Empirical analysis of PE in college physical education based on student satisfactions

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ABSTRACT

Based on student satisfactions, this paper gave the college sports teaching quality questionnaire to collect data, and provided the principal component analysis on main factors of college sports teaching reform with SPSS20.0, and established a regression model of the satisfaction for college sports teaching. At last, it put forward policy suggestions of PE teaching in college.

Keywords: satisfaction; sports teaching; principal component analysis; PE
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INTRODUCTION

As is known to all, sports teaching is one of the important part of college education, in order to let college students in the largest extent in the process of learning scientific knowledge can have a healthy body, during 2002, the ministry of education of the national common colleges and universities sports curriculum teaching instruction summary "revised, point out that physical teaching is the implementation of quality education in colleges and universities and one of the important ways to cultivate talents of science and technology in an all-round way, to people-oriented, colleges and universities should not only follow each college students' personality development, also should fully consider the college students take the initiative to adapt to the needs of social development [1, 2]. A chance for college students outside the classroom to self-learning practice, to enhance their physique, improve the quality of the sports as the main target, for students to engage in lifelong physical exercise. University classroom setting, adjustment of classroom teaching content, teaching mode reform, has become a top priority in today's teaching reform in colleges and universities.In such circumstances, the college sports option class teaching reform mode formed, but also has become the main mode of colleges and universities sports teaching [3, 4]. Today, this kind of teaching mode has been running for several years, then run the effect how? Is there some problem? College students are satisfied to the sports teaching mode, namely satisfaction? This is the main content of this article studies.

EXPERIMENTAL SECTION

In university sports teaching process, students are the main body, courses, teachers' quality, space equipment and test way, and many other factors on the students' learning will have a major impact, which will directly affect the quality of physical education teaching. This article mainly from the curriculum, teachers' quality, location equipment, test method and classmates five factors such as design questionnaire, collecting the evaluation data.According to the present situation of college PE teaching quality put forward some factors affecting the quality of physical education teaching, and then build a based on students satisfaction of university physical education teaching evaluation index system. Level indicators selected as comprehensive evaluation of the university sports teaching satisfaction, involving five secondary indexes, the curriculum including course content (X1), curriculum organization and rich learning atmosphere is good (X2), reasonable arrangement of exercise (X3), course learning autonomy (X4) and reasonable arrangement of curriculum schedule (X5); The academic level of teachers' quality includes (X6), (X7) teaching method, teaching manner (by 8), the degree of communication with the students (X9), and the content clear understand

(X10); Field equipment including the field enough (X11), site environment is good(X12), sport equipment variety (X13) (X14), sports equipment, good safety and sports equipment is old (X15), examination including teachers evaluation fair (X16), the test form (X17) appropriate and reasonable examination criteria (X18) evaluation and reasonable structure (X19); Classmates including mutual learning between classmates help (X20), competition and cooperation in appropriate (X21), between the classmate can self-effacing ground equipment (X22), and a good relationship between classmates (X23).

Adopting questionnaire for the above index system, in order to university freshman and sophomore level 2012 to level 2013, a random sample of 200 college undergraduates, freshman and sophomore students accounted for 100 each, of whom 120 boys and 80 girls. In order to guarantee the reliability of the results of the survey, the questionnaire with random distribution, issued a total of 200 questionnaires with 200, the recovery was 100%. According to the questionnaire rated conditions (up to 100 points, the lowest is 0) there was an obvious question out of 10 questionnaires, 190 valid questionnaires, 95% efficient. Apparently, the recovery rate and effectiveness can assure you this questionnaire investigation proceeds from the original data is reliable and can carry out the corresponding empirical analysis.

RESULTS

The contribution rate of factor is presented in table 1 results. Characteristic values of the table on the left side of the part for initial intermediate to extract the main factors as a result. Results show only the first four factor eigenvalues greater than 1, and the sum of the eigenvalues of the first four factors accounted for 81.630% of the total characteristic value, therefore, to extract the four factors as the main factors.

By table 2, you can see that is most relevant principal component 1 X11, X12, X13, X15 4 indicators, such as the principal component 1 for "location equipment factors", its weight coefficient as shown in table 3-3. Principal component 2 X6 is most relevant, X7, by 8 3 indicators, such as principal component 2 for "teachers' quality factor", its weight coefficient as shown in table 3-3. Principal component 3 is the most relevant X1, X3, X4 3 indicators, such as the main component 3 for "curriculum factors", its weight coefficient as shown in table 3-3; 4 principal component is the most relevant X17, X18, X20 3 indicators, such as the main component of 4 for "test factors", its weight coefficient as shown in table 3-3. Given in table 3-4 calculated by the component score coefficient matrix, the principal component factor score of data, reflects the various survey data on the different factor score. Thus available factor score function is:

$$\begin{cases} F1 = -0.054X1 - 0.150X2 + \cdots + 0.147X23 \\ F2 = -0.115X1 + 0.031X2 + \cdots + 0.103X23 \\ F3 = 0.267X1 + 0.166X2 + \cdots - 0.040X23 \\ F4 = -0.082X1 + 0.131X2 + \cdots - 0.048X23 \end{cases}$$

Will be 30 sports teachers in each index score in type, can get a principal component factors of PE teachers in F1 - F4 score.By the variance contribution rates of the principal component for the weight structure of comprehensive evaluation function:

$$F = 0.41607 F1 + 0.26473 F2 + 0.08916 F3 + 0.04634 F4$$

Table 1.Explain the total variance

	The initial eigenvalue			Extraction of sum of squares loaded			Rotate the sum of squares loaded		
	Total	variance%	cumulative %	Total	variance%	cumulative %	Total	variance%	cumulative %
1	7.708	54.119	54.119						
2	2.560	11.391	65.510	7.708	54.119	54.119	4.794	41.607	41.607
3	1.579	9.857	75.367	2.560	11.391	65.510	3.574	26.473	68.080
4	1.136	6.263	81.630	1.579	9.857	75.367	2.635	8.916	76.996
5	.871	4.327	85.957	1.136	6.263	81.630	1.841	4.634	81.630
|	|	|	|						
23	.035	.183	100.000						

Can be seen from table 2, the only variable coefficient significantly F1, F2 and F4, based on student satisfaction is the most significant factor is the location equipment, teachers' quality and test factors. In general, first of all, the quality of physical education teachers and space equipment will produce bigger effect on the students, good teachers will be students' recognition, so choose the teacher the generation of physical education, students are more; Second, school location equipment of good and bad students very care about, a direct impact on the enthusiasm of students in physical education classes, good sports equipment natural willing to physical education classes, students and student satisfaction is high; Finally, school physical education examination assessment measures will have great influence on students' satisfaction, because students in addition to physical education, to cultivate their own specialty or interest, at the same time they also more concerned about the examination results of the compulsory courses, and whether can pass the exam or gets high marks that they don't get scholarship in selection, etc.

Table 2. Regression coefficient table

Model	standardized coefficients			t	Sig.
	B	Standard error	trial version		
	102.10	.796		101.051	.000
REGR factor score 1 for analysis 1	.847	.895	.117	.029	.019
REGR factor score 2 for analysis 1	.753	.895	.108	.013	.003
REGR factor score 3 for analysis 1	4.044	.895	.807	4.049	.725
REGR factor score 4 for analysis 1	.692	.895	.006	.008	.000

DISCUSSION

The empirical results show that the location equipment of the school, teachers' quality, test, and the contents of the course and so on four aspects of the student satisfaction score dominated, with these four aspects, in view of this, the author put forward some Suggestions for reform, in hopes of reform of college sports play a reference and reference. [5]

First of all, the optimization of college sports venues and sports equipment. Empirical analysis shows that 54.119% of the students of physical education teaching satisfaction ratio is determined by the first principal component, location equipment, visible to the students on the degree of value location equipment.Therefore, from the perspective of student satisfaction, colleges and universities must optimize the sports venues and sports equipment. Expand or, for example, many model rather than a single new sports venues, timing of buy a new sports equipment such as appropriate, at the same time try to prolong the time to open the sports ground, let the students in the class can be sufficient for physical education learning or physical exercise, etc. Second, improve the quality of the physical education teachers. The empirical analysis shows that, the quality of students of physical education teacher see also heavier, satisfaction with 11% of the proportion of explained can have the quality of teachers [6]. School, therefore, the continuous improvement of PE teachers training system, the school also for PE teachers to provide more advanced study or go out of the opportunity to learn, by improving the teachers' education level to improve teachers' professional quality and improve teachers' academic level, so that the teachers' comprehensive quality improve. At the same time, the school also should attach great importance to the training of sports teachers' professional ethics education. Good sports teacher is an example to students, noble ethics education role to student's ideological and moral education plays a positive impact. Again, optimize the sports curriculum, diversified sports curriculum. Many colleges and universities sports curriculum still exist some problems, such as traditional teaching content more, less with the content of the novel. Pure athletics content more, fitness, entertainment, leisure content less. The content of the standard exam, students like personality less content, etc. As the sport of "health first" and "lifelong physical education and health", colleges and universities sports education reform goals will give priority to shift to the development of recreational sports skills, namely the diversification trend of the development of sports learning objectives [7, 8].

Finally, optimize sports test standard. Today's sports test standards has seriously affected the students' interest in physical education teaching sports test standard and method of a single, lack of flexibility. This evaluation method only pay attention to terminal evaluation, ignore the process evaluation, which is just from a single final score evaluation of students of physical education, students tend to ignore the basic skills of learning and mastering of sports subject. In addition, the limitations of physical exam content have a strong. PE teacher whether students love or not love learning, while in class according to the plan of the school together, make the students had to crustily skin of head to learn.

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