

Xây dựng và đánh giá hệ thống bài tập phát triển thể lực chung cho nam sinh viên không chuyên ngành Giáo dục thể chất tại Trường Đại học Quy Nhơn

TÓM TẮT

Nghiên cứu nhằm xây dựng và đánh giá hệ thống các bài tập phát triển thể lực chung (TLC) cho nam sinh viên năm thứ hai không chuyên ngành Giáo dục thể chất tại Trường Đại học Quy Nhơn. Tổng số 64 sinh viên được chia thành nhóm thực nghiệm ($n = 32$) và nhóm đối chứng ($n = 32$). Trên cơ sở tổng hợp tài liệu và phỏng vấn 18 chuyên gia, nghiên cứu đã lựa chọn 16 bài tập TLC và triển khai trong các buổi học Giáo dục thể chất trong thời gian bốn tháng. Thể lực được đánh giá thông qua bốn test: lực bóp tay thuận, bật xa tại chỗ, chạy 30 m và chạy tùy sức 5 phút. Kết quả cho thấy nhóm thực nghiệm cải thiện thể lực có ý nghĩa thống kê so với nhóm đối chứng ở tất cả các chỉ tiêu ($p < 0,05$). Đồng thời, tỷ lệ sinh viên đạt loại Tốt theo tiêu chuẩn của Bộ Giáo dục và Đào tạo tăng rõ rệt, trong khi tỷ lệ Không đạt giảm đáng kể. Kết quả nghiên cứu cho thấy việc tích hợp hệ thống bài tập TLC vào chương trình Giáo dục thể chất có thể nâng cao hiệu quả phát triển thể lực của sinh viên đại học.

Từ khóa: Trường Đại học Quy Nhơn, Bài tập phát triển thể lực chung, Giáo dục thể chất, sinh viên năm 2.

Development and Evaluation of a General Physical Development Exercise System for Non-Physical Education Male Students at Quy Nhon University

ABSTRACT

This study aimed to develop and evaluate a system of General Physical Development (GPD) exercises for second-year non-Physical Education male students at Quy Nhon University. A total of 64 students were divided into an experimental group (n = 32) and a control group (n = 32). Based on literature review and expert consultation with 18 specialists, 16 GPD exercises were selected and implemented during regular Physical Education classes over a four-month period. Physical fitness was assessed using four tests: grip strength, standing long jump, 30-m sprint, and the 5-minute run. The results showed that the experimental group achieved significantly greater improvements than the control group across all indicators ($p < 0.05$). In addition, the proportion of students classified as “Good” according to MOET standards increased markedly, while the failure rate decreased substantially. The findings indicate that integrating structured GPD exercises into Physical Education programs can effectively improve university students’ overall physical fitness.

Keywords: *Quy Nhon University, General Physical Development Exercises, Physical education, 2nd-year students.*

1. INTRODUCTION

Physical Education (PE) plays a fundamental role in promoting students’ physical fitness, health, and character development in higher education.^{1,2} Universities increasingly recognize the importance of PE programs in fostering lifelong physical activity and improving students’ overall well-being^{3,4}. At Quy Nhon University (QNU), the PE curriculum has been modernized through the implementation of various elective sports designed to enhance student engagement and physical development.⁵ However, the successful acquisition of sport-specific skills depends largely on students’ general physical fitness, which forms the foundation for effective participation in physical activities.¹

General Physical Development (GPD) plays a crucial role in supporting the learning of sport techniques and improving overall physical performance.¹ Nevertheless, the design and implementation of appropriate GPD exercises for non-Physical Education (non-PE) majors remain a challenge at QNU. In many PE classes, instructional time is primarily devoted to technical drills, while the development of fundamental physical qualities such as strength, speed, and endurance receives limited attention. As a result, students often lack a standardized physical fitness foundation, which can lead to inconsistent learning outcomes and reduced effectiveness of the PE curriculum.³

The development of appropriate GPD exercises should take into account the physiological and psychological characteristics of university students aged 18–22, a stage characterized by relatively stable physical development and high adaptability to physical training. In addition, effective exercise selection must consider the specific teaching conditions of the university, including available facilities, class organization, and the structure of the existing PE curriculum.^{6,7}

Preliminary observations at QNU indicated that a large proportion of second-year non-PE male students did not meet the physical fitness standards established by the Ministry of Education and Training (MOET), particularly in terms of strength and endurance. These findings highlight the need for a systematic approach to improving students’ general physical fitness.

