

Evaluating the application and improvement of Vovinam curriculum for students of FPT Polytechnic College of Practice Ho Chi Minh City

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Abstract

Background: The current Vovinam curriculum at the FPT Polytechnic College of Practice Ho Chi Minh City is still inadequate. This is clearly shown through many limitations such as the content of teaching is not very applicable; Examination and evaluation is still subjective; Teaching methods are not plentiful, not attracting learners; The allocation of subject curricula is not rational; Physical strength of students after attending the course is only average Through researching and developing an improved Vovinam program, initially showed that this new program has many outstanding advantages. Especially, after the time of application, the physical indicators of the male and female students of the experimental group (learning under the improved program) were significantly improved compared to those of the control group (studying under the old program). That can confirm the effectiveness of the new Vovinam curriculum.

Keywords: Innovation, programs, FPT Polytechnic, students, applications, vovinam, ...

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I. Introduction

FPT Polytechnic Practice College in Phu Nhuan District, Ho Chi Minh City, belonging to FPT Corporation with the philosophy of "Practical learning - Real career", using project-based learning method with great goals especially "Graduation - