

Practical Research on the Application of In-class Options in Physical Education and Health Module Teaching

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Abstract: Based on the “Curriculum Plan and Physical Education” and “Health Curriculum Standards (2017 Edition)” (hereinafter referred to as the “Curriculum Standard”) of ordinary high schools revised in January 2018, combined with the actual situation of physical education teachers, venues and equipment’s in experimental schools, in the teaching of compulsory elective modules of physical education and health curriculum in experimental grades, according to students’ interests and hobbies and existing sports skills, this study adopts the teaching organization form of in-class option, aiming to better implement the new round of curriculum reform and explore practical practices that can be used for reference for schools and teachers. It is found that teaching in the form of alternative teaching in class is beneficial to the development of students’ core literacy of physical education and health. It overcomes the teaching difficulties of module options caused by objective factors of the school to the maximum extent, and creates conditions for students to study physical education and health module, so as to put the curriculum reform into practice ^[1].

Keywords: Module; In the class; Option; Teaching

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1. Introduction

Combined with the actual situation of the existing physical education teachers, sports facilities and class size of Guanshan Middle School in Yanliang District, Xi’an, and according to the students’ interests and hobbies and existing sports skills, this paper applies the organization form of optional teaching in the class to the compulsory elective module teaching of physical education and health course in 2020. It aims to better implement the new round of curriculum reform in senior high schools, and provide practical experience for some schools and teachers with small school scale, weak physical education teachers, shortage of sports venues and facilities, large class quota and difficult course arrangement.

2. Research subjects and methods

2.1. Research object

This paper takes 264 students from classes 1-6 in 2020 of Guanshan Middle School in Yanliang District of Xi’an as the research object, including 131 boys and 133 girls.

2.1.1. Experimental group

133 students in classes 1-3, including 64 males and 69 females, were taught in the form of optional teaching

organization in the class.

2.1.2. Control group

131 students in classes 4-6, including 67 males and 64 females were taught in the form of unified module teaching organization within the class.

2.2. Research methods

2.2.1. Literature method

We searched and collected documents from full-text databases such as CNKI and China Journal Net, consulted more than 30 papers related to this paper, carefully studied the “curriculum plan,” “curriculum standard” and “interpretation of curriculum standard,” also formulated the questionnaire and experimental plan needed for research.

2.2.2. Questionnaire survey method

A total of 264 questionnaires were distributed and 264 were recovered, with a recovery rate of 100%, including 255 valid questionnaires, with an effective rate of 96.6%. Before the questionnaire was distributed, the reliability and validity of the questionnaire were tested by test-retest reliability method and structural validity analysis method to ensure the reliability and validity of the questionnaire.

2.2.3. Experimental method

Before the experiment, all the subjects were investigated in the form of questionnaire on health awareness, sports attitude and other indicators, and the national student physical health standard test project (high school) was selected as the physical quality index for testing. A significance test was conducted, and the results showed no significant difference ($P>0.05$), which was in line with experimental conditions.

2.2.4. Mathematical statistics

The effective questionnaires collected before and after the experiment are statistically processed. Then, the collected data are T-tested, the data statistical processing and t-test results are intuitively presented in the form of charts, and the chart display results are further described and analyzed through words. Therefore, it makes the research conclusions more convincing and the suggestions more reasonable and effective.

3. Results and analysis

3.1. Development of compulsory elective module teaching of physical education and health course in class under key competence

3.1.1. Update the concept

It adopts the organizational form of optional teaching in the class to carry out teaching, which overcomes the difficulties of optional teaching caused by the small scale of the school, the weak strength of physical education teachers, the shortage of sports venues and facilities, the large number of classes and the difficulties of the school. Moreover, it can make effective use of the existing conditions of the school, promote teachers to constantly update their education and teaching ideas, and put respecting students' learning needs, meeting students' own interests and sports foundation in an important position. It is conducive to further formulate and improve the evaluation mechanism and build a diversified, comprehensive, diverse and effective incentive evaluation system that can promote the all-round development of teachers and students. Through the guidance and help of teachers, students actively and systematically learn sports and health knowledge, sports skills and learning and practice methods, and achieve the goal of gradually improving students' key competence of sports and health discipline and

establishing lifelong sports consciousness under the joint action of good multi-dimensional systems such as education, teaching, practice, evaluation and expansion [2].

