



RESEARCH ON EXERCISES TO DEVELOP PROFESSIONAL PHYSICAL STRENGTH FOR MALE STUDENTS OF VOVINAM TEAM AT HO CHI MINH CITY UNIVERSITY OF SPORTS, VIETNAM

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Abstract:

On the basis of synthesizing and analyzing the opinions and knowledge of experts, building exercises to develop professional fitness for male Vovinam students in the HCM City University of Sports team. The research has synthesized 27 exercises to develop strength of mind, including 7 supplementary exercises, 5 arm exercises, 9 leg exercises and 6 continuous exercises to be included in the training program in the 2020-2021 school year. The results after 1 year of the experiment showed that the exercises to develop mental strength for male Vovinam students increased.

Keywords: professional fitness, male students, Vovinam, exercises, HCMC University of Sports

1. Introduction

At Ho Chi Minh City University of Sports, Vovinam is a new subject introduced into the intensive curriculum from the 32 regular university courses with both physical education and sports training majors in 2009, but was loved by many students and participated in the practice. The Vovinam team of students from Ho Chi Minh City University of Sports established in 2018 competed in 2 consecutive national student competitions in 2018 and 2019, both of which reached the top. Vovinam competes in a rolling format in 1 day, solving all the competition content from the qualifying round to the final for the highest medal, so it requires physical strength to ensure throughout unlike the martial arts that compete in rounds everyday. That is the reason for choosing the research: "Research on exercises to develop professional physical strength for male students of Vovinam team at Ho Chi Minh City University of Sports".

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2. Materials and method

In the process of researching the topic, the following methods are used: method of synthesis and analysis of documents; survey interview method; methods of pedagogical examination; methods of pedagogical experimental testing; statistical methods.

3. Results and discussion

3.1 Select exercises in consultation with experts

Based on the general analysis of documents theory and methods of physical education, consulting the experience of martial arts experts as well as Vovinam, 31 exercises have been screened and selected for professional physical development. These exercises are included in the questionnaires to consult with experts.

Interviewees are researchers, coaches, lecturers with university and postgraduate qualifications, and martial arts masters nationwide. Some subjects have college qualifications or have a coach's degree, but have been training and teaching Vovinam for more than 5 years. The interview results are presented in Table 1.

Table 1: Interview results on a selection of professional fitness development exercises for male athletes of Vovinam team at HCMC University of Sports

No	Exercises	Rating level			
		First time		2 nd time	
		Score	Percentage	Score	Percentage
Complementary exercises (11 exercises)					
1	Run 30m	28	78%	30	83%
2	Run 60m	23	64%	22	61%
3	Run 100m	23	64%	23	64%
4	Run 400m	24	67%	22	61%
5	Lie on your stomach and do 30 push-ups at an increasing rate	34	94%	31	86%
6	Go handcuffs 10m	32	89%	30	83%
7	Hugging someone to move 10m	22	61%	24	67%
8	Carrying people to move 10m	31	86%	32	89%
9	Jump to move 15m (make 4 groups, each group rest moves slowly to the starting line)	30	83%	33	92%
10	Running stairs 15m	32	89%	33	92%
11	Jumping to raise the knee – lying on your stomach and doing 30 push-ups	33	92%	34	94%
Hand swing exercises (5 exercises)					
12	Punch the target straight first for 30s	28	78%	34	94%
13	Straight punch with both hands continuously for 30s	30	83%	30	83%
14	Hook punch with 2 hands continuously for 30s	31	86%	34	94%
15	Free wind punch for 1 minute	23	64%	24	67%
16	Straight punch with 2 hands continuously with elastic band for 1 minute	32	89%	34	94%
Leg swing exercises (9 exercises)					
17	Kick the shuttlecock in place for 30s	34	94%	28	78%
18	Kick the ball with 2 legs continuously at the target for 30s	33	92%	29	81%

