

Ability Test and Exploration of Basketball Special Training Based on the Physical Education

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Abstract

To improve the physical quality of students, provide high-quality professional talents for China's sports industry and improve the current situation of physical education, on the basis of physical education teaching, the ability of the students' special training in basketball is studied and tested. In addition, the influence of basketball special training on the physical education is analysed in accordance with the students' reaction and achievements in the course of physical education. By collecting and comparing students' performance and achievements in physical education curriculum, it is found that basketball special training has a positive effect on physical education. Based on this, the ability of basketball special training on the basis of physical education can be improved, so as to enhance the overall level of physical education teaching.

Keywords

Basketball; special training; physical education.

1. INTRODUCTION

Basketball special training is a sport with greater intensity, discontinuity and longer duration. Therefore, physical training plays a very important role in basketball special training. Physical education refers to the purposeful and organized teaching and education activities in accordance with the prescribed plans and curriculum standards. The object of physical education is teaching teachers and students. The task of teachers is to teach students the knowledge, technology or skills of sports, and to enhance the students' physique, and improve their morality, will and quality [1].

With the development of the society, the demand for professional talents is increasing. At present, more and more employers not only ask for the qualifications of the candidates, but also make requirements for the practical ability of the candidates. On the one hand, it shows that the social demand for talents is improved, not only focusing on the comprehensive quality or the diploma, but also paying attention to the practice ability. On the other hand, it also rounds the alarm for the mode of cultivating professional talents in colleges and universities, and reminds the university that the current training in colleges and universities does not have sound development and lack of experience in practical ability, especially the major of physical education. The current physical education activities only teach students basic sports knowledge and skills, but it still needs to work hard on the training of physical education in the cultivation of comprehensive, high quality, high level and professional talents [2]. Therefore, it is of great significance to study and test the ability of basketball special training on the basis of physical education based on the influence of the existing basketball special training in the physical education.

On the basis of physical education, this study carries out the test and study of the ability of basketball special training, and further develops and applies the role of basketball special training in physical education.

2. STATE OF THE ART

Dejan Milenkovic and Igor Stanojević (2014) studied and determined the relationship between athletic ability and specific sports basketball skills in primary school physical education. The study was based on the population of boys and girls in a primary school. A group of 12 exercise tests and a series of 6 tests were used to apply canonical correlation and regression analysis in data processing. The results showed that exercise ability significantly contributed to the specific exercise test scores of boys and girls [3].

Sun (2013) studied the professional basketball theory that is specialized in physical education as a social phenomenon or whether this phenomenon is related to all aspects of the theory. This scholar studied the multi attribute group decision making problem of basketball teaching ability, and provided uncertain information for basketball normal school students majored in physical education. The uncertain weighted geometric mean (UWGM) algorithm is used to aggregate the uncertain information of each selection and get the total value. Then, the most suitable two uncertain variables are sorted and selected by using the comparison possibility formula. Finally, taking the basketball teaching ability as an example, this paper evaluated the teaching ability of the normal college students majored in physical education, and verified the operability and effectiveness of the UWGM algorithm [4].

Knjaz and other scholars (2016) studied the sports teaching mode combining the modern technology with basketball special training. Modern technology can be used in sports activities in a high quality and effective way only in a systematic plan organized and implemented by educated and active people. Data analysis process to optimize work is the only way to maximize use the potential of the participants. In this way, the daily and long-term training process can also be diversified and interesting [5,6].

To sum up, the above research is mainly alone research for basketball special training and physical education, lack of integration of the two parts. Therefore, based on the above research status, this paper mainly aims at the basketball special training ability test based on the foundation of physical education teaching. First of all, the basis of physical education is introduced, and then the ability test of basketball special training in the foundation of physical education is studied to play the role of basketball special training in the foundation of physical education.

2.1. METHODOLOGY

2.2. Design of Different Professional Scenes in Physical Education

In the course of physical education, there are two kinds of physical education modes that are special training and non-special training. In order to observe the difference between the two parts [7], the performance and rank of two groups of students in a sports college are tracked and investigated in the basketball match from 2011 to 2017, and the situation of the crown runner up from 2011 to 2017 is obtained by investigation and analysis. It is specifically shown in Table 1.