3.1.2. Module selection and teaching organization

Table 1. Teaching modules and teaching organization of experimental group and control group

Group	Class	Teaching module			Teaching organization
Experimental Group	Class 1	Basketball	Roller-skating	Aerobics	Three choices are taught in groups
	Class 2	Basketball	Volleyball	Aerobics	
	Class 3	Basketball	Football	Aerobics	
Reference Group	Class 4	Basketball			A unified teaching program
	Class 5	Basketball			
	Class 6	Basketball			

3.1.2.1. Experimental group

In the independent class of Class 1-3, grade 2020 of the experimental school, there are 6 projects and 10 modules, such as ball sports and fitness aerobics, for students to choose. Each student can choose three modules out of the 10 modules. According to the principle that the number of students choosing each module is not less than 12, and the whole class can form a maximum of three modules study group, the final determination of three modules study group for each class. According to the result of **Table 1**, the experimental class adopted the teaching organization form of in-class option. According to the module learning content, plan, goal and evaluation index given by the teacher, each learning group shall be led by the module learning leader to formulate the module class hour learning plan and goal and complete the learning task of the group.

3.1.2.2. Control group

In class 4-6, 2020, in the experimental school, teaching assessment and evaluation are carried out in the form of teacher-led teaching organization with unified modules in off-duty according to the compulsory optional module learning scheme of physical education and health set by the school. The module options uniformly specified by the school are: “In the first semester of senior one, students have track and field and broadcasting exercises modules, and volleyball modules in the second semester.” The basketball module is for the whole academic year of senior two. Football and aerobics modules are for the whole school year of senior three.

3.2. Meet students’ learning interests and needs, and highlight the leading role of teachers and the dominant position of students

In **Figure 1**, we can see that a questionnaire survey was conducted on participating in and organizing sports exhibitions and competitions, formulating and implementing physical exercise plans, paying attention to and appreciating sports events and competitions, as well as commenting and exchanging competition organizations and competition conditions. The statistical comparison results show that, the performance of sports cognition in physical education and health class of students in the experimental group was better than that in the control group. The students in the experimental group have fully reached the three standards of phased learning quality level of the selected modules in terms of sports cognition, application of techniques and tactics, sports display and competition. It shows that compared with the teaching form adopted by the control group, the experimental group can better reflect the concept of curriculum reform,

put students' learning needs and learning status in the first place, fully respect students' dominant position in the classroom teaching process, and give full play to teachers' leading role in the teaching process.

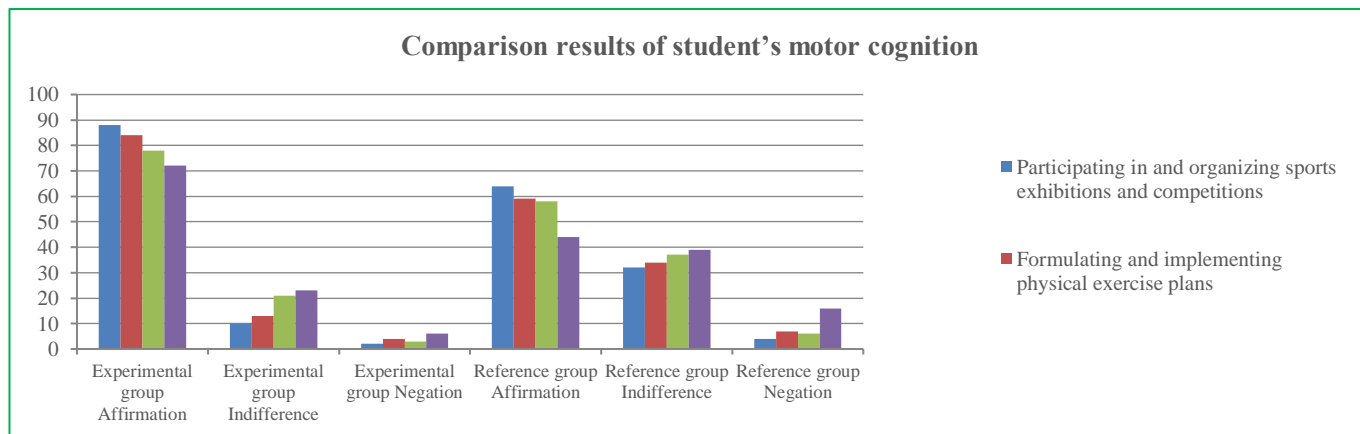


Figure 1. Comparison results of student's motor cognition

3.3. Improve the learning awareness of students and cultivate their innovative spirits, comprehensive ability and excellent character