Therefore, this study aims to develop and evaluate a system of General Physical Development exercises suitable for second-year non-PE male students at Quy Nhon University. The selected exercises were integrated into the Physical Education 3 (PE3) elective course and implemented during regular PE sessions over a four-month period. By incorporating structured GPD exercises into the existing curriculum, the study seeks to improve key physical qualities such as strength, speed, and endurance, thereby contributing to the overall physical development of university students.

2. RESEARCH METHODS

To achieve the research objectives and ensure the scientific reliability of the findings, the study employed a combination of commonly used research methods in the field of Physical Education and Sports Science.⁶

2.1. Research Participants

The study involved 64 second-year male students from non-Physical Education (non-PE) majors at Quy Nhon University who were enrolled in the Physical Education 3 (PE3) elective course.

The participants were divided into two groups: an Experimental Group (EG, n = 32) and a Control Group (CG, n = 32). All participants were aged between 18 and 22 years, representing a stage of relatively stable physiological development suitable for physical training interventions.

Convenience sampling was used to select students from existing PE classes. Prior to the experimental intervention, all participants completed a pre-test of physical fitness indicators. Statistical analysis confirmed that there were no significant differences between the experimental and control groups ($p > 0.05$), indicating that the two groups had equivalent baseline physical fitness levels.^{5,8}

2.2. Methodology and Procedures

- **Literature Review:** The literature review method was used to analyze relevant textbooks, training manuals, and previous studies related to general physical development and physical education. This method provided the theoretical foundation for identifying suitable exercises and constructing the initial framework for the training program.

- **Expert Interviews:** To determine the most appropriate exercises for the training program, expert interviews were conducted with 18 specialists in the field of physical education, including lecturers, coaches, and academic administrators.

A structured questionnaire was developed in which each exercise was evaluated using two response options: “Agree” or “Disagree”. Exercises were selected only if they received agreement from more than 75% of the experts.

The expert consultation was conducted in two rounds with a one-week interval between the rounds. The questionnaire included explanations of each exercise and instructions for its implementation to ensure that the experts clearly

understood the procedures before providing their evaluations.

- **Pedagogical Testing:** Physical fitness was assessed using four representative tests derived from Decision No. 53/2008/QĐ-BGDĐT, including the Standing Long Jump (lower-body explosive strength), Dominant Hand Grip Strength (muscle strength), 30 m Sprint (speed), and the 5-minute Maximum Effort Run (cardiorespiratory endurance).

According to Decision No. 53/2008/QĐ-BGDĐT, six tests are generally recommended for evaluating the physical fitness of university students. However, in the present study, four tests were selected to represent the three fundamental components of physical fitness: strength, speed, and endurance. From a theoretical perspective, these qualities are widely recognized as the core physiological foundations of human movement and athletic performance.^{8,9} To improve the reliability of strength assessment, two different strength tests were included to reflect different manifestations of muscular strength. In addition, selecting a smaller number of representative tests helps ensure feasibility and efficiency when conducting physical fitness assessments in large university classes while still providing a reliable overview of students' general fitness levels.

- **Pedagogical Experiment:** The pedagogical experiment was conducted over a four-month period from September to December 2024, corresponding to 15 weeks of instruction. Students participated in two PE sessions per week, with each session lasting 50 minutes.

During each session, the selected General Physical Development (GPD) exercises were implemented during the final 20–25 minutes of the main training phase. The Experimental Group performed the newly developed GPD exercise system, whereas the Control Group followed the standard Physical Education curriculum without the additional exercises.

The detailed training plan for developing general physical fitness among second-year non-Physical Education male students at Quy Nhon University is presented in **Table 1**.

- **Statistical Analysis:** The collected data were processed using statistical analysis methods to calculate mean values (\bar{x}), standard deviations (SD), coefficients of variation (Cv%), and t-tests to determine the statistical significance of

Table 1. Training Plan for Developing General Physical Fitness among Second-Year Non-PE Male Students at QNU

