Research on the Occupational Ability Infiltration for College Basketball Teaching

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Abstract: At present, college basketball has become an important part of campus sports culture construction. The training goal of colleges and universities in our country is the skilled and practical talents needed by society. The main purpose of college basketball course is to base on the completion of basketball and teaching objectives of physical education and health courses, and to enable students to master the basic skills of basketball and improve the skills and tactics, which is laying the foundation for vocational ability. This paper investigates the current situation of basketball option teaching in colleges and universities by using the methods of questionnaire, mathematical statistics and logical analysis, and analyzes the important influence of basketball teaching is on the penetration of vocational ability of college students.

1. Introduction

With the reform of physical education curriculum in colleges and universities, physical education curriculum forms of public selective courses in credit system are gradually formed in college physical education courses, according to the spirit of "Teaching Guidance Outline of Physical Education Courses for Colleges and Universities in China". Students' enthusiasm has a great role in promoting. Basketball has a very high value of exercise [1]. It is one of the most popular sports activities for modern college students, and is also an important teaching content in college physical education. As an important part of college course, basketball elective course is very popular with students. To some extent, it can satisfy college students' interest in basketball projects, and can choose their own study items according to their own hobbies and interests, and this kind of teaching mode is extremely large Improve the quality of teaching, and therefore, the development of college students' physical exercise has played a significant role in promoting. In order to make campus basketball play an increasingly dominant position in colleges and universities, this paper uses the method of questionnaire survey, mathematical statistics and logical analysis to study the current situation of basketball option teaching in colleges and universities, which is focused on the teaching of basketball Important impact on the penetration of professional ability of college students [2].

2. Infiltration model construction of college basketball teaching for occupation ability

2.1 Parameter selection of occupation ability

In the study of this paper, basketball teaching professional experts can determine the way to find the penetration of college basketball teaching parameters. Occupational proficiency assessment experts can put their own better penetration of occupational skills into the basketball occupation ability of guidance library parameter of information table, in the process of setting the occupational ability penetration parameters, through the information in the parameter information table to guide the setting of occupational ability penetration parameters. In addition, the optimal occupational capacity penetration parameters found in the blind search process can also be saved in the parameter information table, which can be used for reference for the setting of future occupational capacity of penetration parameters [3].

Through analysis and research, the model includes the following occupational ability factors: $\gamma=\{s, o, e, g, a, l, f, m\}$, where s represents the main analysis of basketball teaching in colleges and

universities. Therefore, expand the narrative and *s* represents the main body of teaching is equivalent to a college basketball teaching all the activities of the main sequence. And *o* represents the teaching object in this paper, and represents all the other teams' basketball college basketball confrontation. And *e* represents the teaching environment, the teaching environment of this paper, and the main use of comparative rhythm to reflect the match against the ball at a rhythm of what kind of teaching environment to complete the race [4]. And *g* represents the teaching objectives, and mainly achieves the teaching objectives reached or completed teaching objectives, and the use of the completed teaching objectives to interpret, that is, the outcome of the game. a on behalf of occupation ability teaching the main body of the action, this paper uses college basketball of teaching students related actions as the analysis of representatives, such as assists, fouls, hit rate and so on. And *f* represents the results of the teaching of vocational ability, the use of basketball teaching in college hits, and mistakes and other interpretation of the results of teaching the implementation of shots. Finally, *m* represents the relevance of this paper, and is mainly to analyze the various links between college basketball teaching, so the relevance here includes college basketball teaching different data between the relationship between college basketball teaching as a whole and individual students as well as students and students. There is a correlation for associative occupational ability infiltration, and set $T=\{t_1, t_2, ..., t_k\}$ for the item set, associated occupational capacity can be formally described as shown in equation 1 [5]:

$$p_1 \wedge p_2 \wedge ... \wedge p_i \wedge j_1 \wedge j_2 \wedge ... \wedge j_m \rightarrow q_1 \wedge q_2 ... \wedge q_n \tag{1}$$

The sets of $\{p_1, p_2, ..., p_i\}$, $\{j_1, j_2, ..., j_m\}$, $\{q_1, q_2, ..., q_n\}$ are subsets of the set T in equation (1) with no intersect. In order to further describe the confidence, we use the degree of support and the degree of interest, and set of $\{p_1, p_2, ..., p_i\}$ is X, and set of $\{j_1, j_2, ..., j_m\}$ is Y, and set $\{q_1, q_2, ..., q_n\}$ is Z. Meanwhile, |X| is the number of set of X, and |Y| is the number of set of Y, and |Z| is the number of set of Z, and $|X \cup Y \cup Z|$ is the number of set of {X, Y, Z}. Based on the problem, this paper introduces the degree of interest for further screening of professional ability. The degree of interest represents the ability of an item set to appear to increase the likelihood of a professional ability occurring. If the professional ability of item set of Y is X∧Y→Z, and its interest can be calculated as shown in equation (2) [6]:

$$Interb(X \wedge Y \rightarrow Z) = \frac{Conf(X \wedge Y \rightarrow Z)}{Conf(X \rightarrow Z)} \tag{2}$$

