and physical training teachers and lecturers

- **Cluster 3**: Curriculum for Physical Education and extracurricular sports and physical activities for students, including:
  - TC3.1. Curriculum for Physical Education
  - TC3.2. Extracurricular sports and physical training activities
• TC3.4. Results of sports and physical training courses, and the percentage of students meeting the physical fitness standards.

- Cluster 4: Facilities for teaching, training, and competing in sports and physical training for students, including:
  • TC4.1. Quantity of sports fields used for training and competing, and facilities serving sports and physical training activities
  • TC4.4. Annual budgets (revenue, expenditure) for sports and physical training for students.

3.2. Contents of the criteria clusters for evaluating the sustainable development of sports and physical training for students

- Cluster 1: Implementation and dissemination of policies on sports and physical training for students
  • TC1.1: Issuing and implementing the documents on sports and physical training for students
    1) Issuing and implementing documents on sports and physical training for students involves the issuance and implementation of legal documents on sports and physical training agencies at various levels to direct, operate, and organize sports and physical training activities for students, thereby promoting the development of sports and physical activities for students.
    2) The target of issuing and implementing documents on sports and physical training for students is determined by the number of annual documents on sports and physical training for students.

  • TC1.2: Disseminating and communicating policies on sports and physical training for students
    1) Disseminating and communicating policies on sports and physical training for students is to consistently educate schools and society about laws, guiding and legal documents on physical training and sports to deploy the Government’s and Party’s guidelines and policies on physical training and sports for students.
    2) Disseminated targets of guidelines and policies on physical training and sports for students are determined by the number of annual communication activities about physical training and sports for students.

  • TC1.3: The degree of staff, teachers and parents’ awareness of the policies on sports and physical training for students
    1) The degree of staff, teachers and parents’ awareness of the policies on sports and physical training for students refers to the degree of knowledge acquisition and understanding of physical training and sports for students through thinking, experience, and senses.
2) This criterion is determined by the percentage (%) of those knowledgeable about physical training and sports on the total number of staff, teachers, and parents.

- **Cluster 2**: Human resources for organizing physical education, and sports and physical activities for students
  - **TC2.1**: Sports and physical training teachers and lecturers
    1) Sports and physical training teachers and lecturers directly manage and instruct the sports and physical training activities for students in schools under the assignment and guidance of the school administration.
    2) The criterion for the quantity of sports and physical training teachers and lecturers is determined by the percentage (%) of the total number of sports and physical training teachers and lecturers compared to the total number of students in the schools, regulated by the Ministry of Education and Training and the Ministry of Culture, Sports and Tourism.

  - **TC2.5**: Professional qualifications of sports and physical training teachers and lecturers
    1) The professional qualifications of sports and physical training teachers and lecturers refer to the level of training in sports and physical education meeting the requirements of the duties connected with their official positions.
    2) The criterion for the professional qualifications of sports and physical training teachers and lecturers is determined by the percentage (%) of sports and physical training collaborators who have achieved the required level of training compared to the total number of sports and physical training teachers and lecturers in the schools.

- **Cluster 3**: Intracurricular physical education and extracurricular sports for students
  - **TC3.1**: Curriculum for Physical Education
    1) Curriculum for Physical Education in general education has been implemented on the basis of Circular No. 32/2018/TT-BGDĐT promulgated by the Ministry of Education and Training on October 14, 2015.

    Colleges follow Circular No. 12/2018/TT-BLĐTBXH issued by the Ministry of Labor, Invalids and Social Affairs on September 26, 2018. The content of the physical education courses in intermediate training programs includes 60 hours (theory: 5 hours; practice: 51 hours; assessment: 4 hours).

    For universities, the curriculum is implemented according to Circular No. 25/2015/TT-BGDĐT dated October 14, 2015 by the Ministry of Education and Training. The Circular stipulates that the minimum amount of knowledge demanded for the physical training program is 3 credits. Each institution specifies the appropriate volume of knowledge for this course, depending on the requirements of each training discipline.
Universities providing a bachelor’s degree in physical education implement their training programs based on Circular No. 07/2015/TT-BGDDT dated April 16, 2015. This Circular specified the minimum amount of knowledge required for the university level is 120 credits. For 5-6-year programs, the minimum volume of knowledge is 150 or 180 credits, respectively.

