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# SOME SOLUTIONS TO IMPROVE THE QUALITY OF PHYSICAL EDUCATION TRAINING AT THAI NGUYEN UNIVERSITY OF ECONOMICS AND BUSINESS ADMINISTRATION, VIETNAM

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**ABSTRACT**

***Based on the analysis and synthesis of relevant documents, together with the application of fundamental research methods, this study evaluated the current status of physical education at Thai Nguyen University of Economics and Business Administration. The research proposed five important solutions aimed at improving the quality of physical education training for students. These solutions should be practically implemented in teaching activities in order to create meaningful educational impacts and enhance the effectiveness of physical education programs at the university.***

***Keyword: training quality; training program; solutions; physical education; physical fitness development.***

## 1. INTRODUCTION

Physical Education (PE) is an educational process aimed at improving physical fitness and bodily functions while developing and reinforcing fundamental motor skills essential for daily life. Several previous studies have focused on improving teaching quality and organizing PE classes; however, limited research has examined the quality of PE training for university students within higher education institutions. This remains a relatively new issue that requires further investigation in order to overcome shortcomings in the teaching process, gradually improve the curriculum, and enhance the effectiveness of PE programs.

Based on the analysis and synthesis of related materials, as well as an investigation into the current situation of PE teaching activities, this study selected, implemented, and evaluated several solutions to improve the quality of physical education training for students at Thai Nguyen University of Economics and Business Administration.

## 2. METHODS

The study employed the following research methods:

- *Document analysis and synthesis method;*
- *Interview method;*
- *Pedagogical observation method;*
- *Pedagogical testing method;*
- *Pedagogical experiment method;*
- *Statistical mathematics method.*

## 3. RESULTS AND DISCUSSION

### 3.1. Current Physical Fitness Status of Students at Thai Nguyen University of Economics and Business Administration

**Table 1. Results of Physical Fitness Assessment of Students in the Academic Year 2024–2025**

| Academic Year | Excellent | % | Good | % | Pass | % | Fail | % |
|---|---|---|---|---|---|---|---|---|
| Year 1 (n=260) | 11 | 4.2 | 32 | 12.3 | 151 | 58.1 | 66 | 25.4 |
| Year 2 (n=280) | 10 | 3.6 | 29 | 10.3 | 156 | 55.7 | 85 | 30.4 |

The results of the physical fitness assessment indicated that the proportion of students failing to meet the physical fitness standards tended to increase. Specifically, the failure rate increased from 25.4% in the first year to 30.4% in the second year. This situation highlights the urgent need for the PE department to implement various solutions and forms of intervention to improve the quality of physical education training for students.

### *3.2. Selection of Solutions to Improve the Quality of Physical Education Training*

To identify effective solutions and initially verify their practicality, feasibility, and synchronization, the study analyzed theoretical foundations and consulted 25 PE lecturers from both inside and outside the university. Several feasible solutions were proposed for implementation.

**Table 2. Interview Results on Selecting Solutions for Physical Fitness Development (n=25)**

| No. | Proposed Solutions | Number of Selections | Percentage (%) |
|---|---|---|---|
| 1 | Enhancing awareness of the role and importance of PE in schools | **23** | **92** |
| 2 | Improving management and organization of activities | 15 | 60 |
| 3 | Strengthening facilities, sports equipment, training grounds, and funding for sports activities | **24** | **96** |
| 4 | Innovating teaching curriculum content | **25** | **100** |
| 5 | Applying physical fitness assessment according to Ministry of Education and Training regulations | **24** | **96** |
| 6 | Innovating enrollment methods and reducing admission quotas | 5 | 20 |
| 7 | Expanding extracurricular sports activities and competitions | **23** | **92** |

The results in Table 2 show that five out of the seven proposed solutions received high agreement from lecturers, with approval rates above 90%. These selected solutions included:

- *Enhancing awareness of the role and significance of PE in schools;*

- *Strengthening facilities, equipment, training grounds, and funding for sports activities;*

- *Innovating teaching curriculum content;*

- *Applying physical fitness assessment according to the standards of the Ministry of Education and Training;*

- *Expanding extracurricular training activities and sports competitions.*

### *3.3. Application and Effectiveness of the Proposed Solutions*

A pedagogical experiment was conducted to evaluate the effectiveness of the proposed solutions in improving PE quality for students. The participants consisted of 380 full-time students (80 males and 300 females) from Cohort 13. The experimental group included 190 students (40 males and 150 females), while the control group also included 190 students (40 males and 150 females). The intervention period lasted from August 2024 to February 2025.

The experimental group implemented the five selected solutions, whereas the control group continued studying under the conventional PE curriculum and activities. At the end of the semester, physical fitness assessments were conducted for both groups. Statistical methods were used to process and compare the data according to the physical fitness evaluation standards issued by the Ministry of Education and Training.