The value range is $[0, +\infty)$. When $inter_b$ satisfy (X∧Y→Z)>1, and the appearance of Y increases with the possibility of X→Y, which represents *conf* (X∧Y→Z)>Conf(X→Z)→Z)<1. Meanwhile, the appearance of Y reduces the possibility of occurrence of X→Z, which means *conf* of (X∧Y→Z)<Conf (X→Z). The more $inter_b$(X∧Y→Z) is $inter_b$ (X∧Y→Z)>1, the higher is the degree of interest of the vocational ability of X∧Y→Z [7].

2.2 Occupation ability penetrating standard of basketball teaching evaluation

Generally, many scholars usually adopt the method of assessing the interest of teaching in the evaluation process of professional ability. In this paper, the degree of interest in teaching as well as the degree of vocational interest is introduced. The degree of interest in vocational ability *r* is shown in equation (3) [8]:

$$Inter(r) = \{Tech(r), Busi(r)\} \tag{3}$$

Where, *Tech(r)* is the teaching interest of professional ability of *r*, and Busi(r) is professional interest of vocational ability of *r*, and only vocational ability that satisfies teaching interes,t and professional interest is the occupation that professional ability seeks ability.

(1) Technical interest of evaluation standards

This paper focuses on teaching interest, as well as the main support and confidence. Before introducing these two indicators, we first introduce the next set, and the item set is a group of items,

and each item is a property value, and a item set contains a property or multiple attributes, and the number of items contained is the size of the set, also known as several sets [9].

Definition 1 (Degree of support): Probability of support identifier item sets, such as item set of {X, Y, Z}, which can be expressed as shown in equation 4:

$$Sup(X, Y, Z) = P(X \cup Y \cup Z) \tag{4}$$

Definition 2 (Confidence): Confidence reveals the probability that a post-occupation set will occur when the former set of occupational skills appears. Such as occupational ability of X∩Y→Z confidence can be expressed as shown in equation (5):

$$Conf(X \cap Y \to Z) = \frac{P(X \cup Y \cup Z)}{P(X \cup Y)} \tag{5}$$

(2) Occupational interest of evaluation standard

The degree of professional interest is mainly used to screen some of the occupational skills that customers are not interested in, and the evaluation criteria are of interest [10].

Definition 3 (Interest): *Interb* means the ability of an item set to appear to increase the likelihood of a professional ability. If the item set of Y and professional ability of X∧Y→Z interest can be as shown in equation (6):

$$Interb(X \wedge Y \to Z) = \frac{Conf(X \wedge Y \to Z)}{Conf(X \to Z)} \tag{6}$$

The value range is $[0, +\infty)$, where $inter_b$ is (X∧Y→Z)>1, and the appearance of Y increases the possibility of X→Y, and $conf$(X∧Y→Z)>Conf(X→Z)→Z)<1, and the appearance of Y reduces the possibility of occurrence of X→Z, where $conf$(X∧Y→Z)<Conf(X→Z). The more $inter_b$(X∧Y→Z) is $inter_b$(X∧Y→Z)>1 is, the higher the degree of interest of the vocational ability X∧Y→Z is. Through the use of interest, we can filter out the relative professional ability of the relevant professional ability and negative related to occupational skills. The positive correlation refers to the ability to enhance occupational capacity, while the negative refers to the ability to reduce occupational capacity [11].

3. BDMBM model for college basketball teaching of occupation ability penetration experiment

3.1 Occupation ability of library construction for college basketball teaching

Based on the BDMBM model guidance and customer requirements and the full understanding of basketball match coaches decision-making system, we divided the basketball professional competency base into two sub-base basketball professional base information databases and basketball professional competency base [12].

(1) Information base of basketball occupation

The application of occupational proficiency in basketball occupational techniques can effectively improve the efficiency of vocational ability to penetrate the system, and improve the quality of data occupational ability infiltration, and find out the factors that affect the law of basketball. This paper includes the following kinds of professional ability, and that is occupation ability data of calculation index, attribute value of domain information, capability factor attribute of weight information, attribute information, attribute generalization of information, occupation ability of penetration information and parameter information. Among them, the occupation ability of data calculation index is used in the calculation of occupational ability related data, and can provide professional calculation formula. Attribute value range information is used to preprocess error data during data preprocessing [13]. Occupational proficiency penetration information is mainly used to select the choice of methods in occupational proficiency penetration. Parameter information is used for