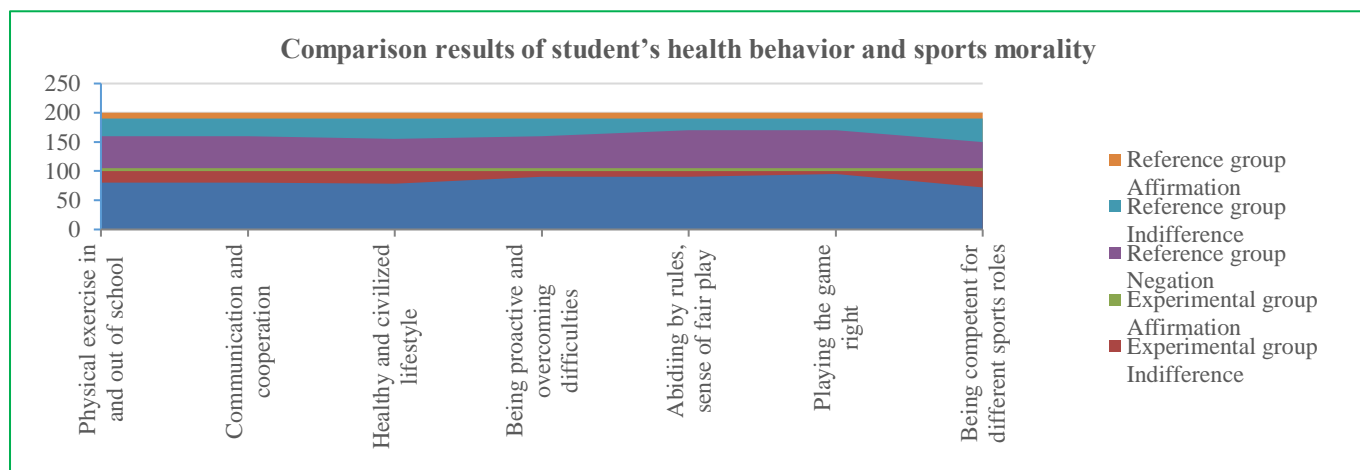


Figure 2. Comparison results of student's health behavior and sports morality

In **Figure 2**, we can find that: Through the investigation of various indicators such as physical exercise in and out of school, communication and cooperation, healthy and civilized lifestyle, being proactive and overcoming difficulties, rules, consciousness, treating competition tasks and being competent for sports roles, it is found that the teaching effect of students in the experimental group is much better than that in the control group in terms of healthy behavior and sports morality. Analysis of the main reasons are: The teaching methods used in the teaching of experimental group students pay more attention to the teaching of students' exercise habits and exercise methods, focus on cultivating students' ability of active communication and cooperation in group activities, develop health education, and promote students to form a positive sense of health, a good sense of rules and a sense of social responsibility in sports morality.

3.4. Students actively participate in exercise, comprehensively improve their motor skills and reflect their key competence

The three pie charts in **Figure 3**. clearly show that the experimental group and the control group, after learning the same class hours, compare the knowledge and skills of the selected modules, 83.1% in the

experimental group, and 68.8% in the control group; Compare the practice methods and means of the learned modules, 75.4% in the experimental group and 56% in the control group; Compare the special competitions of the selected modules that can participate in the organization of classes, grades and school levels, 70% in the experimental group and 44% in the control group. The comparison of various data fully shows that: In terms of sports skills, the learning and mastery effect of students in the experimental group is significantly better than that in the control group. In the three major balls, tug of war, aerobics selection and track and field games organized by the school during the period, the project competition results of the students in the experimental group were also better than those in the control group; The students in the experimental class are better than those in the control group in terms of autonomy, enthusiasm and scientificity of physical exercise in class and after class; In the process of school sports associations and sports competitions, the students in the experimental class also showed significantly higher abilities of cooperation, organization and exploration than those in the control class.