**Table 3. Physical Fitness Test Results of the Control and Experimental Groups Before the Experiment**

*Male Students*

| No. | Tests | Control Group (n=40) Mean ± SD | Experimental Group (n=40) Mean ± SD | t | p |
|---|---|---|---|---|---|
| 1 | 30m sprint from standing start (s) | 5.04 ± 0.49 | 4.94 ± 0.47 | 1.02 | >0.05 |
| 2 | Dominant hand grip strength (kg) | 40.17 ± 2.64 | 40.86 ± 2.76 | 1.15 | >0.05 |
| 3 | Sit-ups in 30 seconds (repetitions) | 18.22 ± 1.36 | 17.74 ± 1.43 | 1.45 | >0.05 |
| 4 | Standing long jump (cm) | 212.55 ± 14.37 | 208.47 ± 15.44 | 1.12 | >0.05 |
| 5 | 5-minute endurance run (m) | 963.16 ± 42.48 | 956.95 ± 43.71 | 0.58 | >0.05 |
| 6 | 4 × 10 m shuttle run (s) | 10.18 ± 1.23 | 10.12 ± 1.04 | 0.96 | >0.05 |

*Female Students*

| No. | Tests | Control Group (n=150) Mean ± SD | Experimental Group (n=150) Mean ± SD | t | p |
|---|---|---|---|---|---|
| 1 | 30m sprint from standing start (s) | 5.80 ± 0.60 | 5.98 ± 0.52 | 0.81 | >0.05 |
| 2 | Dominant hand grip strength (kg) | 26.13 ± 1.48 | 26.81 ± 1.54 | 1.83 | >0.05 |
| 3 | Sit-ups in 30 seconds (repetitions) | 16.32 ± 1.18 | 16.77 ± 1.27 | 1.50 | >0.05 |
| 4 | Standing long jump (cm) | 149.41 ± 10.86 | 153.87 ± 11.24 | 1.65 | >0.05 |
| 5 | 5-minute endurance run (m) | 892.67 ± 41.85 | 885.90 ± 42.39 | 0.65 | >0.05 |
| 6 | 4 × 10 m shuttle run (s) | 13.42 ± 1.23 | 13.37 ± 1.42 | 0.94 | >0.05 |

The results presented in Table 3 indicate that, before the experiment, there were no statistically significant differences in physical fitness test results between the control group and the experimental group for both male and female students ($p > 0.05$). In other words, the physical fitness levels of the two groups were considered equivalent prior to the intervention.

**Table 4. Physical Fitness Test Results of the Control and Experimental Groups After the Experiment**

*Male Students*

| No. | Tests | Control Group (n=40) Mean ± SD | Experimental Group (n=40) Mean ± SD | t | p |
|---|---|---|---|---|---|
| 1 | 30m sprint from standing start (s) | 4.92 ± 0.41 | 4.36 ± 0.32 | 1.98 | <0.05 |
| 2 | Dominant hand grip strength (kg) | 41.21 ± 2.71 | 43.37 ± 2.23 | 2.86 | <0.05 |
| 3 | Sit-ups in 30 seconds (repetitions) | 18.56 ± 1.34 | 19.44 ± 1.21 | 2.30 | <0.05 |
| 4 | Standing long jump (cm) | 212.87 ± 14.26 | 221.67 ± 13.24 | 2.62 | <0.05 |
| 5 | 5-minute endurance run (m) | 941.47 ± 45.82 | 978.55 ± 41.21 | 3.64 | <0.05 |
| 6 | 4 × 10 m shuttle run (s) | 10.09 ± 1.04 | 9.47 ± 0.92 | 2.01 | <0.05 |

*Female Students*

| No. | Tests | Control Group (n=150) Mean ± SD | Experimental Group (n=150) Mean ± SD | t | p |
|---|---|---|---|---|---|
| 1 | 30m sprint from standing start (s) | 5.76 ± 0.51 | 5.44 ± 0.42 | 1.97 | <0.05 |
| 2 | Dominant hand grip strength (kg) | 26.96 ± 1.56 | 28.11 ± 1.43 | 2.94 | <0.05 |
| 3 | Sit-ups in 30 seconds (repetitions) | 16.86 ± 1.35 | 18.06 ± 1.22 | 2.74 | <0.05 |
| 4 | Standing long jump (cm) | 154.61 ± 10.66 | 159.77 ± 10.21 | 2.02 | <0.05 |
| 5 | 5-minute endurance run (m) | 881.67 ± 42.65 | 907.90 ± 40.17 | 2.65 | <0.05 |
| 6 | 4 × 10 m shuttle run (s) | 12.96 ± 1.27 | 11.86 ± 0.11 | 2.04 | <0.05 |

The data presented in Table 4 show statistically significant differences in all physical fitness indicators between the control and experimental groups after the intervention ($p < 0.05$). In other words, the physical fitness level of the experimental group at the end of the experiment was significantly higher than that of the control group.

To further clarify the effectiveness of the proposed solutions, the study compared the growth rates of physical fitness indicators between the two groups. The results are presented in Table 5.