parameter selection in the process of occupational ability infiltration. The above occupational capabilities were stored in occupational ability of calculation formula table, attribute value of domain table, attribute weight table, attribute table, attribute generalization table, occupation ability of penetration table, and parameter information table, as shown in Figure 1.
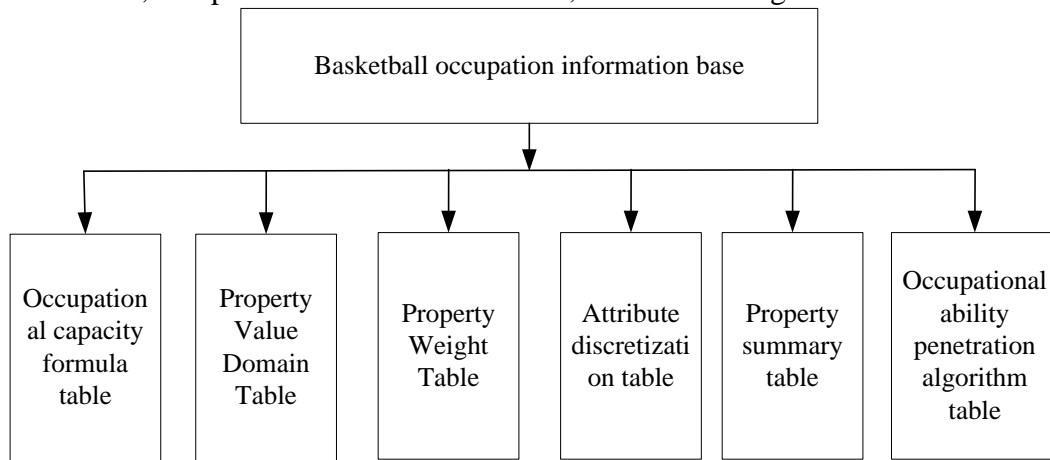

Figure 1 Basketball occupation information base

At present, only three kinds of methods are used for penetration of vocational ability, including *Apriori* method, *FP-Growth* method and *IIMSP* method. In the library of occupational competence, there are currently stored values of parameters given by current experts as well as experimental values [14]. The database design can also store good experimental parameters in future experiments and all these parameters will be involved in the later method guidance. Occupational capacity library of storage form is shown in Figure 2. *Conf_table* is a confidence table, and *ConfID* is a confidence number, and *ConfValue* is a confidence value, and *Sup_table* is a support table, and *SupID* is a support number, and *SupValue* is a support value. *Inter_table* is the interest rate table, and *InterID* is the interest level number, and *InterValue* is the interest level value, and *R_Interesting* is the method occupational ability library, and the most parameter value exists in the library, where *AlgID* is the number of the optimal method [15].
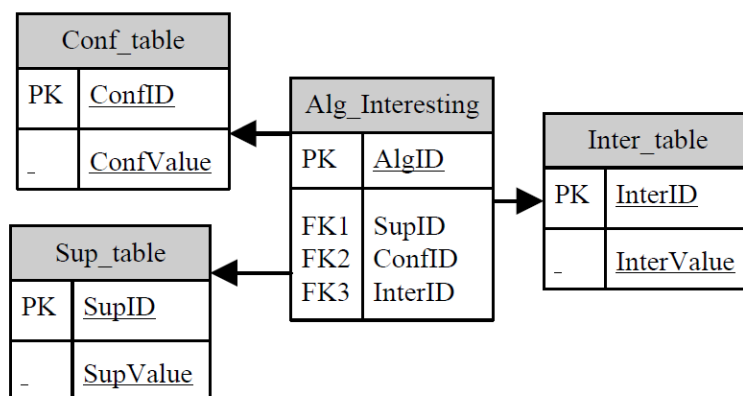

Figure 2 Occupational capacity library storage form

(2) Basketball teaching of occupation ability to penetrate the library

Due to the uncertainties associated with the occupational capacity of the preceding paragraph resulting from the association of occupational skills, the storage of a single occupational capacity using one line of data is not appropriate for this issue. Based on this problem, this paper uses the form of relational tables to store occupational skills. This is easy to scale and reduces the data storage redundancy [16]. Specific database storage design is shown in Figure 3:
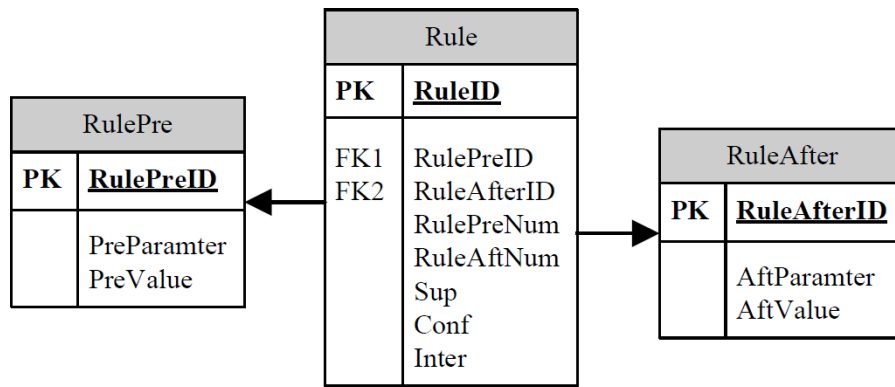
Figure 3 occupational ability database view

