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## Developing standards to evaluate the physical fitness levels for male students of the volleyball team of Phu Yen University

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### Abstract

It is necessary to evaluate the physical fitness levels of male students of the Volleyball team of Phu Yen University through the training stages; the research process selected tests to assess the physical fitness levels of male students of the volleyball team of Phu Yen University, and at the same time developed evaluation standards of the selected tests for the research subjects.

**Keywords:** developing, standards, physical fitness, male students, volleyball, Phu Yen University

### 1. Introduction

**1.1 Question:** Volleyball is a widely developed sport in our country. The development trend of modern volleyball is a "all-out, all-own" style of play, namely "comprehensive, high, fast, flexible", requiring athletes the ability to adapt to a large amount of movement and high movement coordination ability for a long time. Therefore, professional physical training for volleyball students and athletes is very important and an indispensable step in the training process.

In our country, in recent years, there have also been many scientific works to develop standards for assessing the physical fitness level of athletes in different sports, including typical works of authors: Bui Huy Quang 1996; Chung Tan Phong 2000; Nguyen Kim Xuan 2001; in addition, there has been a number of authors who do research to assess the physical fitness level of volleyball athletes such as: Nguyen Thanh Lam, Phan Hong Minh, Tran Duc Phan (1997); Dinh Van Lam (1994, 1999); Nguyen Ngoc Su (2002); Pham The Vuong (2008). Derived from the training practice in the past years as well as the future orientation, in order to develop Volleyball at Phu Yen University and build a team of young athletes to compete better, we boldly researched and developed standards for evaluating the physical fitness levels for male students of the Volleyball team of Phu Yen University.

The research process used the following methods: Reference method; Interview method; Method of pedagogical examination; Mathematical statistics method.

### 2. Research Results and Discussion

#### 2.1. Selecting tests to evaluating the physical fitness levels for male students of the volleyball team of Phu Yen University

Through studying relevant documents, observing training sessions and referencing documents, we have selected 10 tests to assess the physical fitness levels of male students of the Volleyball team of Phu Yen University and conducted interviews with 25 coaches, experts, referees... in Volleyball. The results are presented in Table 1.

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**Table 1:** Selecting tests to evaluate the physical fitness levels of male students of the volleyball team of Phu Yen University Volleyball (n=25)

No.	Tests used	Interview result						Total score	%
		Very important (3 pts)		Important (2 pts)		Not important (1 pts)			
		n	score	n	score	n	score		
1	9 - 3 - 6 - 3 - 9 running (s).	9	27	5	10	11	11	48	64.0
2	Jump and reach with momentum (cm).	16	48	5	10	4	4	62	82.6
3	Vertical jump on the spot (cm).	9	27	6	12	10	10	49	65.3
4	Vertical jump with momentum on one leg (cm).	9	27	5	10	11	11	48	64.0
5	Stall bar crunches 10s (times).	13	39	5	10	7	7	56	74.6
6	Jump rope 2 minutes (times).	16	48	5	10	4	4	62	82.6
7	Pine-shaped running (s).	15	45	5	10	5	5	60	80.0
8	Front somersault combined with run-up, jump, bounce ball with 2 hands over the net (s).	16	48	5	10	4	4	62	82.6
9	Bounce ball (1 kg) far with one hand (m).	15	45	5	10	5	5	60	80.0
10	General test (times).	9	27	7	14	9	9	50	66.7

Table 1 shows that: 6 specialized tests have been selected to apply in the evaluation of the physical fitness levels of male students of the volleyball team of Phu Yen University (the majority of opinions chose tests which achieved 70% of the total score or more). At the same time, to determine the informing feature and reliability of the tests, the topic selected 06 tests above to evaluate the physical fitness levels of male students of the Volleyball team of Phu Yen University.

**2.2. Developing standards for classifying the physical fitness levels of male students of the volleyball team of Phu Yen University**

To classify the physical fitness levels, the research used the 2δ method that allows the researcher to evaluate the test results. The calculated results are presented in Table 1.

The classification results are as follows:

- Excellent  $> \bar{x} + 2\delta$
- Good  $\bar{x} + 1\delta - \bar{x} + 2\delta$
- Average  $\bar{x} - 1\delta - \bar{x} + 1\delta$
- Weak  $\bar{x} - 2\delta - \bar{x} - 1\delta$
- Poor  $< \bar{x} - 2\delta$

Through Table 2, to determine how an athlete's physical fitness level is classified according to each test, it is necessary to follow the following 3-step process:

- Step 1: Determine the age of the research subject.
- Step 2: Determine the test setting value of the research object.
- Step 3: Based on the corresponding classification tables by age to determine the standard level.