**Table 5. Growth Rate of Physical Fitness Indicators in the Experimental and Control Groups After the Experiment**

| No. | Tests | Gender | Control Group Before | Control Group After | Growth Rate (%) | Experimental Group Before | Experimental Group After | Growth Rate (%) |
|---|---|---|---|---|---|---|---|---|
| **1** | 30m sprint from standing start (s) | Male | 5.04 | 4.92 | -2.4 | 4.94 | 4.36 | -12.4 |
| | | Female | 5.80 | 5.76 | -0.7 | 5.98 | 5.44 | -9.45 |
| **2** | Dominant hand grip strength (kg) | Male | 40.17 | 41.21 | 2.55 | 40.86 | 43.37 | 5.96 |
| | | Female | 26.13 | 26.96 | 3.12 | 26.81 | 28.11 | 4.73 |
| **3** | Sit-ups in 30 seconds (repetitions) | Male | 18.22 | 18.56 | 1.84 | 17.74 | 19.44 | 9.14 |
| | | Female | 16.32 | 16.86 | 3.25 | 16.77 | 18.06 | 7.40 |
| **4** | Standing long jump (cm) | Male | 212.55 | 212.87 | 0.15 | 208.47 | 221.67 | 6.12 |
| | | Female | 149.41 | 154.61 | 0.47 | 153.87 | 159.77 | 6.70 |
| **5** | 5-minute endurance run (m) | Male | 963.16 | 941.47 | -1.63 | 956.95 | 978.55 | 1.58 |
| | | Female | 892.67 | 881.67 | -1.23 | 885.90 | 907.90 | 2.45 |
| **6** | 4×10 m shuttle run (s) | Male | 10.18 | 10.16 | -1.90 | 10.09 | 9.47 | -6.30 |
| | | Female | 13.42 | 13.37 | -3.70 | 12.96 | 11.86 | -8.80 |

The results in Table 5 indicate that the growth rate of physical fitness qualities in the experimental group was higher than that in the control group. Notably, endurance performance in the control group showed negative growth, indicating a decline after the experiment. The growth rate of physical fitness indicators in the experimental group ranged from 1.58% to 9.14%, whereas in the control group it ranged from -1.23% to 3.25%.

**Table 6. Physical Fitness Classification Results of the Control and Experimental Groups After the Experiment**

| Group | Gender | Pass (n) | Pass (%) | Fail (n) | Fail (%) |
|---|---|---|---|---|---|
| Control | Male (n=40) | 39 | 75.0 | 13 | 25.0 |
| | Female (n=150) | 95 | 69.3 | 42 | 31.7 |
| Experimental | Male (n=40) | 48 | 96.0 | 2 | 4.0 |
| | Female (n=150) | 126 | 93.3 | 19 | 17.7 |

The results in Tables 5 and 6 show that the percentage of students meeting physical fitness requirements in the experimental group was higher than that in the control group for both male and female students (control group: male = 75.0%, female = 69.3%; experimental group: male = 96.0%, female = 93.3%).

**Table 7. Learning Outcomes in Physical Education of the Control and Experimental Groups**

| Group | Gender | Pass (n) | Pass (%) | Fail (n) | Fail (%) |
|---|---|---|---|---|---|
| Control | Male (n=40) | 45 | 86.5 | 7 | 13.5 |
| | Female (n=150) | 110 | 80.2 | 27 | 19.8 |
| Experimental | Male (n=40) | 50 | 100 | 0 | 0.0 |
| | Female (n=150) | 133 | 98.5 | 2 | 1.5 |

The PE learning outcomes of the experimental group also showed a higher pass rate than those of the control group. Conversely, the failure rate of the experimental group was substantially lower than that of the control group (control group: male = 13.5%, female = 19.8%; experimental group: male = 0.0%, female = 1.5%).

The above findings indicate that the implementation of solutions related to elective sports instruction and physical fitness assessment requirements not only improved students' physical fitness but also positively influenced their learning attitudes. Students' awareness of physical education improved considerably compared with the previous situation at the university, and the quality of PE training was significantly enhanced.

## 4. CONCLUSION

- The physical fitness level of students at Thai Nguyen University of Economics and Business Administration remains relatively low. The implementation of the PE curriculum has not been fully effective and has undergone limited innovation. In addition, difficulties still exist regarding teaching staff, facilities, and financial resources.

- The study identified five major solutions to improve the quality of physical education training for students:

** Strengthening facilities, sports equipment, training grounds, and funding for sports activities;*

** Innovating teaching curriculum content;*

** Enhancing awareness of the role and importance of physical education in schools;*

** Expanding extracurricular sports activities and competitions;*

** Applying physical fitness assessment and evaluation according to the regulations of the Ministry of Education and Training.*

- The experimental implementation of these solutions demonstrated significant positive effects on students' learning attitudes and academic performance. In addition, the solutions contributed to improving lecturers' professional responsibility and teaching competence. Students' physical fitness development improved markedly, providing an important basis for evaluating the effectiveness and quality of physical education training at the university.

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