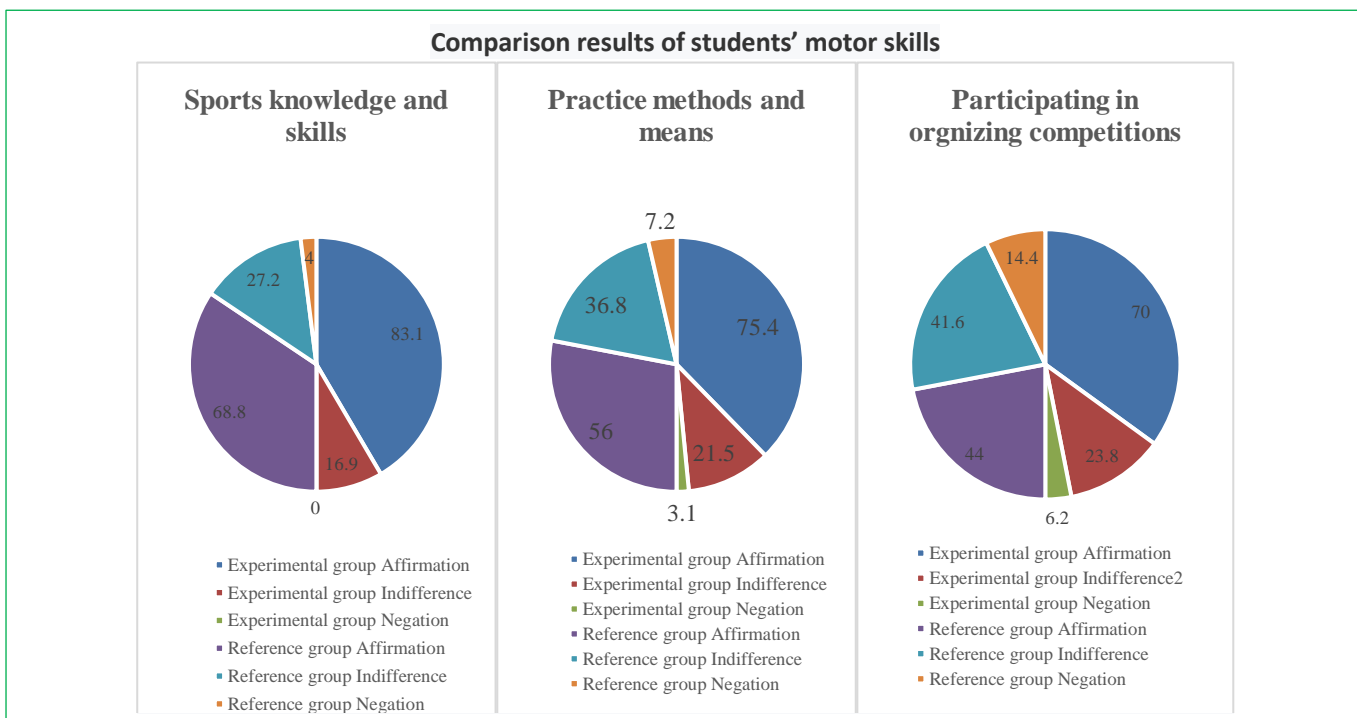


Figure 3. Comparison results of students' motor skills

3.5. The teaching effect is remarkable, and the national students' physical health test data are significantly improved

Before and after the experiment, the data of the national students' physical health test project was collected uniformly, and SPASS software was used to conduct independent sample T tests. It can be seen from Table 2 that there is no significant difference between the two groups of students in height, but other test data shows significant differences. The experimental group is significantly better than the control group in physical fitness test data. Students in the control group were unable to better satisfy the students' interest in the project because of the unified teaching content of the whole class, leading to negative emotions among the students. Their concentration during the classroom learning process was deeply affected, and their enthusiasm for participating in exercises in and out of class was not high. This is one of the main reasons leading to the control group of the test results significantly weaker than the experimental group.

Table 2. Comparison results of national students' physical health test data

Index	Gender	Experimental group (n = 133)		Control group (n = 133)		Difference value	T	P
		X	S	X	S			
Height	Male	171.5	4.87	170.8	4.81	0.7	0.91	>0.05
	Female	158.7	4.61	158.3	4.63	0.4	1.03	>0.05
Weight	Male	59.8	3.1	60.9	3.3	-1.1	2.01	<0.05
	Female	48.3	3.25	49.5	3.65	-1.2	2.38	<0.05
Vital capacity	Male	3832.5	736.63	3578.8	746.34	253.7	2.13	<0.05
	Female	2658.2	489.39	2418.4	495.67	239.8	2.09	<0.05
50 meters	Male	7.28	0.15	7.43	0.17	-0.15	2.15	<0.05
	Female	8.29	0.36	8.51	0.42	-0.22	2.27	<0.05
1000 meters	Male	223.5	15.2	230.9	16.7	-7.4	2.88	<0.01
800 meters	Female	220.1	14.6	226.6	16.8	-6.5	2.71	<0.01
Standing broad jump	Male	240.8	11.6	233.5	13.1	7.3	2.07	<0.05
	Female	184.7	12.4	178.8	13.8	5.9	2.15	<0.05
Sit-up	Female	43.6	4.1	38.1	4.8	5.5	2.45	<0.05
Chin-up	Male	6.88	3.2	5.63	3.1	1.25	2.11	<0.05

Note: There were 64 males and 69 females in the experimental group; There were 67 males and 64 females in the control group.

