

# CHOOSING EXERCISES TO DEVELOP THE SPEED STRENGTH FOR THE MALE BASKETBALL TEAM ATHLETES OF THE UNIVERSITY OF ECONOMICS - THE UNIVERSITY OF DANANG

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## Abstract:

Using scientific research methods such as reference method, observation method, sociological survey, direct interview and statistical mathematics, the study has selected 11 exercises to develop speed strength and 3 tests to assess speed strength for male basketball team athletes of University of Economics – the University of Danang.

**Keywords:** Exercise, speed strength, basketball, athlete, University of Economics, University of Danang.

## INTRODUCTION

Sports includes many diverse subjects, of which basketball is a popular and widely developed sport in the world. Although basketball was introduced into Vietnam relatively late (in 1930), there were also relatively clear advancing steps and attracted a large number of people in the society. Training and competing basketball have effects of developing qualities for the practitioners such as: Speed, strength, endurance, ingenuity, smart and flexible will. In addition to practicing and playing basketball, it is also a basic subject to develop physical strength for other subjects, so the capacity of speed strength is very important for basketball athletes.

University of Economics - University of Danang (DUE - UDN) is one of the universities with a strongly developed sports movement with many sports such as Basketball, Soccer, Volleyball, Badminton...In which, Basketball is a favorite sport of many students who participate in practice and competition. In order to help the athletes of the basketball team of DUE - UDN have good physical strength, meet the needs of training and competition, and at the same time train to improve the speed to meet the competition tasks, we conducted researching and selecting exercises to develop the speed strength for the male basketball team athletes of DUE - UDN.

## RESEARCH METHODS

The research process uses methods: method of referencing materials, interview method, sociological investigation method, statistical mathematics method.

## RESULTS AND DISCUSSION

**1. Choosing exercises and tests to assess the speed strength for male basketball team athletes of DUE - UDN**

**1.1. Selecting speed strength exercises for male athletes of the basketball team of DUE - UDN**

To be able to choose exercises to develop the speed strength for the male basketball team athletes of DUE - UDN, we proceed with 3 steps: Choose through reference materials, pedagogical observations; Choose through direct interviews with experts, lecturers and coaches; Choose through extensive interviews with questionnaires. The results are presented in Table 1.

The table 1 shows that: Through 3 research steps, we selected 11 exercises that were highly appreciated by experts, coaches, and lecturers, and achieved over 70% of the total number of approvals. Exercises include 3 groups:

***Group I: Exercises without ball***

1. Push-up 20s
2. Carry 10kg barbell stand up and sit down for 15s
3. High jump reach board for 20s

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**Table 1. Choosing speed strength development exercises for male basketball team athletes at University of Economics - The University of Danang (n = 20)**

No	Exercises content	Number of people agreed	Ratio %
<b>Group 1: Exercises without ball</b>			
1	Push-up 20s	19	95.00
2	Step platform jumping for 30s	12	60.00
3	30m speed running	14	70.00
4	2kg single-dumbbell exercise in 15s	9	45.00
5	Carry barbell stand up and sit down for 15s	16	80.00
6	High jump reach board for 20s	20	100.00
<b>Group 2: Exercises with ball</b>			
1	On the spot pass the ball with one hand high above	12	60.00
2	Figure 8 dribble lay-up 5 times	19	95.00
3	20m speed dribble	15	75.00
4	Jump and shoot at average distance	17	85.00
5	Breakthrough to the right(left) jump and shoot exercise	17	85.00
6	Quick counter-attack	20	100.00
7	Push the ball to the box on the wall with 2 hands continuously in 30s	13	65.00
8	2 people move, pass the ball and shoot	13	65.00
<b>Group 3: Games and competition exercises</b>			
1	1x1 half court competition exercise	19	95.00
2	Play Centre Catch with hands	12	60.00
3	3x3 full court competition exercise	16	80.00
4	Relay dribble, jump and shoot	19	95.00

**Group II: Exercises combining with balls**

1. Figure 8 dribble lay-up 5 times
2. 20m speed dribble
3. Jump and shoot at average distance
4. Breakthrough to the right(left) jump and shoot exercise
5. Quick counter-attack

**Group III: Games and competition exercises**

1. 1x1 half court competition exercise
2. 3x3 full court competition exercise
3. Relay dribble, jump and shoot

**1.2. Selecting the tests to assess the speed strength of the male basketball team athletes at DUE – UDN**

In order to get the speed strength tests, we have observed and referenced the Tests of other Basketball teams to assess the level of the athletes.

For reliable results, we interviewed Basketball experts, teachers, and coaches. The interview results are presented in detail in Table 2.

