OPEN ACCESS

Journal of Advances in Sports and Physical Education
Abbreviated Key Title: J Adv Sport Phys Edu
ISSN 2616-8642 (Print) | ISSN 2617-3905 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

Solutions to Improve Quality of Physical Education for Students of Universities in Vietnam

Ha Minh Diu[1*]

[1]Faculty of Physical Education, Hanoi Pedagogical University 2, Vinh Phuc, Vietnam

DOI: https://doi.org/10.36348/jaspe.2024.v07i09.002 | **Received:** 03.08.2024 | **Accepted:** 07.09.2024 | **Published:** 10.09.2024

***Corresponding author:** Ha Minh Diu
Faculty of Physical Education, Hanoi Pedagogical University 2, Vinh Phuc, Vietnam

Abstract

This article aims to find solutions to accelerate the quality of physical education (PE) for students at universities of Vietnam based on theoretical and practical research on bettering the PE quality in the period of comprehensive educational reform and surveying the status quo' of PE quality assessment of students at universities under the current curriculum. The study employs the methods of document analysis and synthesis, discussion interview, pedagogical test, sociological investigation and statistical mathematical on SPSS 22.0 software. The results obtained by research, case studies and surveys on 1268 students and 40 PE experts from 03 universities of Vietnam: Hanoi Pedagogical University 2, Tan Trao University and Hung Vuong University posit that students' PE performance is influenced by various subjective and objective factors, thereby emphasizing that to further the PE quality, learning outcomes and movement activities, universities are required to focus on innovative solutions in competency-centered approach for students. The article proposes 03 groups of solutions, including: Group 1: Solutions on extracurricular programs; Group 2: Solutions on innovation of teaching methods; Group 3: Solutions on mobilizing social capitals for facilities and equipment. These solutions gained great consensus and scientific significance on the research subjects.

Keywords: Word; another word; lower case except names.

1. INTRODUCTION

Over the recent years, universities in Viet Nam encounter tremendous limitations in the learning of physical education, which roots in the improper awareness and attitude of students. As a matter of fact, most of them consider physical education as a conditional subject so PE teaching faces multiple hinderances in which a number of students show their fear and no interest in PE and view it as an exile (Loan 2015; Luong 2012). Another crucial reason falls in the syllabus which reveals shortcomings and facility deficiency. Researching domestic studies such as "*Some theoretical issues on building learning motivation for learners*" by Pham Quang Tiep (Tiep 2012), "*Learning motivation of students at HCMC University of Industry*" by Phan Thi To Oanh and Vo Thanh Tam (Oanh 2016; Tam 2010). "*Study on several socio-economic factors affecting the modernization and job orientation after graduation of students at HCMC Vietnam National University*" by Nguyen Van Tai *et al*., indicates that the propaganda of learning motivation (LM) for students is of prime significance upon determining the role and status of learning motivation as well as factors affecting the students' current learning motivation. According to the authors, there go 3 main measures of LM education for students are respectively awareness-raising, professional capacity-building, and facility perfection for teaching and learning. With the publication "*Physical education in universities receiving liberal education ideas*" by Vu Minh Cuong (Cuong 2020), "*Factors affecting the learning attitude of students at Da Lat University*" by Vo Thi Tam (Tam 2010), this study aims to identify the factors affecting the learning attitude of regular students at Da Lat University, thereby offering managerial implications in promoting positive learning attitudes for students, gradually enhancing the tertiary training quality. The articles "*Several theoretical issues on building learning motivation for learners*" by Pham Quang Tiep (Tiep 2012) and "*Status of physical education of students at Vietnam National University of Agriculture*" by Nguyen Van Toan (Toan 2014) present how to build learning motivation for students and the current situation of physical education at Vietnam National University of Agriculture, thereby proposes 5 groups of solutions to boost the results of physical

education subject, including: Propaganda on the effects of physical and sport training; improvement of teaching contents and syllabus; promotion of extracurricular activities; increase of investment in facilities; fostering of professional qualifications of PE teachers. The aforementioned publications present similarities with the findings of this article which highlights that for further learning interest and better PE quality, it is of significance to focus on extracurricular activities, teaching methods and facilities.

In a worldwide scope, there go several studies such as: "*Developing the Higher Education Curriculum*" by Dilly Fung (Fung 2017) about curriculum development for higher education, research-based education applied in practice of tertiary education. "*The Research University in Today's Society*" by Gerald Chan (Chan 2017), Dr. Gerald Chan (2017) argues that universities are vital to maintain learners' advancement over their motivation to study along with pre-Enlightenment beliefs in Steve Jobs' invention of the first Apple Mac, which aims to demonstrate how significant universities are to humanity. "*Learning outcomes and instructional objectives: is there a difference*?" by Harden R. M. (Harden 2002), "*Assessment and feedback in higher education*" by Teresa McConlogue (McConlogue 2020), "*Shaping Higher Education with Students*" by Vincent C.H.Tong, Alex Standen and Mina Sotiriou (Sotiriou, CH Tong & Staden, 2018), the authors discuss that education is demanded to establish a closer link between research and teaching to better the quality of higher education worldwide while centering the teaching is the students' participation. By the publication of William G. Spady (Spady 1994) "*Outcome – based education: Critical issue and answer, hanbook*", the writers find that a handful of research on learning motivation, factors affecting learning outcomes at university, measures to improve teaching capacity, teaching of capacity development, problem-solving teaching and management issues... (Fung 2017; Scott, Posner, Martin & Guzman, 2018). Nonetheless, neither study on the students themselves about the practical problems affecting the PE learning; factors impacting the job orientation after graduation to find out solutions nor study on the PE actual situation on students at universities are unfound both domestically and internationally. On the theoretical and practical basis (Cuthbert & Standis, 2021), the article assesses the PE current status in several universities and the influencing extent of these factors on the PE learning activities (Lam 2015; Chan 2017).

2. MATERIAL & METHODS

Throughout the research process, the author utilizes the following methods: Reading, analyzing, and synthesizing documents; discussion interview, pedagogical test, sociological investigation and statistics on SPSS 22.0 software. The research object of the article denotes the factors affecting the PE learning, conducted with the following participants: 40 lecturers teaching PE and 1586 students at 3 universities: Hung Vuong University, Hanoi National University of Education 2, Tan Trao University.

3. RESULTS

3.1. PE status at universities

Researching the PE current situation in the universities is implemented over the following issues: subject syllabus; teaching staffs; infrastructure; extracurricular activities; PE learning outcomes; physical status of students by physical training standards. And the conclusions are presented hereinafter:

Regarding PE syllabus: Given universities has reached a consensus on the credit number, the subjects and period allocation during the semesters and the recognition of standard teaching period for lecturers. This drastically affects the PE quality at universities and hinders both learners and teachers.

As for teaching staffs: The ratio of lecturers over students is relatively equivalent.

Considering teaching facilities: there exists an inadequacy in both quantity and quality. Such a large number of students associating with the overuse rate leads to a rapid degradation. Therefore, it is of peak urgence to upgrade and make new procurement of equipments for the PE teaching.

In respect of extracurricular activities: The rate of students engaging in extracurricular sport activities at Hanoi Pedagogical University 2, Hung Vuong university and Tan Trao university is respectively 34.2%, 44.5% and 17.45%.

About the learning outcomes: The rate of good and excellence (A and B grade) remains a low level while the one of below average (D and F grade) still accounts for a high percentage, so a huge number of students have to re-take the PE courses. This proves that students' physical status and sports practicing skills are of deficiency, which raises an alarm to PE teaching at universities.

In regard of students' physical ability:

Hung Vuong University: Some practical research at the university and a number of scientific publications such as "*Some measures to organize extracurricular sports activities to develop physical ability for female students at Hung Vuong University*" by Nguyen Bich Thuy, Luong Thi Thuy Hong (Thuy & Hong, 2015), "*Application of movement games to improve general physical ability for students of Hung Vuong University*" by Cao Huy Tien, Nguyen Van Linh (Tien & Linh, 2015), "*Selection of exercises to develop strength and speed for male students in studying football at Hung Vuong University*" by Dang Thanh Trung (Trung 2020) reveal that the characteristics, status, and physical base of students are of average and weakness,

especially, the level of speed power is noticeably alarming. These studies assert the majority of first year male students of Hung Vuong University encompasses an average achievement at speed power (40.0%), the rate good and excellence grade is low (23.3%) whilst the grade of weak and poor remains high (36.6%). In other words, if the number of "*good and above*" and "*average and below*" is sorted into two categories for comparison, most students falls in the latter "*low*" category with $\chi 2 = 5.8$ and $p < 0.05$.

Tan Trao University: Some published research such as: "*Selection of exercises to improve general physical ability for students of Tan Trao University*" by Le Anh Tung, Nguyen Viet Phuong (Tung & Phuong, 2018), "*Study on some measures to organize extracurricular exercises to improve the learning efficiency of PE 1 for undergraduate students, Tan Trao University*" by Tran Minh Hang (Hang 2018). "*Study on the influence of some occupational exercise on physical development for female students at Tan Trao University*" by Nguyen Van Hai, Tran Vu Phong (Hai & Phong, 2018) state that PE at Tan Trao University in recent years has gained concentration, however, the current situation of the general physical level of students stay limited, the number of students failing to meet the physical ability requirements under Decision 53/QĐ of Ministry of Education and Training (2008) remain high, which comprises over 20% for male and over 30% for female.

Hanoi Pedagogical University 2: The findings of research project "*Solutions to physical development for non-majored students - Hanoi Pedagogical University 2*" by Ta Huu Minh (Minh 2016) argues that the study on 1250 K40 students (550 female students and 700 male students) with the standards of physical training issued by Ministry of Education and Training under Decision 53/2008 (Ministry of Education and Training, 2008) burgeons the results as follows:

+ For male students at the pass and good level: Crunch (times/30s) accounted for 37.05%; In-place Long jump (cm) accounted for 35.26%; High-start Running 30m (s) accounts for 27.81%; Ability-based running for 5 minutes (m) accounted for 36.54%.

+ For female students at the pass and good level: Crunch (times/30s) accounted for 43.28%; In-place Long jump (cm) accounted for 42.85%; High-start Running 30m high start(s) accounted for 31.66%; Ability-based running for 5 minutes (m) accounted for 46.28%.

The indicators on morphology and motor qualities of male and female non-major students at Hanoi Pedagogical University 2, which are at average and below average compared to the standards set by the Ministry of Education and Training (2013), remains relatively high. (> 50%).

Through the mentioned-above results, in general, the physical ability of female students at given universities which fails to meet the requirements still makes up for an apparently high percentage. This proves that the PE effectiveness at those institutions are of insufficience. The authors then conducted interviews on the causes at universities with participants including 40 lecturers at 3 Hung Vuong university, Tan Trao University and Hanoi Pedagogical University 2.

3.2. Factors impacting PE quality at universities (n=40)

Table 2.1 Results of interview on Factors impacting PE quality of students at universities (n=40)

No.	Reasons	Results	
		n	rate %
1	Inappropriate teaching contents	32	80
2	Inadequacy in both quantity and quality of lecturers fails to meet teaching requirements	6	15
3	Deficiency in facility and equipment for PE teaching	35	87.5
4	Extracurricular activities fail to develop in both quantity and quality in student's community	40	100
5	Irregular fostering of professional training for PE lecturers	31	77.5
6	Shortage of consideration from University's Directorial board	23	57.5
7	Limited fund for PE activities	24	60

Table 2.1 informs factors affecting the PE quality which focus on the following 4 basic points: 100% of the respondents believe that extracurricular activities fail to operate extensively among students. Whereas 87.5% affirms the lack of facilities, training equipment. 80% of interviewees said that the teaching contents are of inappropriateness; and 77.5% of participants argues that lecturers do not gain regular professional training, still employs traditional teaching methods and have not paid sufficient attention to regular assessment.

3.3. Selecting solutions to pe quality improvement for universities in vietnam

3.3.1. Solution selection for PE quality improvement

On the theoretical and practical basis, the author proposes groups of solutions to improve the PE quality at universities in Vietnam as follows: *Group 1: Solutions on Curricular programs; Group 2: Solutions on Extracurricular programs; Group 3: Solutions on Innovation of teaching methods; Group 4: Solutions on Information and propaganda; Group 5: Solutions on Mobilization of social capitals for facilities and*

equipment; Group 6: Solutions on Mechanisms and policies.

With the aforementioned choices of solutions, the authors made questionnaires and interviewed 40 managers and teachers of physical education at universities. The interview results signalize that 3 proposed solutions are selected to improve the PE quality and evaluated by PE respondents at "strongly agree" level. They are *Group 1: Solutions on extracurricular programs; Group 2: Solutions on innovative teaching methods; Group 3: Solutions on mobilizing social capitals for facilities and equipment.*

After selecting the solution groups through interviews, the researchers identify the reliability of the solutions to improve the PE quality at universities by Cronbach's Alpha coefficient under De Vellis' convention (1991). The results show that: 3 solutions are selected with sufficient reliability, expressed in Cronbach's Alpha coefficient = 0.724> 0.60 as prescribed and the correlation coefficient of the component variables with the total variable reaches from 0.492 to 0.549> 0.30.

3.3.2. Aims, contents and implementation methods of selected solutions

Group 1: Solutions on Extracurricular programs

a. **Aims:** To better the content and form of organizing extracurricular sport activities in the direction of diversifying sports which prioritizes mass sports and establishes sports clubs with instructors.
b. **Content:** Reviewing the syllabus, thereby making modifications according to the PE program in line with the institution's goals and social demands. Meeting the sports training needs of students and university's staffs. The universities are required to develop extra-curricular programs to suit the facility conditions and students' desire.
c. **Implementation methods:** It is of significance to innovate and improve the content and form of organizing extracurricular sport activities in the direction of diversifying sports which prioritizes mass sports and establishes sports clubs with instructors.

Group 2: Solutions on innovative teaching methods

a. **Aims**: Innovations of teaching contents, evaluation and assessment for furthering positiveness, autonomy and creativity of students, thereby developing learners' ability to act and collaborate in professional environment.
b. **Contents**: Reviewing, adjusting and supplementing quality evaluation, focusing on regular assessment and rational use of teachers in order to promote their qualifications, capacity and forte suitable to the job positions; Improving traditional teaching methods and combining a variety of teaching methods.
c. **Implementation methods**: Issuing managerial documents about the testing - evaluation process; Propagandizing and raising awareness for relevant subjects; Fostering teaching staffs with updated knowledge and teaching methods to develop necessary competencies and skills on testing - assessment according to the credit system; Improving the ability to utilize information technology; Managing and completing the training process associated with the innovation of methods and forms of testing and evaluation in accordance with the credit system.

Group 3: Solutions on mobilizing social capitals for facilities and equipment

a. **Aims:** Making full use and effective utilization of available facilities; investing in additional facilities, equipment and tools for better teaching, learning and scientific research of the institution.
b. **Contents:** Reviewing, repairing and maintaining available sport facilities, equipment and tools. Simultaneously, boosting the construction of sports facilities, purchasing sports equipment to improve the training quality and sport movements of the institution.
c. **Implementation methods:** Making full use and regularly cleaning, maintaining available facilities. Simultaneously, purchasing new sport equipment to ensure quantity and quality; Making new goals that universities ensure the standard area for students' sport activities under Decision 2160/QD-TTg dated 11th November 2013 of the Prime Minister (reaching 03m^2/student by in 2020, 04m^2/student by 2030) (2013).

3.3.3. Verification of consensus on selected solutions

In order to find out the practical basis of the selected solutions, interviews were conducted with 29 leaders, managers, experts, and lecturers as participants. The interview content focuses on determining the priority of innovative solutions in the direction of competency approach for PE-major students.

The results identify the reliability of the interview results for selecting solutions to improve the PE quality for students at universities are presented in Table 2.2.

Table 2.2: Reliability of interview results to select solutions to improve the PE quality for students at universities (n = 29)

Reliability Statistics				
Cronbach's Alpha		N of Items		
.837		3		
Item-Total Statistics				
Solutions	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Solutions on Extracurricular programs	12,0345	8,392	0,734	0,764
2. Solutions on innovative teaching methods	12,3448	8,020	0,712	0,773
3. Solutions on mobilizing social capitals for facilities and equipment	12,3793	9,315	0,574	0,833

As clearly seen in Table 2.4, the Cronbach's Alpha is a good scale of 0.837, which means the solutions being interviewed are all accepted; Cronbach's Alpha if Item Deleted of all solutions is 0.764 to 0.833 < 0.837 and Corrected Item-Total Correlation is 0.574 to 0.734, both greater than 0.4. That is, not eliminating any solution that can make Cronbach's Alpha of this scale greater than 0.837.

Interview results to select solutions to education enhancement in the direction of competency approach for PE-major students are illustrated in Figure 2.1.

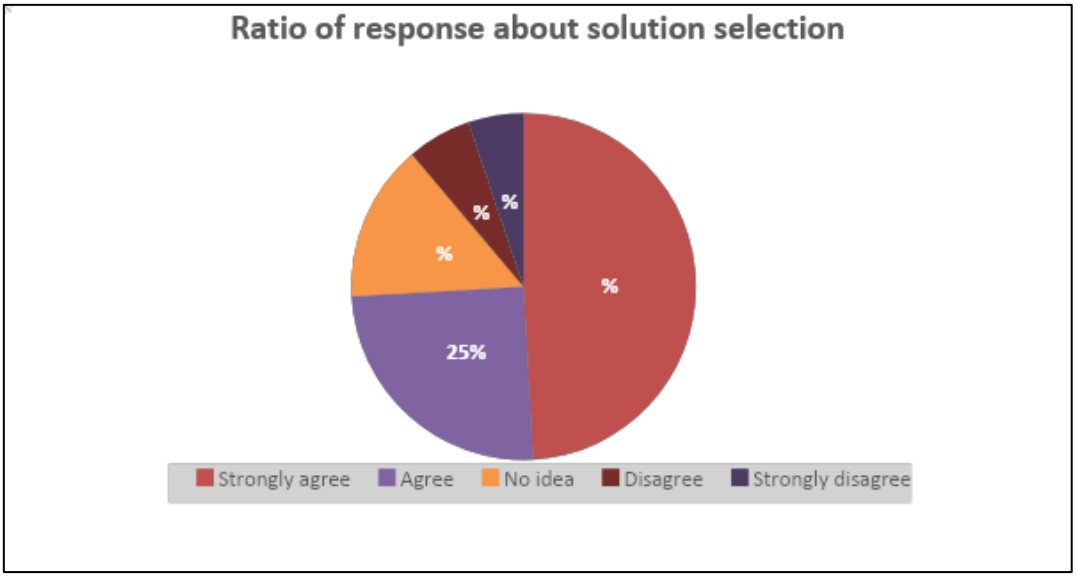

Figure 2.1: Ratio of responses about solution selection

The pie Figure 2.1 apparently indicates that: The highest rate of responses falls in the option "Strongly agree" with 57 votes, accounting for 49.1%; the "Agree" option is 29, accounting for 25.0%; The "No idea" option is 17, accounting for 14.7%. Thus, the total answer options strongly agree and agree is 74.1%. In other words, the majority of opinions chose 3 groups of innovative solutions in the direction of competency approach for students at universities that the project initially selected.

3.4. Application and evaluation of effectiveness of solutions to the PE quality improvement at universities of Vietnam

3.4.1. Planning of piloting program

Pedagogical experimentation is the process of applying selected solutions to improve the PE quality for undergraduate students of Vietnam. This aims to verify the effectiveness and feasibility of the selected solutions. The piloting plan rationally impact to attain the goals of improving physical strength, practical skills of PE subjects, which accelerate the learning outcomes of students in physical education and promotes the sport movement activities of the institutions.

Research samples: Based on practical conditions of facilities, yards, curricula, as well as the need to practice extra-curricular sports of students at Hanoi Pedagogical University 2, the article implemented the piloting program on students of Batch 45 of Hanoi Pedagogical University 2 with 250 students (including 128 males, 122 females) and divided as follows: Male includes 01 control group 1 (ĐC 1: 43 students), 1 Experimental group TN1 (42 students), 01 Experiment

group TN2 (43 students). Female students are assigned to 01 control group 1 (ĐC 1: 42 students), 01 Experimental group TN1 (40 students), 01 Experimental group TN2 (40 students). Two control groups did not participate in the extracurricular club. The experimental groups all joined the extracurricular programs, which took place from September 2018 to February 2019. The indicators of physical ability assessment under Decision 53/2008/QD-BGD&DT [1] include: Crunch with maximum sit-ups (times/30s); in-place long jump (cm); high-start running 30m (seconds); shuttle running 4 x 10m (seconds); ability-base running in 5 minutes (m). Before the experiment, the authors selected experimental samples and checked the general physical ability of the student groups by club as shown in Tables 2.3 and 2.4 below:

Table 2.3: Comparison of the results of 5 general fitness tests before the experiment of male students of Hanoi Pedagogical University 2 in the experimental and control groups

Test / Groups		**Crunch with maximum sit-ups (times/30s)**	**In-place long jump (cm)**	**High-start running 30m (seconds)**	**Shuttle running 4 x 10m (seconds)**	**Ability-base running in 5 minutes (m)**
ĐC1 (n=43)	$\bar{X} \pm \delta$	14,81 ± 0,72	202,2 ± 4,36	5,76 ± 0,17	13,62 ± 0,35	859,2 ± 18,3
	Cv %	4,86	2,16	2,95	2,57	2,13
TN1 (n=42)	$\bar{X} \pm \delta$	14,91 ± 0,80	204,0±4,26	5,80±0,14	13,54±0,41	855,6±18,1
	Cv %	5,37	2,09	2,41	3,03	2,11
	tcal1	0,61	1,93	1,19	0,98	0,91
TN2 (n=43)	$\bar{X} \pm \delta$	15,02 ± 0,85	200,9±3,55	5,72±0,12	13,51±0,31	865,4±20,75
	Cv %	5,66	1,77	2,10	2,29	2,40
	tcal2	1,24	1,52	1,26	1,54	1,47
ttable		**1,96**				
P		**>0,05**				

Table 2.3 shows the general physical ability in 5 tests of male students in experimental group 1 and experimental group 2 compared with control group 1 exhibits no difference at the probability threshold P > 0.05 when $t_{cal\ 1}$ and $t_{cal\ 2} < t_{table}$. Besides, the value of the variation coefficient C_v of the tests are all less than 10%, which proves that the general physical ability before the experiment of the male students of the groups is relatively equal. Hence, the researchers can conduct experiments and parallel comparisons on the above groups of participants.

Table 2.4: Comparison of the results of 5 general fitness tests before the experiment of female students at Hanoi Pedagogical University 2 in the experimental and control groups

Test / Group		**Crunch with maximum sit-ups (times/30s)**	**in-place long jump (cm)**	**high-start running 30m (seconds)**	**shuttle running 4 x 10m (seconds)**	**ability-base running in 5 minutes (m)**
ĐC1 (n=42)	$\bar{X} \pm \delta$	12,74 ± 0,73	153,8 ± 3,40	6,87 ± 0,13	14,43 ± 0,31	765,7 ± 15,0
	Cv %	5,85	2,21	1,89	2,15	1,96
TN1 (n=40)	$\bar{X} \pm \delta$	12,95 ± 0,62	153,2±3,10	6,92±0,14	14,56±0,38	762,2±20,94
	Cv %	4,78	2,02	2,02	2,61	2,75
	tcal 1	1,40	0,83	1,72	1,69	0,87
TN2 (n=40)	$\bar{X} \pm \delta$	13,03 ± 0,78	155,1±3,61	6,81±0,15	14,29±0,38	769,8±19,15
	Cv %	5,99	2,33	2,20	2,66	2,49
	tcal 2	1,77	1,67	1,94	1,89	1,08
ttable		**1,96**				
P		**>0,05**				

Table 2.4 shows the general physical ability in 5 tests of female students in experimental group 3 and experimental group 4 compared with control group 2 exposes no difference at the probability threshold P > 0.05 when $t_{cal\ 3}$ and $t_{cal\ 4} < t_{table}$. Additionally, the value of the variation coefficient C_v of the tests are all less than 10%, which proves that the general physical ability before the experiment of the female students of the groups is relatively equal. Thus, the researchers can conduct experiments and parallel comparisons on the above groups of participants. Therefore, male and female students of the experimental and control groups were gauged to be similar with no difference in pre-experiment physical ability.

3.4.2. Post-experiment results

From the piloting plan shown in Table 2.4, the authors started tutoring at extracurricular clubs 3 times a week, each training session is 120 minutes of experimental time for 10 months according to the program and teacher's lesson plans of PE lecturers. In parallel with the experiment in extra-curricular sports

clubs, the researchers conducted piloting innovative measures of teaching methods to develop capacity and attach importance to regular assessment. The solution on facilities is to fully exploit available PE facilities, equipment and tools, also purchase and invest in facilities to better meet teaching requirements. The next experimental phase is conducted by doing tests and evaluations on indicators such as: Assessment of the general physical ability in 5 tests of students in the experimental group; Evaluation of the quantity and quality of newly established sport clubs and the number of participants joining those extracurricular sports; Appraisal of the achievements of the institution's sport teams and the tournaments organized by the university itself; Evaluation of the learning outcomes of experimental students compared to ones of previous batches who have completed the curricular PE syllabus.

3.4.2.1. ***Assessment of post-experimental physical ability of students joining extracurricular clubs***

After the experiment, the general physical ability of students in extracurricular sport clubs with 5 tests as pre-experiment were examined and the results are presented in Table 2.5 below:

Table 2.5: Comparison of post-experimental results of general physical ability test done by male and female students in control and experimental groups at Hanoi Pedagogical University 2

Gender	Groups		Crunch with maximum sit-ups (times/30s)	in-place long jump (cm)	high-start running 30m (seconds)	shuttle running 4 x 10m (seconds)	ability-base running in 5 minutes (m)
Male	ĐC1 (n=43)	$\bar{X} \pm \delta$	20,93 ± 0,52	217,3 ± 4,0	5,63 ± 0,13	12,48 ± 0,39	896,6 ± 18,55
	TN1 (n=42)	$\bar{X} \pm \delta$	21,45 ± 0,56	220,5±4,19	5,43±0,10	11,90±0,31	932,2±16,16
		tcal 1	**4,43**	**3,60**	**7,96**	**7,59**	**9,31**
	TN2 (n=43)	$\bar{X} \pm \delta$	20,07 ± 0,53	225,5±3,84	5,37±0,16	12,24±0,33	936,4±16,60
		tcal 2	**7,59**	**9,69**	**8,27**	**3,08**	**10,46**
Female	ĐC1 (n=42)	$\bar{X} \pm \delta$	15,67 ± 0,64	160,2 ± 3,56	6,78 ± 0,14	12,92 ± 0,56	836,4 ± 14,71
	TN1 (n=40)	$\bar{X} \pm \delta$	16,43 ± 0,52	164,3±3,30	6,51±0,13	12,56±0,43	850,2±15,45
		tcal 1	**5,91**	**5,41**	**9,05**	**3,27**	**4,13**
	TN2 (n=40)	$\bar{X} \pm \delta$	16,28 ±0,65	167,1±4,11	6,42±0,19	12,57±0,48	854,7±16,66
		tcal 2	**4,27**	**8,10**	**9,72**	**3,04**	**5,27**
ttable		**2,576**					
P		**<0,01**					

Table 2.5 exhibits the general physical ability in 5 tests done by: Male students in experimental group 1 and experimental group in comparison with control group 1 after the piloting period in 5 tests, there witnesses a huge difference in the probability threshold P > 0.01 when $t_{cal\ 1}$ and $t_{cal\ 2} > t_{table}$. The comparison among female students in experimental group 1 and experimental group 2 compared with control group 2 after the experiment in 5 tests also observes a huge difference in the probability threshold P > 0.01 when tcal1 and $t_{cal2} > t_{table}$. Thus, the post-experimental general physical ability of both male and female students in the experimental groups improved significantly. This demonstrates that under the influence of regular extracurricular sport practice under the guidance of teachers, students have remarkably advanced their physical strength.

3.4.2.2. ***Assessment of learning outcomes of experimented students compared to previous batches who have completed curricular PE program***

The authors compared the study results of the 45th batch students (who participated in extracurricular sport clubs under experimental project) with the previous batches who did not undergo the piloting program. The results are shown in Table 2.6 below:

Table 2.6: Comparison of post-experimental PE practicing results of 45th batch students with previous ones at Hanoi Pedagogical University 2

Academic year	Grade		
	Good + Excellent (%)	Average (%)	Poor and below (%)
1st Semester (2017-2018)	27,6	58,6	13,8
2nd Semester (2017-2018)	29,2	60,4	12,4
1st Semester (2018-2019)	**50,3**	**46,5**	**3,2**

Table 2.6 delineates the PE learning outcomes of 3rd credit in the 1st semester of 2018-2019 academic year of 45th batch students, who were subjected to the experiment, significantly escalated compared to the 1st and 2nd credit of the previous year, specifically: After the experiment, the rate of participants holding *good and excellent* results (grade A and B) is 50.3%; whilst one of *average* (grade C) and *poor and below* (grade D and F)

is 46.5% and 3.2%, respectively. Hence, the number of students failing the PE subject and having to retake it remarkably decreased to only 3.2%; besides, the good and excellent grade rocketed drastically to 50.3%. This proves that under the influence of the promotion of regular extracurricular sport practice, learners are facilitated to better their general physical ability, thereby improving their PE learning and practice outcomes.

4. CONCLUSION AND RECOMMENDATION

CONCLUSION

These aforementioned research findings allows the authors to conclude several points as follows: The article has found out 4 reasons hindering the PE quality (Table 2.1) and also proposed 3 groups of solutions to improve the quality of students at universities, including: Group 1: Solutions on extracurricular programs; Group 2: Solutions on innovation of teaching methods; Group 3: Solutions on mobilizing social capitals for facilities and equipment. These solutions reached a high consensus from the interviewees.

RECOMMENDATION

The research findings is required to apply in practice of PE teaching at universities and colleges, including: Hanoi Pedagogical University 2, Hung Vuong and Tan Trao university.

REFERENCES

- Cuong, V. M. (2020). Physical education in universities receiving liberal education ideas. [Special Edition 2]. *Journal of Education*, 176-179.
- Decision 2160/QĐ-TTg. (2013, November). *Approving the "Planning on development of physical training and sports in Vietnam up to 2020, with orientation to 2030"*. Prime Minister: Author.
- Decision 53/2008/QĐ-BGDĐT (2008). *Regulations on the assessment and classification of students' physical ability.* Ministry of Education and Training: Author
- Hai, N. V., & Phong, T. V. (2018). Study on the influence of some occupational exercise on physical development for female students at Tan Trao University. Science and Technology Project. Tan Trao university.
- Hang, T. M. (2018). *Study on some measures to organize extracurricular exercises to improve the learning efficiency of PE 1 for undergraduate students, Tan Trao University*. Science and Technology Project, Tan Trao university.
- Lam, D. B. (2015). Educational curriculum of Learner's competency-centered approach [Special Edition]. *Journal of Education*. National Academy of Education management.
- Loan, N. T. P. (2015). Approaches to developing curriculums in pedagogical universities. Division of Science management.
- Luong, L. P. (2012). Orientation and selection of training professions, promotion of students' learning motivation through output standards at universities. *Journal of Education*, 279, 13-15.
- Minh, T. H. (2016). Solutions for physical development for non-sport majors – Hanoi Pedagogical University 2. Science and Technology Project. Hanoi Pedagogical University 2.
- Oanh, P. T. T. (2016). Learning motivation of students at HCMC University of Industry [Special Edition]. *Journal of Education*, 135-139.
- Tai, N. V. (2003). Study on several socio-economic factors affecting the modernization and job orientation after graduation of students at HCMC Vietnam National University. Ho Chi Minh city.
- Tam, V. T. (2010). Factors affecting the learning attitude of students at Da Lat University. Ho Chi Minh city.
- Thuy, N. B., & Hong, L. T. T. (2015). Some measures to organize extracurricular sports activities to develop physical ability for female students at Hung Vuong University. Science and Technology Project. Hung Vuong university.
- Tien, C. H., & Linh, N. V. (2015). Application of movement games to improve general physical ability for students of Hung Vuong University. Science and Technology Project. Hung Vuong university.
- Tiep, P. Q. (2012). Some theoretical issues on building learning motivation for learners. Journal of Education, *292* (62), 20-21.
- Toan, N. V. (2014). Status of physical education of students at Vietnam National University of Agriculture. *Journal of Science and Development*, *12*(8), 1351-1360.
- Trung, D. T. (2020). Selection of exercises to develop strength and speed for male students in studying football at Hung Vuong University. *Journal of Science and Technology*. Hung Vuong university.
- Tung, L. A., & Phuong, N. V. (2018). Selection of exercises to improve general physical ability for students of Tan Trao University. Science and Technology Project. Tan Trao university.
- Chan, G. (2017). *Research University in Today's Society*. UCL Press. doi: https://doi.org/10.2307/j.ctv513dmn.1
- Cuthbert, A. S., & Standis, A. (Eds.). (2021). *What Should Schools Teach? Disciplines, subjects and the pursuit of truth*. UCL Press. doi: 10.2307/j.ctv14t475s
- Harden, R. M. (2002). Learning outcomes and instructional objectives: is there a difference? *Medical teacher*, *24*(2), 151-155. doi: 10.1080/0142159022020687
- Fung, D. (2017). *A connected curriculum for higher education* (p. 182). UCL Press. doi: 10.14324/111.9781911576358
- Fung, D. (2017), *Developing the Higher Eduation Curriculum*. London. UCL Press. doi: 10.14324/111.9781787350878

- Levacic, R., & Glover, D. (2020). *Educational resource management: An international perspective* (pp. vi-183). UCL Press. doi: 10.14324/111.9781787358386
- McConlogue, T. (2020). *Assessment and Feedback in Higher Education: A Guide for Teachers*. UCL Press. https://www.uclpress.co.uk/products/111601\
- Scott, D., Posner, C. M., Martin, C., & Guzman, E. (Eds.). (2018). *The Education System in Mexico*. UCL Press. https://www.uclpress.co.uk/products/88303
- Sotiriou, M., CH Tong, V., & Standen, A. (2018). *Shaping Higher Education with Students–ways to connect Research and Teaching* (p. 346). UCL Press. https://www.uclpress.co.uk/products/95121
- Spady, W. G. (1994). *Outcome-Based Education: Critical Issues and Answers*. American Association of School Administrators, 1801 North Moore Street, Arlington, VA 22209 (Stock No. 21-00488; $18.95 plus postage). https://files.eric.ed.gov/fulltext/ED380910.pdf
- Texas Tech University Writing and Assessing Course Level Student Learning Outcomes. Handbook.