3.6. Form a diversified learning evaluation system with multiple subjects, comprehensive contents and diverse methods

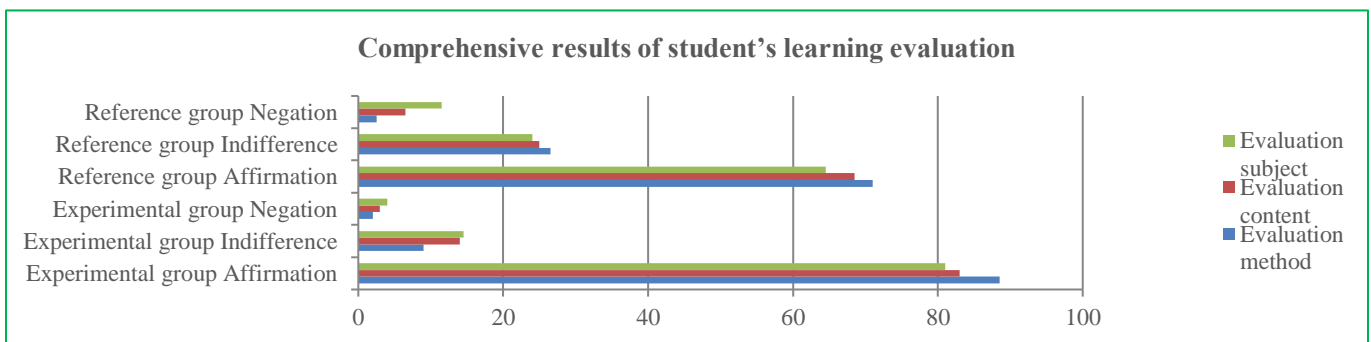


Figure 4. Comprehensive results of student's learning evaluation

Figure 4 shows that the evaluation level of the experimental group in three aspects of evaluation subject, evaluation content and evaluation method is much higher than that of the control group. It shows that in the teaching process, the experimental group pays more attention to the incentive mechanism and function of evaluation, and pays more attention to the process performance evaluation, post-school information feedback and post-practice development function in learning and practice, which plays an obvious role in building a diversified, comprehensive, diverse and effective incentive evaluation system that can promote the all-round development of teachers and students.

4. Conclusions and recommendations

4.1. Conclusions

Teaching in the form of optional teaching organization in the class can fully take care of students' interests and hobbies, respect students' personality development, take into account students' individual differences in sports foundation and sports cognition, fully mobilize students' enthusiasm for learning and practice, comprehensively improve their sports skills and technical level, make progress and harvest for everyone, and make the key competence of physical education of students develop in an all-round way.

The use of in class optional teaching organization can well overcome the difficulties of module optional

teaching caused by school factors (small school scale, weak physical education teachers, shortage of sports venues and facilities, large class size, difficulty in school course arrangement, etc.), so that the curriculum reform can be effectively implemented in different regions and schools.

Teaching is conducted in the form of optional teaching organization in the class, basically taking into account every student. Excellent students can be promoted, intermediate students can surpass, and backward students can catch up.

Teaching in the form of optional teaching organization in the class can better implement the process performance evaluation of students' learning and practice, provide evidence for students' information feedback after learning, and make the development function after practice more effective. It can well implement the evaluation requirements put forward in the "Curriculum Standard" and further improve the evaluation system to maximize the evaluation function.

4.2. Suggestions

Physical education teachers should carefully study the "curriculum plan," "curriculum standard" and "interpretation of curriculum standard," formulate scientific and reasonable teaching plan implementation methods in combination with the local physical education and health curriculum implementation plan and the actual situation of their schools, make full and effective use of existing teaching resources such as venues and equipment, and create conditions for students to learn physical education and health modules to the greatest extent, so as to truly implement the curriculum reform and push it to the depths.

Physical education teachers should constantly improve their personal professional theory and technical level to provide more professional and effective guidance, enlightenment and help for students' physical education and health curriculum module learning.

Physical education teachers should actively carry out teaching and scientific research activities, deeply study teaching materials, adhere to learning, update education and teaching ideas, seek education and teaching organization means suitable for students of the University in order to achieve good education and teaching quality, and create better conditions for the formation of students' lifelong health consciousness.

It is necessary to give full play to the function of evaluation, formulate a reasonable and perfect evaluation system according to different learning conditions and different modules, and truly serve to promote the common development of multi-dimensional systems such as teaching, practice, cooperation, expansion and extension, teachers' actually effective, effective and efficient teaching, as well as students' better, faster and more willing learning and practice.

Disclosure statement

The author declares no conflict of interest.

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