Through the study, 3 reliable tests were selected with the ratio of coaches, experts, lecturers choosing over 80% to evaluate the speed strength of the male basketball team athletes of DUE - UDN: Test 1: Figure 8 dribble lay-up 5 times (s) (s); Test 2: Push-up 20s (times); Test 3: High jump reach board (cm)

**2. Applying and evaluating the effectiveness of the speed strength development exercises for male basketball team athletes at DUE - UDN**

**2.1. Organizing experiment**

To test the effectiveness of the above exercises, we applied the selected exercises into

**Table 2. The results of the interview to select the speed strength tests for male basketball team athletes at University of Economics - University of Danang (n = 20)**

No	Interview content	Evaluation	
		Number of people agreed	Ratio %
1	30m running (s)	10	50.00
2	On the spot pass the ball with one hand high above (m)	12	60.00
3	Figure 8 dribble lay-up 5 times (s)	20	100.00
4	Push-up 20s (times)	16	80.00
5	Hang on stall bars, crunches 30s (times)	14	70.00
6	High jump reach board (cm)	19	95.00
7	Jump and shoot from 6 positions in 20s (times)	15	75.00

the experimental process. The experimental subjects were 24 athletes of the male basketball team of DUE - UDN. We divided 24 athletes into 2 groups: Experimental group: 12 athletes; Control group: 12 athletes. The division was conducted by random drawing method. Experimental time: We conducted experiments in a period of 15 weeks, equivalent to 30 experimental lesson plans. Experimental subjects were trained according to the lesson plans for 2 sessions a week, the time for applying the selected exercises was 30 minutes.

**Test method:** Number of times: During the experiment, the above subjects were tested before and after the experiment. The total number of test times is 2. Test contents: The selected tests.

**How to conduct experiment:** We conducted an agreed volume of experiments for both experimental and control groups. Control group: Practice exercises commonly used in the male basketball team at DUE – UDN. Experimental group: Practice speed strength development exercises that we have chosen.

## 2.2. Exercises application results

Before the experiment, we conducted testing the speed strength levels of the athletes in the experimental and control groups with speed strength tests selected. Results of speed strength tests for athletes of male basketball team at DUE - UDN see table 3.

Table 3 shows that: In the pre-experimental stage, in all 3 test cases, we obtained a value  $t_{\text{calculated}} < t_{\text{table}} = 2,101$  at  $P < 0.05$ . This means that the difference in speed strength between experimental and control groups is not statistically significant, or in other words, before experiment, the speed strength of two groups is similar.

After 15 weeks of experimenting according to the established plan, we re-tested the speed strength level of the two experimental and control groups to evaluate the effectiveness of the exercises selected. The results are presented in Table 4.

Table 4 shows that: After 15 weeks of experimenting, results of the speed strength tests of the experimental and control groups had significant differences in all tests. This is shown

**Table 3. Results of speed strength tests of the control group and the experimental group before experiment (n<sub>A</sub>=n<sub>B</sub>=12)**

No	Experimental tests	Results		Comparison		
		Experimental $\bar{x}_A$	Control $\bar{x}_B$	$\delta$	t	p
1	Figure 8 dribble lay-up 5 times (s)	29.63	29.54	0.327	0.34	<0.05
2	Push-up 20s (times)	22.7	22	3.56	0.55	<0.05
3	High jump reach board (cm)	69.89	69.4	8.34	0.37	<0.05

**Table 4. Results of speed strength tests of the control group and the experimental group after 15 weeks of experiment (n<sub>A</sub>=n<sub>B</sub>=12)**

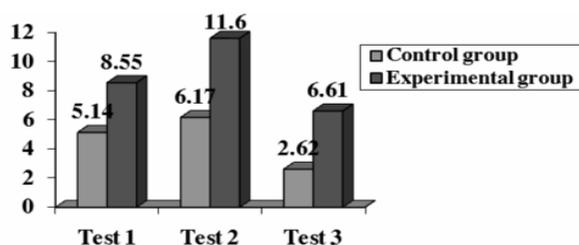
No	Experimental tests	Results		Comparison		
		Experimental $\bar{x}_A$	Control $\bar{x}_B$	$\delta$	t	p
1	Figure 8 dribble lay-up 5 times (s)	27.2	28.06	0.37	3.18	<0.05
2	Push-up 20s (times)	25.5	23.4	3.494	2.53	<0.05
3	High jump reach board (cm)	74.67	71.24	9.4	2.51	<0.05

**Table 5. Comparison of growth rates of the two experimental and control groups after 15 weeks of experiment**

No	Test contents	Group					
		Control			Experimental		
		Before experiment	After experiment	W	Before experiment	After experiment	W
1	Figure 8 dribble lay-up 5 times (s)	29.54	28.06	5.14	29.63	27.2	8.55
2	Push-up 20s (times)	22.00	23.40	6.17	22.7	25.5	11.6
3	High jump reach board (cm)	69.40	71.24	2.62	69.89	74.67	6.61

in all tests that have obtained the result  $t_{\text{calculated}} > t_{\text{table}}$  at  $P < 0.05$ .

This means that after 15 weeks of experimenting, the speed strength of the experimental group was much more developed than the control group. To better understand this difference, we calculated the achievement growth rate of the experimental and control groups after 15 weeks of experiment. Specific results are presented in table 5 and chart 1.



**Chart 1. Comparison of speed strength level growth rate of two experimental and control groups after 15 weeks of experiment**

Through table 5 and chart 1 shows: After 15 weeks of experimenting, the speed strength of both experimental and control groups showed significant growth, but the growth of the experimental group was much larger than that of the control group.

**CONCLUSION**

From the research results, it allowed us to draw some conclusions:

Through the study, 3 reliable tests were selected to evaluate the speed strength for the male basketball team of DUE - UDN.

11 exercises were selected to develop speed strength for the male basketball team at DUE - UDN. The applied exercises have shown positive effects through the speed strength evaluating tests of both groups before and after the experiment with statistical significance at probability threshold  $P < 0.05$ .

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