

# SELECT THE PROFESSIONAL PHYSICAL-DEVELOPING EXERCISE IN ORDER TO IMPROVE ARCHIVEMENTS FOR 1500M FEMALE RUNNERS AND 3000M MALE RUNNERS AT TAY NGUYEN UNIVERSITY

Tran Van Hung<sup>(1)</sup>

## Abstract:

Based on the assessment of current situation and appropriate scientific research methods, the topic has selected 3 groups with 17 exercises to develop professional physicality for 1500m female runners and 3000m male runners. The 4-week experimental process has proven effectiveness of the exercises; and through it, the running achievement will be improved.

**Keywords:** Exercise selection, professional physicality, 1500m run, 3000m run, Tay Nguyen University

## INTRODUCTION

1500m and 3000m run are the competitive contents that require athletes to have good professional strength to be able to overcome the state of "peak" to maintain high speed over entire distance, thereby shorten the running and improve the result. Tay Nguyen University is a university having a strong physical training and sport movement, regularly participating in competitions and achieving high rankings in regional tournaments, including Athletics. However, while surveying the training exercises of 1500m female running and 3000m male running for selected running team at Tay Nguyen University, the exercises used in training still have certain limitations leading to inefficiency in training and competition. Therefore, it is necessary to select suitable exercises and practically apply to improve the achievement of 1500m and 3000m running team at Tay Nguyen University.

## RESEARCH METHODS

The methods used in the research process include: document analysis and synthesis, seminar-interview method, pedagogical experiment method, statistical mathematical method.

## RESULTS AND DISCUSSION

### 1. Select professional physical exercises to improve achievements for 1500m female running and 3000m male running team at Tay Nguyen University

Based on the principles of selecting exercises, material reference and interview of 20 experts and coaches, 17 exercises are selected and divided into 3 groups:

#### Group of exercises for developing athlete's endurance (5 exercises):

Exercise 1: Leapfrog jumps, 10 times consecutively, 2 turns x 4 times/turn, 2-3 breaks, 3-5 mins/ turn.

Exercise 2: Weightlifting, 20kg, 20 times x 3 turn, 3-5 mins/break/turn.

Exercise 3: 100m butt-kicking running, 5 breaks x 2-3 min/break.

Exercise 4: Weightlifting and butt-kicking running, 15kg x 50m x 5 turns, 5 - 7 mins/break/ turn.

Exercise 5: Running and pulling heavy objects, 10kg x 100m x 3-5 turns, 5-8 mins / break.

#### Group of exercises for developing athlete's speed (5 exercises):

Exercise 6: Fast-start running, 4 times x 100m, 10 mins/break.

Exercise 7: 200m repeat running, 3 times, 5-6 mins/break (85 - 90% maximum intensity)

(1) Master, Tay Nguyen University; Gmail: hungtvh0979@yahoo.com

Exercise 8: 100m repeat running, 5 times, 3-4 mins/ break (80-85% of maximum intensity).

Exercise 9: Slow-start running (80 + 100 + 80m), 2 turns, 7 - 9 mins/ break/turn.

Exercise 10: High-speed running (60 + 80 + 100m), 2 turns, 6-8 mins/ break.

**Group of exercises for developing athlete’s professional endurance (7 exercises):**

Exercise 11: Mixed running (200 + 400 + 600m) x 2 turns (85 - 90% of maximum intensity), 7 - 9 breaks/turn, 5 –7 mins/ break.

Exercise 12: 1500m & 3000m repeat running, 2 times (100% of the maximum intensity), 15-18 mins/break.

Exercise 13: 400m repeat running, 5 times (90 - 95% of the maximum intensity) 7 - 9 minutes / break.

Exercise 14: Repeat running (400 + 600 + 400m), 2 turns x 10 mins (85-95% of maximum

intensity), 5-7 breaks. Exercise 15: Fell running, 4 - 6km, pulse 160 – 180 bpm.

Exercise 16: 800m repeat running, 6 times (75-80% maximum intensity), 8-10 mins / break.

Exercise 17: 800 + 600 + 400m running (80 - 85% of maximum intensity), 5 - 3 mins/ break.

**2. Evaluating the application-efficiency of professional fitness exercises for 1500m female runner and 3000m male runner at Tay Nguyen University**

To evaluate the effectiveness of the selected exercises, the project conducted a 4-week experimental process with 20 athletes including 10 1500m-running female athletes and 10 3000m-running male athletes. In each content, the athletes are divided into 2 experiment and control groups, each group of 5 athletes.

Experiment group (EG): Training according to the content that the topic chooses.