RULE is the occupational ability table, and *RuleID* is the occupational ability *ID*, and *RulePreNum* occupational ability before the number of items, and *RuleAftNum* is the occupation ability after the number of items, and *Sup* is the degree of support in the teaching of interest, and *Conf* is the teaching of interest in the degree of confidence. *Inter* is the degree of interest in occupational interest, and *RulePre* is the pre-occupation ability table, and *RulePreID* is the pre-occupation ability ID, and *PreParamter* is the pre-occupation ability parameter, and *PreValue* is the occupation ability pre-entry parameter value. *RuleAfter* is after occupation ability table, and *RuleAftID* is the occupation ability of the latter *ID*, and *AftParamter* is the occupation ability of the latter parameters, and *AftValue* is occupation ability after the parameter value. In the access to professional ability through the occupation ability table in the *RuleID*, occupation capacity will be extracted and linked to that. This method solves the problem of redundancy. At the same time, it is easy to share the relevant professional ability among different systems, and it is relatively easy to query professional ability, which also facilitates the storage and expansion of professional ability [17].

3.2 Experimental results for college basketball teaching ability to penetrate

This section mainly discusses a college basketball teaching data for the 2016 actual test data, which will compare the advantages of using the standards related to occupational skills. The following experimental results as an example of specific analysis are as shown in Table 2. As can be seen from this table, students have received a higher degree of support and confidence in teaching, but careful observation is not difficult to find these occupational skills are more common, which is belong to the conventional occupational skills. The professional ability is not necessarily valuable professional ability. The low level of professionalism is introduced by the frequent item sets, most of which are routine professional abilities, and conventional occupational proficiency can be filtered out by removing occupational skills that are of limited interest.

Analyzing results of the degree of interest can learn combination of several items, which can be more conducive to the promotion of results. By observing the professional ability and professional ability, the number of free throw attempts center=5-8->Results=wins for the confidence in professional ability is 90%, while student's free throw attempts=5-8 and simultaneous scoring student assists=7-8->contest results=100% confidence in winning this occupational ability, whose interest is 1.151, indicating that the score of defender student assists=7-8 appearances increase the number of student free throws=5-8 for the possibility of victory in the game. Professional ability of the library also contains the treatment of null values and error values, etc. For the null value, if the hit rate is null, we choose the method is based on the actual situation with no vote for the ball. If it is other types of the value, then the choice of processing method is to first check the point of time corresponding to these empty data, and then select the skills corresponding to the students in the first three games. After three games of data, we will then go to the average as a blank value of the fill, and choose a period of time as the average of the blank data to fill in the blank for the wrong data also use the same method. The data that needs to be discredited is mainly generalized according to the division of experts [18].

Table 2 Occupation ability test results for college basketball evaluation indicators

Serial number	Professional ability	Support	Confidence	Degree of interest
1	Student assistant=7--8->match result=win	28%	92%	1.542
2	Student free throws=5--8->match result=win	23%	90%	1.342
3	Number of free throw attempts by the student=1--4->Results=Win	18%	100%	1.453
4	Students free throws=5--8, scoring student assists=7--8->competition and result=win	15%	100%	1.151
5	College basketball teaching actual hit rate=0.61-0.65->competition and result=win	13%	100%	1.232
6	Scoring students three-point shot=3 - 4, scoring student assists =7 - 8 ->and results=win	13%	100%	1.562
7	Students total rebounds=6--8, scoring student assists=7--8->ratio and results=win	13%	100%	1.282
8	Students total rebound=9--10, assists=1-2-2>game and results= win	10%	100%	1.428

4. Conclusion

Through the teaching and research of the basketball course, not only students' love of basketball can be improved, and physical and mental health of college students can be promoted, but also the idea of lifelong physical education for college students can be cultivated, and their solidarity and perseverance can be enhanced. In order to make campus basketball play an increasingly dominant position in colleges and universities, this paper mainly studies colleges and universities with the status of basketball teaching as a research object, and conduct in-depth and meticulous analysis of the options in the basketball course problems in the teaching process. This paper is based on the current situation of basketball course in order to better promote the development of basketball course teaching for the current basketball course teaching, and to provide theoretical guidance and practical guidance, and thus promote the popularity of campus basketball and sustainable development play an important role. It is of great realistic and practical significance to promote the in-depth reform and innovation of college basketball courses in our country, which can promote the further improvement of college basketball skills.

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