1) Criteria for the Physical Education Curriculum are determined based on the practical implementation of the physical education program in schools. This includes the duration and scheduling of the program.

- **TC3.2:** Extracurricular sports and physical training activities
  1) These activities offer extracurricular sports and physical education for students outside the classroom.
  2) The criteria of extracurricular sports and physical training activities are identified by the percentage (%) of schools that organize extracurricular activities compared to those that do not. It is measured based on the number of sports and physical training clubs established and the number of students participating in training divided by the total number of students in the school.

- **TC3.4:** Results of the Physical Education course and the percentage of students meeting the physical fitness standards
  1) Results of physical education of students are assessed by their final grades at schools. The percentage of students meeting the physical fitness standards in terms of age and gender is determined by individuals who passed at least 4 out of 6 physical fitness assessment criteria as outlined in Decision 53/2008/QĐ-BGDĐT on September 18, 2008 by the Ministry of Education and Training. The standing long jump and 5-minute endurance run are mandatory subjects.
  2) The criteria for evaluating the results of physical education courses are determined by the percentage of the course’s performance according to the regulations for each educational level:
    a) Circular 27/2020/TT-BGDDT, dated September 4, 2020, promulgating the "Regulations on the evaluation of primary school students."
    b) Circular 58/2011/TT-BGDDT, dated December 12, 2011, issuing the "Regulations on the evaluation and classification of middle and high school students."
    c) Circular 26/2020/TT-BGDDT, dated August 26, 2020, promulgating the "Amendments and supplements to certain provisions of the regulations on the evaluating and classifying middle and high school students issued under Circular 58/2011/TT-BGDDT dated December 12, 2011, by the Minister of Education and Training”.
    d) Circular 22/2021/TT/BGDDT, dated July 20, 2021, issuing "Regulations on evaluating middle and high school students."
The percentage of students meeting the physical fitness standards is identified by the percentage of students’ gain regarding the standards within the physical fitness evaluation criteria.

- **Cluster 4**: Facilities for teaching, training, and competing in sports and physical training for students
  - **TC4.1**: Quantity of sports fields used for training and competing, and facilities serving sports and physical training activities
    1) The total number of sports fields used for training and competing include the total number of gymnasiums; practice halls; the total number of various practice fields (football, volleyball, basketball, badminton, swimming pools, etc.); the area of practice grounds and other training equipment.
    2) The criterion for the quantity of practice fields, competition venues, and sports facilities is determined by the total number of outdoor practice grounds, competition venues, and sports facilities currently used for physical training and sports activities for students in schools.

- **TC4.4**: Annual budgets (revenue, expenditure) for sports and physical training for students
  1) Annual budgets for sports and physical training activities include funds from the central budget, local budget, revenue from sports and physical training activities and services, and sponsorships and support from domestic and international organizations and individuals serving the sports and physical activities in schools.
  2) The criterion for annual sports and physical training budgets for students is determined by the total annual revenues and the total budgets used for sports and physical activities for students in schools.

4. Conclusion

By means of synthesizing the literature, conducting interviews, and examining the reliability of the scale items, four clusters with 10 specific criteria were selected to survey and assess the sustainable development of sports and physical education for students. The clusters of criteria are as follows:

- **Cluster 1**: Implementation and deployment of policies on sports and physical education for students: 3 criteria
- **Cluster 2**: Human resources organizing physical education and sports for students: 2 criteria
- **Cluster 3**: Intraurricular physical education and extracurricular sports for students: 3 criteria
- **Cluster 4**: Facilities for teaching, training, and competing in sports for students: 2 criteria.
Conflict of Interest Statement
The authors declare no conflicts of interest.

About the Author(s)
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