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APPLICATION OF GROUPS OF TEACHING METHODS TO PROMOTE COGNITIVE ACTIVENESS IN SWIMMING INSTRUCTION FOR PHYSICAL EDUCATION MAJOR STUDENTS AT TAY BAC UNIVERSITY

Abstract: Through the synthesis of reference materials and interview methods, the study selected three groups of active teaching methods. The applied methods, validated through pedagogical experiments, effectively improved students' swimming performance in the physical education major at Tay Bac University, with a statistical confidence level of $P < 0.05$.

Keywords: Positive attitude, active teaching methods, swimming teaching methods.

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ПРИМЕНЕНИЕ ГРУПП МЕТОДОВ ОБУЧЕНИЯ ДЛЯ СТИМУЛИРОВАНИЯ ПОЗНАВАТЕЛЬНОЙ АКТИВНОСТИ ПРИ

ОБУЧЕНИИ ПЛАВАНИЮ СТУДЕНТОВ СПЕЦИАЛЬНОСТИ «ФИЗИЧЕСКОЕ ВОСПИТАНИЕ» В ТЭЙБАКСКОМ УНИВЕРСИТЕТЕ.

Аннотация: На основе анализа справочных материалов и методов интервью в исследовании были отобраны три группы активных методов обучения. Примененные методы, подтвержденные педагогическими экспериментами, эффективно улучшили результаты студентов-пловцов на факультете физического воспитания в Университете Тайбак, при уровне статистической достоверности $P < 0,05$.

Ключевые слова: Позитивное отношение, активные методы обучения, методы обучения плаванию.

1. Introducing the issue

Teaching methods play a crucial role in determining the quality of education, as active teaching methods are widely applied in teaching and vocational training in developed countries and have achieved great success.

The development of active teaching methods that promote cognitive engagement in our country has not been widespread, especially in the field of swimming, where there are few research studies applying this approach.

Therefore, based on the practical need to improve the quality of swimming instruction for students majoring in physical education at Tay Bac University, the author has implemented the application of active teaching methods to enhance cognitive engagement for students majoring in physical education at Tay Bac University.

2. Research results

During the research process, the author used standard scientific research methods, including: document analysis and synthesis; pedagogical observation; interview and discussion methods; and statistical mathematical methods.

2.1. Identify the teaching methods that promote active cognitive engagement in swimming instruction for students majoring in Physical Education at Tay Bac University

Through the review of relevant literature, the author has initially selected three groups of teaching methods that promote students' active learning. Then, interviews were conducted with scientists, lecturers, and experienced swimming coaches both inside and outside Tay Bac University.

Table 1. Results of interviews on selecting teaching methods that promote the active participation of students majoring in Physical Education at Tay Bac University (n = 30)

TT	Content	First round results (n = 30)		Second round results (n = 30)	
		Số lượng	%	Số lượng	%
A. Methods to enhance active participation of students during class sessions					
1	Method of using diverse and competitive types of exercises	28	93.33	29	96.67
2	The method of teaching in a non-fixed group	29	96.67	28	93.33
3	Swimming teaching method combined with physical activity games	28	93.33	29	96.67
4	Teaching swimming through competitive events	28	93.33	30	100
5	Diversifying self-study methods	29	96.67	29	96.67
B. The group of visual methods with audiovisual tools and PowerPoint presentation software					
6	Use a diagram with technical commentary	30	100	30	100
7	Using PowerPoint software in teaching engineering	30	100	30	100
C. Group of methods to enhance the use of tests to assess students' learning outcomes					

8	Develop and implement technical inspection criteria for the technical phase	28	93.33	30	100
9	Develop and implement a testing content that is both qualitative and quantitative (Technical + Achievements)	29	96.67	29	96.67

Through Table 1, the author has selected three groups of teaching methods that promote the active learning of students majoring in Physical Education at Tay Bac University.

2.2. Evaluation of the effectiveness of three teaching methods that promote active learning in swimming for students majoring in Physical Education at Tay Bac University

The author implemented the application of swimming instruction for two experimental groups, including both the general and specialized subjects, over one academic year. The evaluation results after one semester showed that physical fitness qualities all exhibited good growth rates ranging from 1.15% to 12.73%, but there were no statistically significant differences ($P > 0.05$). However, professional indicators such as distance covered and breaststroke performance had t-values greater than the critical t-value at a significance level of $P < 0.05$. The differences are statistically significant.

After two semesters, an end-of-experiment assessment was conducted. The data obtained were processed using an algorithm comparing two means. The results are presented in Table 2.

Table 2. Comparison of physical fitness and technical skills between the two experimental and control groups of general swimming students after two semesters of experimentation.

TT	Test examination	Experimental group		Control group		The difference	
		$\overline{X}$	δ	$\overline{X}$	δ	T	p
1	Dominant hand grip strength (kg)	72.41	5.22	65.47	5.28	1.896	P <0.05

2	Lying on your back, perform sit-ups (number of repetitions per 30 seconds)	29.32	2.77	27.81	3.09	2.431	P <0.05
3	Activate at the spot (cm)	258.67	18.91	240.13	21.43	2.117	P <0.05
4	Run 30 meters starting from a high position (seconds)	4.12	0.28	4.68	0.46	2.268	P <0.05
5	Run the shuttle 4x10 meters (seconds)	9.87	0.64	10.33	0.77	2.109	P <0.05
6	Run at your own pace for 5 minutes (sweat)	1158	81.36	1031	94.87	2.223	P <0.05
7	Flexibility of the body (cm)	16.82	2.07	15.06	3.45	2.653	P >0.05
8	Breaststroke swimming technique (point)	8.65	0.84	7.54	0.68	2.431	P <0.05
9	Technical points of freestyle swimming (point)	8.71	1.22	7.21	2.41	3.554	P <0.05
10	50-meter freestyle swimming achievement (seconds)	36.73	4.08	39.16	5.13	3.478	P <0.05

From the results presented in Table 2, we can see that the physical fitness level and academic performance of the experimental group both have t-values greater than the critical t-value at the P<0.05 threshold. The difference is statistically significant. In other words, the groups using active teaching methods have significantly improved the quality of swimming learning compared to other conventional teaching methods, with a confidence level of P < 0.05

3. Conclusion

The method of teaching that promotes students' active learning is widely applied in developed countries. This method is also being implemented in the teaching process at Tay Bac University.

The research process has identified three groups of teaching methods that enhance active participation among students majoring in Physical Education at Tay Bac University during swimming lessons, resulting in a significant effect with P<0.05.

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