

RESULTS OF APPLICATION OF SEVERAL CONSTITUTIONAL DEVELOPMENT SOLUTIONS FOR GIFTED HIGH SCHOOL STUDENTS IN NORTH CENTRAL VIET NAM

Dong Huong Lan¹

Abstract:

This article focuses on the selection and evaluation of several solutions to develop constitution for gifted high school students in the Northern Central provinces.

Key words: Solutions, constitutional development, students, high school

INTRODUCTION

Students of gifted high schools must study more primary subjects than other schools, the arrangement of physical education's time and schedule are suitable to the specific characteristics of each school. This has a great impact on the constitutional development of gifted high school students. Therefore, research and selection of constitutional development solutions for gifted high school students in the North Central region is very urgent.

RESEARCH METHODS

In the research, we have used the methods of analysis and synthesis of documents; pedagogical test and mathematical statistics.

RESULTS AND DISCUSSION

1. Constitutional development solutions for gifted high school students in North Central provinces

The results of assessing the real state of constitution for gifted high school students in the North Central provinces showed that the morphological indexes are not different from those of the Viet Nameese constitution published by Viet Nam Sports Science Institute in 2001. Most of general physical strength tests of the growth at the age of 15-17 have relatively equivalent results with 2-6 tests for men and 2-3 tests for women ($C_v < 10\%$). However, the results in each test are significantly lower than the results of the 2001 Viet Nameese constitution investigation at the same age.

Basing on the theoretical and practical basis of physical education management of gifted high schools in the North Central region, and at the same time consulting experts, the research has identified the solutions for constitutional development, including:

Solution 1: Raise awareness of the position of the physical education education for sports at schools to the goal of constitutional development and morality education, healthy lifestyle and active planned movement for students

Purpose: Raise awareness and responsibility of leaders of schools, mass organizations; enhance the student's sense of learning.

Solution 2: Renovate teaching methods of physical education in the positive direction and develop the activeness and creativity of students during the physical education class

Purpose: Renovate the teaching methods of physical education in accordance with the school conditions, demand and characteristics of the students, make self-aware and active motivation at the same time develop the activeness and creativity of students during physical education class

Solution 3: Diversify the content and form of sports extra-curricular activities adhering the curriculum and goals of physical education

Purpose: Satisfy the training objectives of being good at one subject and knowing various subjects, improving health, meeting the

1. PhD, Hong Duc University, Email: donghuonglan@hdu.edu.vn

requirements and developing the quality of learning.

Solution 4: Develop plans and manage the self-improvement of specialization pedagogical profession for teachers

Purpose: Ensure the human resources in both quantity and quality to improve the efficiency of physical education at schools.

Solution 5: Renovate the physical education teaching according to student's health, physical strength and aptitude classification

Purpose: Renovate teaching methods and facilities, physical education content suitable with the conditions of the schools, demand and characteristics of the students, creating interest for students in learning and practice.

Solution 6: Enhance the competition activities - organize competitions with various contents on a basis of creating conditions for every student to participate

Purpose: Create a regular diversified and plentiful competition environment for students to improve their constitution at the same time identify and select students for the teams.

Solution 7: Renovate, equip, supplement and upgrade technical facilities, yards and equipment for training

Purpose: Upgrade and renovate facilities to ensure the necessary conditions for the curricular and extracurricular sports teaching of students.

Solution 8: Establish and put into operation the sports clubs for staffs, teachers and students at all grades in the form of socialization under the direction of schools and Viet Nameese sports student associations.

Purpose: Meet the practical needs of students is to know many subjects, be good at one subject, improve the efficiency of learning the curricular physical education hours, satisfy the constitutional standards of the Ministry of Education and Training, gain high performance in sports competitions at the tournaments of the local, region and Ministry of Education and Training.

2. Applying and determining efficiency of constitutional development solutions for gifted high school students in Northern Central provinces

The application of constitutional development solutions for research subjects has conducted in 1 school year with 350 students in Grade 11 at Lam Son Gifted High School, Thanh Hoa province. Due to the time and scope of the research, the research has only applied 6 out of 8 solutions, including solutions 1, 2, 3, 5, 6, 8. We have assessed through 12 criteria, morphological, functional and constitutional tests at the time before and after experiment. The results are in Table 1.

In Table 1, test results of the morphological and functional factors before the experiment show that the number of students with qualified constitutional level is low, accounting for 45.13% to 64.62% for men and 43.23% to 58.71% for women. On the general constitutional aptitude, the number of students who meet the requirements of the physical strength classification standards is low. The test of endurance strength gains the lowest result. (Test of 5- minute run has 44.62% of qualified students for men and 37.42% for women). The test of lower limb strength gains the highest result. (Test of standing long jump has 69.23% of qualified students for men and 67.74% for women).

Test results of the morphological and functional factors after the experiment show no difference between the compared results before and after experiment ($t_{\text{calculation}} < t_{\text{table}} = 1.960$ at the probability threshold of $P > 0.05$).