19	Kick the shuttlecock with an elastic band for 30s	34	94%	30	83%
20	Surfing the shuttlecock the front foot to the target for 30s	29	81%	33	92%
21	Surfing the shuttlecock with 2 feet to the sides, a distance of 3m for 30s	33	92%	35	97%
22	Pedal across the front foot to the target for 30s	29	81%	32	89%
23	Glide sideways pedaling to the sides, a distance of 3m for 30s	32	89%	29	81%
24	Kicking straight for 30s	31	86%	30	83%
25	Kick the shuttlecock in place with 2 feet continuously at the target for 30s	28	78%	29	81%
Combined exercises, continuous (6 exercises)					
26	Front foot cross – kick back foot on target for 30s	31	86%	33	92%
27	Back leg kick – straight punches with 2 hands continuously at the target for 1 minute	30	83%	32	89%
28	Back foot kick – swing to hit target for 30s	30	83%	31	86%
29	Punch and kick bags in 1 minute	34	94%	28	78%
30	Back foot counterattack for 2 minutes	32	89%	28	78%
31	Back foot counterattack – Punch back fist for 2 minutes	34	94%	30	83%

The study conducted Wilcoxon test to ensure agreement between the two interviews. The test results are presented in Table 2 below.

Table 2: Wilcoxon test results between 2 interviews
for professional fitness development exercises

Test Statistics ^b	Interview for the 2nd assignment - Interview for the 1st exercise
Z	-0.988 ^a
Asymp. Sig. (2-tailed)	.532
a. Based on negative ranks.	
b. Wilcoxon Signed Ranks Test	

Hypothesis H₀: The mean values of the two populations are the same.

From the above results, we see that the observed significance level of the test between the two test interviews is sig. = 0.532 > 0.05 (threshold of statistical significance at P = 0.05). Therefore, we accept the hypothesis H₀. Conclusion: according to Wilcoxon test, there is a coincidence and stability between the two interviews.

Research on the convention of choosing exercises that are selected by the majority of votes with more than 75% of the maximum total score, are selected as exercises to develop professional physical strength for male athletes from the Vovinam team at the Ho Chi Minh City University of Sports. Therefore, through a practical survey in the form of an interview, only 27 exercises are eligible to be selected for experimental application (these are bolded in Table 1).

2.2. Experimental organization

The plan to apply exercises to develop professional fitness for male athletes of the Vovinam team at the Ho Chi Minh City University of Sport is built based on the timetable for the 2020-2021 school year with 2 phases:

Semester 1: from the beginning of November 2020 to December 2020;

Semester 2: from the beginning of March 2021 to May 2021.

Before the experiment, a requirement was to conduct grouping so that the results between the two groups were relatively equal. The calculated results show the results before the experiment.

Regarding the method of performing the exercises, because the main feature of improving professional fitness in Vovinam is the high anaerobic capacity of the body, so the exercises must be applied according to the following methods:

Approximate exercise intensity, i.e. about 90-95% of the maximum speed at the respective distances used. After a number of repetitions, the absolute speed stat may decrease a bit, but is still considered an approximation of the maximum speed in the then-existing state of the body.

The time for each repetition can be from 20s to 2 minutes. The up-rest distance decreases gradually after each repetition. For example, between the first and the second, take a break of 5-8 minutes; between the second and third times, take a break of 3-4 minutes; between the third and fourth times, rest for 2-3 minutes.

Through the analysis and synthesis of general principles and bases to build a general physical training program as well as a system of exercises and necessary qualities have been identified, studied, built and put into practice. experience the physical development program according to each stage of the school year.