**Table 2:** Standards for classifying physical fitness levels of male students of the volleyball team of Phu Yen University (n=20)

No.	Test checked	Classification				
		Poor	Weak	Average	Good	Excellent
1	Jump and reach with momentum (cm)	<259.85	259.85-272.70	272.70-298.40	298.40-311.25	>311.25
2	Pine-shaped running (s)	>27.85	27.85-26.47	26.49-23.71	23.71-22.33	<22.33
3	Front somersault combined with run-up, jump, bounce ball with 2 hands over the net (s)	>23.92	23.92-22.74	22.74-20.36	20.36-19.18	<19.18
4	Stall bar crunches 10s (times)	< 6.01	6.01-6.39	6.39-7.13	7.13-7.51	>7.51
5	Bounce ball (1 kg) far with one hand (m)	<22.74	22.74-24.14	24.44 -2 6.96	26.96-28.3	>28.36
6	Jump rope 2 minutes (times)	<208.34	208.34-221.21	221.21-246.97	246.97-259.84	>259.84

**2.3. Developing a scoreboard to evaluate the physical fitness levels of male students of the Volleyball team of Phu Yen University**

To develop a scorecard to evaluate the physical fitness levels of male students of the volleyball team of Phu Yen University (the total number of tested male students of the volleyball team of Phu Yen University was 20 athletes), through developing classification standards, we used the 2δ rule to

evaluate the test results of each test separately without having to check all tests, and at the same time proceeded to convert all the above tests into intermediate units of measurement on the C scale (The scale is calculated from 1 to 10) with the formula  $C = 5 + 2Z$ , especially for tests in which the performance is measured by time, we used the formula  $C = 5 - 2Z$ . The calculation results are presented in Table 3.

**Table 3:** Evaluating the physical fitness levels of male students of the volleyball team of Phu Yen University

No.	Tests	10	9	8	7	6	5	4	3	2	1
1.	Jump and reach with momentum (cm)	317.68	311.25	304.83	298.40	291.80	285.55	279.12	272.70	266.27	259.85
2.	Pine-shaped running (s)	21.64	22.33	23.02	23.71	24.40	25.10	25.78	26.47	27.16	27.85
3.	Front somersault combined with run-up, jump, bounce ball with 2 hands over the net (s)	18.58	19.18	19.77	20.36	20.96	21.55	22.14	22.74	23.33	23.92
4.	Stall bar crunches 10s (times)	12	11	10	9	8	7	6	5	4	3
5.	Bounce ball (1 kg) far with one hand (m)	29.0 7	28.3 6	27.6 6	26.9 6	26.2 5	25.5 5	24.8 5	24.1 4	23.4 4	22.7 4
6.	Jump rope 2 minutes (times)	266	259	253	246	240	234	227	221	214	208

Table 3 shows that: The scoreboard evaluated the physical fitness levels of male students of the Volleyball team of Phu

Yen University. It is very convenient to use to rate each test evaluating the speed of each content of male

students of the Volleyball team of Phu Yen University.

#### **2.4 Developing a general scoreboard to evaluate the physical fitness levels of male students of the volleyball team of Phu Yen University**

From the results found in Table 2 and 3, we proceeded to develop a general scoreboard to evaluate the physical fitness levels of male students of the volleyball team of Phu Yen University according to 5 levels: excellent, good, average, weak and poor, the results are presented in Table 4

**Table 4:** General scores to evaluate the physical fitness level of male volleyball athletes aged 19-20 at Phu Yen University

General score classification	Score level
Excellent	54
Good	42 - 53
Average	30 - 42
Weak	24 - 29
Poor	23

Through Table 4, it is possible to evaluate the overall physical fitness levels of male students of the Volleyball team of Phu Yen University, and this is also an important basis to help coaches be more realistic in assessing the athletes' level of training, and therefore, have adjustments to the content and amount of training exercise accordingly.

#### **3. Conclusion**

- Through the research, 06 tests have been selected to evaluate the physical fitness levels of male students of the Volleyball team of Phu Yen University, including:
  1. Jump and reach with momentum (cm).
  2. Pine-shaped running (s)
  3. Front somersault combined with run-up, jump, bounce ball with 2 hands over the net (s)
  4. Stall bar crunches 10s (times)
  5. Bounce ball (1 kg) far with one hand (m)
  6. Jump rope 2 minutes (times).
- Through the research, we have established a classification board, a scoreboard and a general scoreboard to evaluate the physical fitness levels of male students of the volleyball team of Phu Yen University.

#### **4. References**

1. Aulic IV. Evaluation of the level of sports training, Sports Publishing House, Hanoi 1982.
2. Duong Nghiep Chi. Sports measurement, Sports Publishing House, Hanoi 1991.
3. Harre. Dr. Training theory, (translated: Truong Anh Tuan, Bui the Hien), Sports Publishing House, Hanoi 1996.
4. Nguu Boi Lam. Teaching and coaching volleyball, Sports Publishing House, Hanoi 2003.
5. Nguyen Quoc Tram. Volleyball practice and competition, Sports Publishing House, Hanoi 2018.
6. Article source: The article is extracted from the results of the root-level scientific project of Phu Yen University: Selecting and applying physical development exercises for male students of the volleyball team of Phu Yen University, defended in 2018.