**Table 1. Comparison of professional physicality of two groups in 1500m female running team at Tay Nguyen University before experiment (EG= CG= 5)**

Result	Testing aspects							
	10 continuous leapfrog jumps (m)		400m running (s)		800m running (min)		1500m running (min)	
	EG	CG	EG	CG	EG	CG	EG	CG
x	19.12	19.19	71.97	71.86	2.46	2.45	5.4	5.31
± δ	0.78	0.09	0.12	0.47	1.39	1.08	0.12	0.09
t <sub>calculate</sub>	0.19		0.51		1.27		0.74	
t <sub>table</sub>	2.306							
P	> 0.05							

**Table 2. Comparison of professional physicality of two groups in 3000m male running team at Tay Nguyen University before experiment (EG= CG= 5)**

Result	Testing aspects							
	10 continuous leapfrog jumps (m)		400m running (s)		800m running (min)		1500m running (min)	
	EG	CG	EG	CG	EG	CG	EG	CG
x	23.44	23.47	62.65	62.59	2.21	2.19	10.11	10.08
± δ	0.09	0.54	0.06	0.02	2.18	1.37	0.17	0.34
t <sub>calculate</sub>	0.13		0.37		1.73		0.29	
t <sub>table</sub>	2.306							
P	> 0.05							

Control group (CG): Training according to the normal program.

Before entering the experiment, the research conducted professional physicality testing of athletes according to the test selected in the research's previous stage. Pre-experiment test result is presented in Tables 1 and 2.

Comparison the results obtained in Table 1 and Table 2 shows that the test results between experimental and control groups of female & male runners, indicates the same results. There is no significant difference at probability threshold  $P > 0.05$ . Thus, before the experiment, the endurance, speed and achievement of 1500m female runners and 3000m male runner in both experiment and control groups are similar.

After 4 weeks of training, the research will conduct assessment and compare assessment results between groups according to the tests used in pre-experimental period. After-experiment testing result is presented in Tables 3 and 4.

Comparing the after- experiment results, in terms of 1500m female running in Table 3 shows that: In all 4 tests, the test results of the experiment group are higher than the control group, the difference was statistical significance at probability threshold  $P < 0.05$ . It proves that the project-selected exercises are effective and have improved the speed and endurance for athletes in experimental group. Therefore, the achievement of 1500m female runners in the experimental group has been improved and different from the control group.

Comparing the after- experiment results, in terms of 300m male running in Table 4 shows that: In all 4 tests, the test results of the experiment group are higher than the control group, the difference was statistical significance at probability threshold  $P < 0.05$ . It proves that the project-selected exercises are effective and have improved the speed and endurance for athletes in experimental group. Therefore, the achievement of 3000m male runners in the

**Table 3. Comparison of professional physicality of two groups in 1500m female running team at Tay Nguyen University after experiment (EG= CG= 5)**

Result	Testing aspects							
	10 continious leapfrog jumps (m)		400m running (s)		800m running (min)		1500m running (min)	
	EG	CG	EG	CG	EG	CG	EG	CG
$\bar{x}$	19.75	19.27	70.84	71.68	2.4	2.43	5.16	5.27
$\pm \delta$	0.35	0.13	0.74	0.19	1.27	1.58	0.05	0.14
$t_{calculate}$	2.87		2.45		3.31		2.77	
$t_{table}$	2.306							
P	< 0.05							

**Table 4. Comparison of professional physicality of two groups in 3000m male running team at Tay Nguyen University after experiment (EG= CG= 5)**

Result	Testing aspects							
	10 continious leapfrog jumps (m)		400m running (s)		800m running (min)		1500m running (min)	
	EG	CG	EG	CG	EG	CG	EG	CG
$\bar{x}$	24.11	23.58	61.49	62.34	2.14	2.18	9.4	10.01
$\pm \delta$	0.29	0.11	0.68	0.27	1.39	2.17	0.21	0.19
$t_{calculate}$	3.82		2.59		2.91		2.76	
$t_{table}$	2.306							
P	< 0.05							



**Along with the strong development of modern sports, fell running - a long-standing sport is also growing strongly among Vietnamese students  
(photo source: <http://dnbt.edu.vn>)**

experimental group has been improved and different from the control group.

### **CONCLUSION**

Through appropriate scientific research methods, the research has selected 3 groups with 17 exercises to develop professional physicality for 1500m female runner and 3000m male runner at Tay Nguyen University, specifically:

+ Group of exercises for developing athlete's endurance (5 exercises)

+ Group of exercises for developing athlete's speed (5 exercises)

+ Group of exercises for developing athlete's professional endurance (7 exercises)

The experiment process has proved the effectiveness of the project-selected exercises in improving professional physicality; thereby improving the achievement for 1500m female runners and 3000m male runners. Evaluation results ensure necessary statistical reliability at probability threshold  $P < 0.05$ .

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