2.3. Evaluating the effectiveness of professional fitness development exercises for male Vovinam students has been applied experimentally

2.3.1. Comparison of professional fitness of the 2 groups before the experiment

The results of the pre-experiment physical fitness test between the control and experimental groups are shown in Table 3:

Table 3: Physical fitness between experimental and control groups before the experiment

No	Test	Experimental			Control			t	P
		\bar{x}_{TN}	Σ_{TN}	Cv%	\bar{x}_{DC}	Σ_{DC}	Cv%		
1	Punch the target straight first for 30s	21.1	1.9	9.1	21.0	2.0	9.5	0.114	> 0.05
2	Hook punch with both hands continuously for 10s	19.0	2.4	12.7	19.0	2.1	10.8	0	> 0.05
3	Kick the shuttlecock back foot on target for 10s	16.1	1.1	6.8	15.4	1.2	7.6	1.376	> 0.05
4	Glide sideways pedaling to the sides, a distance of 3m for 30s	13.9	1.7	12.0	14.1	1.9	13.6	0.25	> 0.05
5	Pedal across the front foot to the target for 10s	15.3	1.2	7.6	15.8	1.4	8.9	0.87	> 0.05
6	Surfing the shuttlecock the front foot kick back foot to the target for 30s	15.4	1.3	8.2	14.7	1.3	8.5	1.244	> 0.05
7	Back leg kick – straight punches with 2 hands	17.9	2.0	11.0	17.3	2.2	12.5	0.649	> 0.05

	continuously at the target for 30s.								
8	Back kick – rotate to hit the target 30s.	18.9	2.0	10.4	18.4	1.8	9.7	0.596	> 0.05

The results of the comparison of pre-experiment professional fitness between the two experimental and control groups showed that in 8/8 tests, all of them were statistically significant ($t = 0 - 1.37$), showing that the difference was not statistically significant. with probability threshold $P > 0.05$.

2.3.2. Comparison of TLM of 2 groups after the experiment

Test results are presented in Table 4.

Table 4: Comparison of professional fitness between experimental and control groups after the experiment

No	Test	Experimental group			Control group			t	P
		\bar{x}_{TN}	σ_{TN}	Cv%	\bar{x}_{DC}	σ_{DC}	Cv%		
1	Punch the target straight first for 30s	23.1	2.4	10.5	21.5	2.7	12.6	1.389	> 0.05
2	Hook punch with both hands continuously for 10s	20.3	3.0	14.9	19.0	2.6	13.8	1.027	> 0.05
3	Kick the shuttlecock back foot on target for 10s	17.5	1.3	7.3	15.9	1.7	10.9	2.359	< 0.05
4	Glide sideways pedaling to the sides, a distance of 3m for 30s	17.2	2.1	12.5	15.2	1.9	12.7	2.188	< 0.05
5	Pedal across the front foot to the target for 10s	17.3	1.5	8.6	17.1	1.5	8.9	0.296	> 0.05
6	Surfing the shuttlecock the front foot kick-back foot to the target for 30s	19.5	2.2	11.4	15.1	1.1	7.3	5.608	< 0.05
7	Back leg kick – straight punches with 2 hands continuously at the target for 30s.	21.0	2.2	10.3	18.3	2.2	11.8	2.793	< 0.05
8	Back kick – rotate to hit the target 30s.	21.9	1.8	8.2	19.9	2.0	10.2	2.339	< 0.05

Compared with before the experiment, between the experimental group and the control group with similar professional fitness, there was no statistically significant difference in 8/8 tests; after the experiment, the professional fitness of the experimental group was better than the control group and there was a statistically significant difference in 5/8 tests.

4. Conclusion

Through the research process, 27 exercises have been synthesized, including 7 complementary exercises, 5 arm exercises, 9 leg exercises and 6 consecutive exercises included in the training program during the school year 2020-2021.

The results after 1 year of the experiment showed that the exercises to develop mental strength for male Vovinam students on the Ho Chi Minh City University of Sports in increased, the highest in 30s tests at the probability threshold $P > 0.05$; This is consistent with the law of development of sports performance, because tests with a too short execution time will hardly have a great growth compared to tests performed for a longer time.

From 8/8 tests there was no difference before the experiment, over 2 experimental semesters, there were 5/8 tests with a statistically significant difference at the probability threshold $P < 0.05$.

Conflict of Interest Statement

We have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

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