Exercises	Training Volume	Requirements
Session 1		
30 m sprint from standing start	6–8 repetitions × 30 m at maximum speed; rest interval: 30 s	Perform movements with large amplitude and high movement frequency
1500 m run	Moderate to low pace (complete the distance, time not recorded)	Maintain steady breathing
Session 2		
Flexibility exercises for hip, knee, neck, and ankle joints on mat	3 × 30 s per joint; moderate pressure applied; rest interval: 30 s	Hip stretching in both lateral and longitudinal directions with straight knees; ankle stretching with large range of motion
Squats with 20 kg barbell	3–4 sets × 20 repetitions; rest interval: 1–1.5 min	Perform deep squats and rise onto toes when standing
Sit-ups and back extensions	2 sets × 20 repetitions each	Keep knees straight; hands reach toward the toes
Session 3		
Circuit training (Set 1)	Training volume determined by stations	Perform continuously according to the workload of each station
Session 4		
Circuit training (Set 2)	Training volume determined by stations	Perform continuously according to the workload of each station

differences between groups at the level of $p < 0.05$.

3. RESULTS AND DISCUSSION

This section presents the research process, starting from the assessment of the initial physical fitness status of the student participants, the selection of intervention exercises, up to the evaluation of the effectiveness of the applied exercise system on the Experimental Group.

3.1. Initial Physical Fitness Status and Baseline Homogeneity

Before the intervention, the physical fitness levels of the 64 participating students were assessed in order to establish a baseline for the pedagogical experiment. The results, summarized in Table 2, reveal that the general physical fitness of second-year non-PE male students at Quy Nhon University was relatively limited when compared with the standards specified in Decision No. 53/2008/QĐ-BGDĐT.

In particular, the results of the 5-minute Maximum Effort Run indicate a considerable weakness in cardiorespiratory endurance. The mean distance achieved by the students was $\bar{x} = 929.07 \pm 58.92$ m, and up to 91.11% of the students were classified as Fail according to the MOET standards. Only 8.89% of the students reached the Satisfactory level, and none achieved the Good classification. This finding suggests that endurance capacity represents the most significant limitation in the physical fitness profile of the participants.

Table 2. General Physical Fitness Status of Second-Year Non-PE Male Students at QNU According to MOET Standards (n = 64)

Content	\bar{x}	δ	Cv%	MOET Standards (Percentage of Students Classified)		
				Good	Satisfactory	Fail
Dominant Hand Grip Strength (kg)	42.3	4.75	11.21	22.22%	48.15%	29.63%
Standing Long Jump (cm)	198.8	11.95	6.01	11.10%	44.46%	44.44%
30m Sprint from Standing Start (s)	4.95	0.12	2.50	21.48%	71.11%	7.41%
5-minute Maximum Effort Run (m)	929.07	58.92	6.34	0%	8.89%	91.11%

A similar pattern can be observed in the Standing Long Jump, which evaluates explosive leg strength. The results show that 44.44% of the students did not meet the required standard, while only 11.10% were classified as Good. These results indicate that lower-body explosive strength among the students remains relatively weak.

In contrast, the results for the 30 m Sprint demonstrate a more favorable performance distribution. A majority of the students (71.11%) achieved the Satisfactory level, and 21.48% reached the Good classification, while only 7.41% were categorized as Fail. This suggests that students' speed ability is relatively better developed compared with other physical qualities.

Regarding Dominant Hand Grip Strength, the mean value of $\bar{x} = 42.3 \pm 4.75$ kg meets the expected requirement according to the MOET standards. However, the coefficient of variation ($Cv\% = 11.21\%$) exceeds the commonly accepted threshold of 10%, indicating that the strength performance among the students was relatively uneven.

Overall, the coefficients of variation for most tests were below 10%, suggesting that the physical performance of the students was generally homogeneous and not widely dispersed. However, the high failure rate observed in the endurance test and the relatively low performance in explosive strength highlight the need for systematic training interventions aimed at improving these physical qualities among university students.

3.2. Selection and Implementation of GPD Exercises

To develop an appropriate system of General Physical Development (GPD) exercises for second-year non-PE male students, both theoretical analysis and expert consultation were employed. First, a preliminary list of potential exercises was compiled through a review of physical education textbooks, training manuals, and previous studies related to general physical development in university students.^{1,6,9} These sources provided the theoretical basis for

identifying exercises capable of improving the main physical qualities of students, including strength, speed, endurance, and coordination.

Based on this review and practical teaching experience, a list of candidate exercises was developed and submitted for expert evaluation. A total of 18 experts, including physical education lecturers, coaches, and academic administrators, participated in the interview process. The interviews were conducted in two rounds with a one-week interval between the rounds. Each exercise was evaluated using a structured questionnaire with two response options: “Agree” or “Disagree”.

An exercise was officially selected only if it received agreement from at least 75% of the

Table 3. Results of the Expert Interviews for Selecting GPD Exercises for Second-Year Non-PE Male Students, QNU (n = 18)

No	Exercise	Round 1 (n=18)		Round 2 (n=18)	
		N	%	N	%
1	Repeated sprints over 30m, 50m from standing start	14	77.78	15	83.33
2	High knee run in place with fast frequency (10s)	14	77.78	14	77.78
3	Repeated sprints over 80m	16	88.89	17	94.44
4	Jump training with hand touching a ball	15	83.33	15	83.33
5	Continuous step jumps 30 - 40cm	17	94.44	18	100.00
6	Squats with barbell load (standing up and sitting down)	15	83.33	16	88.89
7	Frog jumps	17	94.44	18	100.00
8	Frog Jumps 18m x 2 repetitions	8	44.44	9	50.00
9	Pull-ups on horizontal bar combined with knee-to-chest sit-ups	16	88.89	17	94.44
10	One-leg squats (20 repetitions)	13	72.22	13	72.22
11	Supine sit-ups	17	94.44	17	94.44
12	Prone push-ups	15	83.33	16	88.89
13	Run over 800m, 1500m, or 2000m	16	88.89	16	88.89
14	High knee run transitioning to 20m acceleration run	8	44.44	9	50.00
15	Two-foot hops	15	83.33	16	88.89
16	Heel kicks run (20m)	13	72.22	13	72.22
17	Leg swing kicks	15	83.33	16	88.89
18	5-minute distance run (test)	13	72.22	13	72.22
19	Variable speed run over 400m - 600m	14	77.78	15	83.33
20	Ball snatching game	14	77.78	15	83.33
21	50m warm-up run	13	72.22	13	72.22
22	Prone back extension (20 seconds)	8	44.44	9	50.00
23	Zigzag Run around Cones	8	44.44	9	50.00
24	Skipping / Jump Rope	16	88.89	17	94.44
25	Squat Thrust / Burpee (30s)	13	72.22	13	72.22
26	20m Zigzag Run	10	55.55	12	66.67
27	Wheelbarrow Push	8	44.44	9	50.00
28	Ball Rolling Relay	10	55.55	12	66.67
29	Standing Trunk Flexion	13	72.22	13	72.22

experts, indicating its suitability and feasibility for application in university physical education classes.⁴ The results of the expert consultation are presented in Table 3, which shows that 16 GPD exercises met the selection criteria and were included in the experimental training program. These exercises were designed to improve key physical qualities, including strength, speed, endurance, and coordination.

3.3. Evaluation of the Effectiveness of the GPD Exercise System

Before the experimental intervention, the physical fitness levels of the Experimental Group (EG) and the Control Group (CG) were compared to ensure the baseline equivalence between the

Table 4. Comparison of Physical Fitness Between the Experimental Group and Control Group Before the Experiment (n_{EG} = 32, n_{CG} = 32)

No.	Test	Gr.	Test Result ($\bar{x} \pm SD$)	Cv (%)	t _{calculated}	p
1	Dominant Hand Grip Strength (kg)	CG	42.18 ± 4.45	10.55	0.30	> 0.05
		EG	41.87 ± 4.50	10.76		
2	Standing Long Jump (cm)	CG	197.56 ± 10.18	5.15	0.51	> 0.05
		EG	198.91 ± 10.79	5.42		
3	30 m Sprint from High Start (s)	CG	4.94 ± 0.12	2.51	0.82	> 0.05
		EG	4.90 ± 0.21	4.34		
4	5-minute Maximum Effort Run (m)	CG	920.31 ± 64.39	6.99	0.33	> 0.05
		EG	915.00 ± 62.69	6.85		

two groups. The results are presented in Table 4.

After the four-month experimental period, the physical fitness of both the Experimental Group (EG) and the Control Group (CG) was reassessed using the same testing procedures. The results of the post-experimental comparison between the two groups are presented in Table 5.

Table 5. Comparison of Physical Fitness Results Between the Experimental Group and Control Group After the Experiment (n = 64)

TT	Test	Group	Test result (n _{EG} = 32, n _{CG} = 32)			
			($\bar{x} \pm \sigma$)	C _v %	t _{calculated}	p
1	Dominant Hand Grip Strength (kg)	CG	47.68 ± 3.35	7.03	4.63	< 0,05
		EG	47.9 ± 3.19	6.66		
2	Standing Long Jump (cm)	CG	223.19 ± 9.59	4.31	3.48	< 0,05
		EG	231.92 ± 9.72	4.91		
3	30m Sprint from High Start (s)	CG	4.87 ± 0.11	2.47	2.57	< 0,05
		EG	4.82 ± 0.17	3.37		
4	5-minute Maximum Effort Run (m)	CG	1014.88 ± 55.45	5.46	5.67	< 0,05
		EG	1123.59 ± 62.03	5.52		

The data indicate that the Experimental Group achieved better results than the Control Group across all four physical fitness indicators. Specifically, the mean value of dominant hand grip strength in the Experimental Group was 47.9 ± 3.19 kg, slightly higher than that of the Control Group (47.68 ± 3.35 kg). In the standing long jump, the Experimental Group recorded a mean distance of 231.92 ± 9.72 cm, which was considerably greater than the 223.19 ± 9.59 cm

achieved by the Control Group, indicating a notable improvement in explosive leg strength.

Similarly, the 30 m sprint performance of the Experimental Group (4.82 ± 0.17 s) was better than that of the Control Group (4.87 ± 0.11 s), demonstrating improved students' speed performance. The most significant improvement was observed in the 5-minute maximum effort run, where the Experimental Group achieved an average distance of 1123.59 ± 62.03 m, while the Control Group reached 1014.88 ± 55.45 m, reflecting a substantial enhancement in cardiorespiratory endurance.

Statistical analysis shows that the differences between the two groups were statistically significant across all four tests ($t = 2.57-5.67$, $p < 0.05$). In addition, the coefficients of variation (Cv%) for both groups remained below 10%, indicating relatively homogeneous performance among the participants.

Further analysis of the results according to the MOET physical fitness classification standards is presented in Table 6. The data reveal a clear improvement in students' physical fitness after the experimental intervention.

Table 6. *Changes in Physical Fitness Classification According to MOET Standards Before and After the Experiment*

No	Test	Initial GPD Status			GPD Status after 4 Months		
		Good	Satisfactory	Fail	Good	Satisfactory	Fail
1	Dominant Hand Grip Strength (kg)	22.22%	48.15%	29.63%	73.43%	21.87%	4.68%
2	Standing Long Jump (cm)	11.10%	44.46%	44.44%	28.12%	56.25%	15.62%
3	30m Sprint from High Start (s)	21.48%	71.11%	7.41%	21.87%	70.31%	7.81%
4	5-minute Maximum Effort Run (m)	0%	8.89%	91.11%	10.93%	57.81%	15.62%
Average Rate (%)		13.7%	43.15%	43.14%	33.59%	51.56%	10.93%

In particular, the proportion of students classified as **Good** increased significantly in several indicators. For example, the percentage of students achieving the Good level in dominant hand grip strength increased from 22.22% to 73.43%, while the Fail rate decreased sharply from 29.63% to 4.68%. A similar trend was observed in the standing long jump, where the proportion of students classified as Good increased from 11.10% to 28.12%, and the Fail rate decreased from 44.44% to 15.62%.

The most remarkable improvement occurred in the 5-minute maximum effort run, which initially showed the weakest performance among the students. After the experiment, the Fail rate decreased dramatically from 91.11% to 15.62%, while the proportions of students achieving

Satisfactory and Good classifications increased accordingly.

Overall, the average classification results demonstrate a substantial improvement in students' physical fitness levels. The proportion of students classified as Good increased from 13.7% to 33.59%, while the Fail rate decreased significantly from 43.14% to 10.93%. These findings provide strong evidence that integrating the selected GPD exercise system into regular physical education sessions can significantly improve the overall physical fitness of university students.

3.4. Discussion

The results of the pedagogical experiment demonstrate that the integration of the selected General Physical Development (GPD) exercise system significantly improved the physical fitness of second-year non-PE male students at Quy Nhon University. The Experimental Group showed better performance than the Control Group in all four physical fitness indicators, including grip strength, standing long jump, 30 m sprint, and the 5-minute maximum effort run.

The most notable improvement was observed in cardiorespiratory endurance, as reflected by the results of the 5-minute run test. Prior to the intervention, a large proportion of students failed to meet the MOET standards for this indicator. However, after four months of training, the proportion of students achieving satisfactory and good classifications increased substantially. This improvement may be attributed to the inclusion of endurance-oriented exercises in the GPD training program, which helped enhance students' aerobic capacity and overall physical work capacity.

Similarly, improvements in explosive strength and muscular strength were observed through the standing long jump and grip strength tests. These improvements indicate that the selected exercises were effective in stimulating neuromuscular adaptation and strengthening major muscle groups involved in physical activity. Such results are consistent with previous studies indicating that systematic physical training programs can significantly enhance students' physical fitness levels when integrated into regular physical education classes (Kovalenko & Laptieva, 2025).

Another important finding is the improvement in the overall distribution of physical fitness classifications according to MOET standards. After the experimental period,

the proportion of students classified as “Good” increased significantly, while the failure rate decreased markedly. This shift in classification demonstrates that the structured GPD exercise system contributed not only to improving average performance levels but also to enhancing the overall physical fitness profile of the student population.

From a practical perspective, the results suggest that integrating structured GPD exercises into the regular PE curriculum is both feasible and effective in improving students’ physical fitness. Since the exercises were implemented within the existing lesson structure—specifically during the final 20–25 minutes of the main training phase—they did not interfere with the teaching of sport techniques while still providing meaningful physical training stimulus.

Overall, the findings of this study support the importance of incorporating systematic general physical development exercises into university physical education programs, particularly for non-PE majors whose opportunities for structured physical training may be limited.

Despite the positive findings, this study has several limitations. The sample size was limited to male students from a single university, which may restrict the generalizability of the results. Future research should include a larger and more diverse sample and investigate the long-term effects of General Physical Development training programs in university Physical Education.

4. CONCLUSION

The study successfully developed and implemented a system of 16 General Physical Development (GPD) exercises suitable for second-year non-Physical Education male students at Quy Nhon University. The results of the four-month pedagogical experiment demonstrate that integrating these exercises into regular Physical Education classes significantly improved students’ physical fitness, particularly in terms of strength, speed, and cardiorespiratory

endurance. Statistical analysis showed that the experimental group achieved significantly better results than the control group across all four indicators ($p < 0.05$). In addition, the classification of students’ physical fitness according to MOET standards improved markedly, with a substantial increase in the proportion of students classified as “Good” and a significant reduction in the failure rate. These findings suggest that incorporating structured GPD exercises into university Physical Education programs can effectively enhance students’ overall physical fitness.

REFERENCES

1. Nguyễn Toán, Phạm Danh Tôn. *Lý Luận và Phương Pháp Thể Dục Thể Thao*. Nhà xuất bản Thể dục Thể thao; 2006.
2. Lê Văn Lãm, Phạm Xuân Thành. *Giáo Trình Thể Dục Thể Thao Trường Học*. Nxb Thể dục Thể thao; 2008.
3. Nguyễn AT, Vũ TH, Phạm TL. Evaluation of Physical Education Curriculum for Non-Sports Major Students in Universities: An Empirical Survey. *Glob Acad J Humanit Soc Sci*. 2024;6(8):293-300.
4. Kovalenko I, Laptieva O. The Effects of an Integrated Physical Education Program on Enhancing University Students’ Physical Fitness: A Randomized Controlled Trial. *Pol J Sport Tour*. 2025;32(3):40-47.
5. Trương Hồng Long. *Nghiên Cứu Xây Dựng Chuẩn Đánh Giá Sự Phát Triển Thể Lực Cho Sinh Viên Trường Đại Học Quy Nhơn*. Luận văn Thạc sĩ. Trường Đại học Thể dục Thể thao TP. Hồ Chí Minh; 2005.
6. Nguyễn Xuân Sinh, Lê Văn Lãm, Phạm Ngọc Viễn, Lê Quang Hiệp. *Giáo Trình Phương Pháp Nghiên Cứu Khoa Học Thể Dục Thể Thao*. Nhà xuất bản Thể dục Thể thao; 1999.
7. Lê Trọng Thê. *Nghiên Cứu Lựa Chọn Bài Tập Chuyên Môn Phát Triển Thể Chất Cho Học Viên Năm Thứ Nhất Học Viện Hải Quân Nha Trang*. Luận văn Thạc sĩ. Trường Đại học Thể dục Thể thao TP. Hồ Chí Minh; 2020.
8. Hoeger WWK, Hoeger SA. *Principles and Labs for Physical Fitness (9th Ed.)*. Cengage Learning; 2014.
9. Bompa TO, Haff GG. *Periodization: Theory and Methodology of Training (5th Ed.)*. Human Kinetics; 2009.