However, the test results still have growth, and the number of students who meet the requirements is higher than before the experiment. The growth rate ranges from 4.301% to 17.308% for men and from 1.460% to 16.438% for women. In terms of the general physical strength classification standards according to the Ministry of Education and Training, there is a large difference in both male and female students ($t_{\text{calculation}} > t_{\text{table}} = 1.960$ at the probability threshold of $P < 0.05$). At the same time, the number of students meeting the requirements of the physical strength classification standards also increases sharply in comparison with the result before experiment. The growth rate ranges from 15.162% to 33.333% for men and from 24.242% to 41.667% for women.

Table 1. Results of constitutional development evaluation of Grade 11 students at Lam Son Gifted High School before and after experiment ($n_{\text{male}} = 195$; $n_{\text{female}} = 155$)

No.	Criteria	Gender	Result ($\bar{x} \pm \delta$)			Before experiment		After experiment		W%
			Before experiment	After experiment	t	Qualified	%	Qualified	%	
1	Height (cm)	Male	162.11 $\pm$ 6.68	163.81 $\pm$ 11.70	1.765	95	48.72	113	57.95	17.308
		Female	154.33 $\pm$ 6.87	155.98 $\pm$ 41.14	1.571	91	58.71	105	67.74	14.286
2	Weight (kg)	Male	48.85 $\pm$ 2.63	49.38 $\pm$ 3.53	1.691	126	64.62	138	70.77	9.091
		Female	43.67 $\pm$ 1.76	44.14 $\pm$ 3.15	1.628	72	46.45	79	50.97	9.272
3	Quetelet index (g/cm)	Male	301.34 $\pm$ 14.01	301.46 $\pm$ 21.52	0.065	123	63.08	131	67.18	6.299
		Female	282.97 $\pm$ 9.51	282.99 $\pm$ 20.21	0.016	68	43.87	69	44.52	1.460
4	BMI index (kg/m ²)	Male	18.59 $\pm$ 0.60	18.40 $\pm$ 1.31	1.796	124	63.59	132	67.69	6.250
		Female	18.34 $\pm$ 0.80	18.14 $\pm$ 1.30	1.574	67	43.23	68	43.87	1.481
5	Heart working index (HW)	Male	12.88 $\pm$ 0.60	12.73 $\pm$ 0.91	1.899	88	45.13	93	47.69	5.525
		Female	13.68 $\pm$ 0.43	13.52 $\pm$ 0.97	1.856	67	43.23	79	50.97	16.438
6	Pancake split (cm)	Male	9.47 $\pm$ 0.41	9.35 $\pm$ 0.67	2.212*	91	46.67	95	48.72	4.301
		Female	8.15 $\pm$ 0.28	8.03 $\pm$ 0.57	2.257*	77	49.68	83	53.55	7.500
7	Dominant handgrip strength (kg)	Male	37.39 $\pm$ 2.56	38.24 $\pm$ 2.73	3.181*	128	65.64	170	87.18	28.188
		Female	26.45 $\pm$ 1.90	27.07 $\pm$ 1.93	2.855*	98	63.23	138	89.03	33.898
8	Crunches (times/30s)	Male	14.28 $\pm$ 0.91	14.61 $\pm$ 1.04	3.328*	105	53.85	147	75.38	33.333
		Female	13.65 $\pm$ 0.87	13.97 $\pm$ 1.00	3.030*	76	49.03	116	74.84	41.667
9	Standing long jump (cm)	Male	196.25 $\pm$ 13.73	200.74 $\pm$ 14.33	3.162*	135	69.23	177	90.77	26.923
		Female	148.95 $\pm$ 10.13	152.42 $\pm$ 10.88	2.906*	105	67.74	145	93.55	32.000
10	30 m standing start run (s)	Male	5.86 $\pm$ 0.48	5.73 $\pm$ 0.41	2.880*	124	63.59	166	85.13	28.966
		Female	7.13 $\pm$ 0.59	6.96 $\pm$ 0.50	2.704*	78	50.32	118	76.13	40.816
11	4 x10 m shuttle run (s)	Male	12.26 $\pm$ 0.99	12.00 $\pm$ 0.86	2.772*	128	65.64	149	76.41	15.162
		Female	13.32 $\pm$ 1.05	13.02 $\pm$ 0.93	2.625*	74	47.74	96	61.94	25.882
12	5-minute run (m)	Male	897.84 $\pm$ 62.42	927.56 $\pm$ 66.23	4.560*	87	44.62	105	53.85	18.750
		Female	756.08 $\pm$ 50.22	796.61 $\pm$ 56.88	6.650*	58	37.42	74	47.74	24.242
	$\bar{W}$	Male								16.675
		Female								20.745

CONCLUSION

The constitutional development of gifted high school students in the North Central provinces is still low in comparison with the Viet Nameese constitution in 2001. The research has selected and developed 08 solutions and put into application 6 out of 8 solutions. The results of pedagogical experiment on the subjects have confirmed the efficiency of constitutional development for students in schools, contributing to improve the performance of physical education for gifted high school students in the North Central provinces.

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