Table 1. Statistics of the Champions League runner-up from 2011 to 2017 in the College

Basketball special training group			Physical education group		
Year	Champion	Runner-up	Year	Champion	Runner-up
Year 2011	06 One team	07 One team	Year 2011	07 One team	06 One team
Year 2012	07 Two team	07 One team	Year 2012	08 One team	07 One team
Year 2013	07 One team	08 One team	Year 2013	08 One team	07 One team
Year 2014	08 One team	09 Two team	Year 2014	08 One team	09 One team
Year 2015	11 One team	11 Two team	Year 2015	09 One team	12 One team
Year 2016	07 Two team	10 One team	Year 2016	12 One team	12 Two team
Year 2017	11 One team	11 Two team	Year 2017	12 One team	13 One team

It can be found from the previous table that the same team winning the Championship for two consecutive years cannot show the professional competence gap between the non-basketball special training group and the basketball special training group. There is no cross competition before 2012, so it is impossible to determine the competition gap between the two professional competitions only from two finals. But through the competition results, we can see that the score is directly proportional to the training time and the experience of the match. However, the special part of basketball special training group is not accidental, which is directly proportional to the training attitude and effort of the basketball special group in the ordinary physical education.

2.3. Investigation and Analysis on the Ability of Basketball Special Training

Students' physical education teaching is divided into different projects, and each project has different curriculum and practical ability. This paper mainly studies the ability test of basketball special training on the basis of physical education, and makes an investigation and analysis of the important degree of the practical part of the teaching content of the special course of basketball, as shown in Table 2.

Table 2. The Question, Structure and Reliability Test of the Practical Part of the Teaching Content of Basketball Specialized Course

Title	Ingredient	
	F1 Practical Ability	F2 Technical Ability
Teaching Competition	0.895	
On-site command and referee practice	0.745	
Basketball special physical quality training	0.741	
Basketball Tactics Teaching and Training	0.667	0.514
Basketball Technical Teaching and Training		0.895
Teaching and training ability practice		0.480
Characteristic Root	2.416	1.337
Variance-cumulative interpretation rate	40.271%	22.284%
Kronbach alpha coefficient	0.751	0.464

The structure of the practical part of the teaching content of the basketball specialized course is explored by using the principal component analysis (PCA), through the orthogonal rotation of Varimax, and extracting 2 factors of the characteristic root greater than 1.

In the factor structure, the Kaiser-Meyer-Olkin value is 0.671. According to formula (1), the indicator shows that the title is suitable for exploratory factor analysis.

$$\alpha^2(15) = 100.197(p < 0.001) \quad (1)$$

The cumulative variance interpretation rate of the 2 factors reached 62.555%. Basketball special training has high load in two factors, but according to the past physical education experience, basketball special training is regarded as the second factor. The 2 factors measure the contents of basketball special training from two aspects: f1 practical ability and f2 technical ability. Then, the total score of each factor is calculated, and the normalized score of factor is calculated according to the formula (2) algorithm.

$$\text{Normalized score} = (x - \min) / (\max - \min) \quad (2)$$

The normalized score divides the factor scores into 0 to 1, and it is actually the score of each factor. The practical ability is calculated according to the formula (3), and the technical ability is computed according to the formula (4). The calculation formula is as follows:

$$\text{Ability to practice 1} = (\text{Practical ability} - 3) / (12) \quad (3)$$

$$\text{Technical competence 1} = (\text{Technical skills} - 3) / (12) \quad (4)$$

This factor consists of 3 questions, each with a minimum value of 1 point and a maximum of 5 points. Therefore, the minimum value of this factor is 3 points and the maximum value is 15 points.

Table 3. Paired sample T test after normalization

	Pair difference			t	df	Sig. (two-sided)
	Mean	Standard deviation	Standard error of the mean			
Practice Ability 1 - Technical and Tactical Ability1	0.10417	0.15142	0.01893	5.503	63	.000

According to table 3, the average value of the normalization is 0.10417, the practical ability is significantly greater than the technical and tactical ability, and P is less than 0.001. The teaching competitions, the field command and the referee practice and the special physical quality training of the basketball team are favoured by the basketball special teachers. The teaching and training of basketball tactics, the teaching and training of basketball skills, and the practice of teaching and training ability three subjects are relatively not favoured by the teachers. The reasons may be greatly related to the training goals of the specialized basketball courses in various schools, and the teachers pay more attention to the training and guidance of the students' practical ability.

3. RESULTS AND DISCUSSION

3.1. Comparison and Analysis of the Ability to Implement the Basketball Special Course after Class

After teaching the main content of the basketball class, it does not mean the end of a basketball lesson. The teacher should review and analyse the curriculum, listen to the feedback from the students, and summarize and reflect on the course. The results of the analysis and comparison are shown in Figure 1.

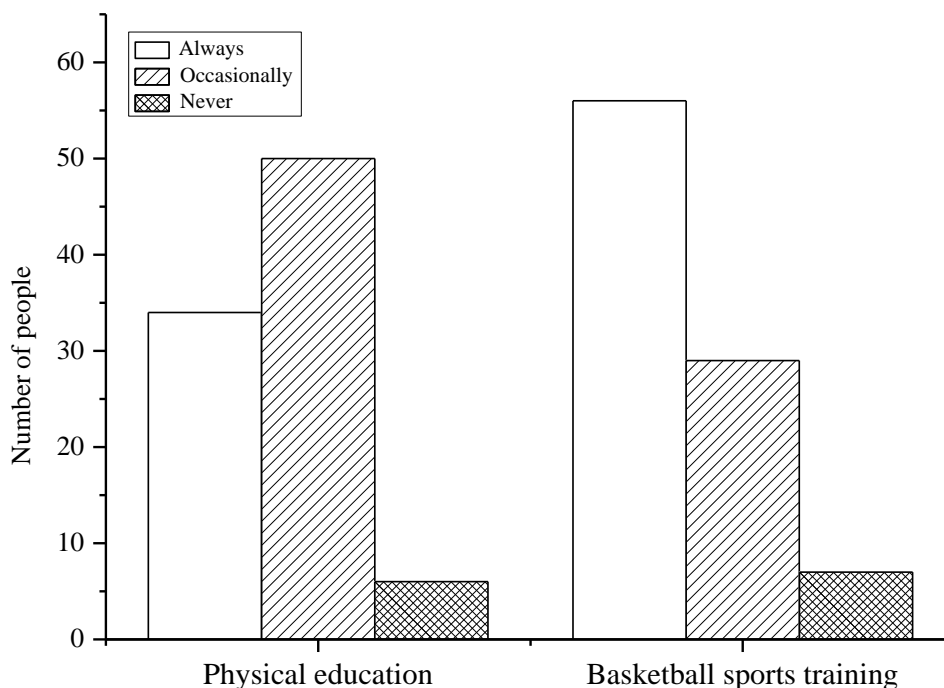


Figure 1. Comparison of summary of basketball graduates of physical education and sports training after class

According to the analysis of Figure 1, 50% of the graduates in physical education will summarize each time, 34% often sum up, and 6% never sum up. There are 29% summing up periods in the practice teaching of the basketball specialized elective class of the sports training specialty, 50% of which summarize occasionally, and 7% of them do not sum up. The analysis and comparison show that the frequency of after-school summary of sports training students is higher than that of physical education graduates.

3.2. Comparative Analysis of Students' Practical Ability after the Completion of Physical Education

The ultimate goal of physical education is the application and practice, and the following is the evaluation of the overall quality of the students by the practice unit on the sports college and the students after the special training of basketball, as shown in Table 4 and Table 5.

Table 4. Results of the Overall Evaluation of Basketball Education Graduates of Physical Education Majors

Options	excellent	good	general	Not so good	worse
	%	%	%	%	%
Ideological and moral level	34.6	43.3	13.3	6.3	2.5
Working ability	39.6	41.7	18.7	0	0
Professional training level	42.9	38.8	11.2	7.1	0
Social adaptability	35	37.9	18.3	5	3.8
Overall assessment of education quality	33.8	48.3	12.9	5	0

Table 5. Results of Survey on Quality of Basketball Training Graduates in Sports Training

Options	excellent	good	general	Not so good	worse
	%	%	%	%	%
Ideological and moral level	34.6	33.3	23.3	3.3	5.5
Working ability	29.8	51.5	12.6	6.7	0
Professional training level	52.9	39.7	11	6.3	0
Social adaptability	50.5	37.9	18.3	3.3	0
Overall assessment of education quality	32.6	50.3	12.4	3.1	1.6

From Table 4 and Table 5, the overall evaluation of the employers' leadership is that the work ability of the non-professional sports education graduates is in good condition, the ideological and moral level and the social adaptability are good, and the overall evaluation is good and above. The professional training level and social adaptability of graduates of basketball special training are excellent, their ideological and moral level and working ability are good, and the overall evaluation is good. Based on this, we can think that the level of physical education in China is good, and the students who have been trained in basketball are more competent in all aspects and play a greater role in physical education.

4. CONCLUSION

At present, the form and type of physical education is single. In addition to the fixed indoor course teaching, it is more extensive sports skills learning, and has not given play to the advantages of special training. Some teaching links lack the real meaning of sports, and cannot improve students' ability in certain sports skills, but also waste students' time. Based on the teaching of physical education, this paper tests the ability of basketball special training, and improves the teaching standard for physical education.

Students are large group of talents in the country, especially for special talents training. Basketball special training, as a kind of physical education, fully represents the importance and professionalism of special technology. By analysing and comparing the skills and abilities of professional and non-professional sports professionals, we recognize the important position of the ability of basketball special training in physical education. It is believed that the basketball special training will be more and more important in physical education.

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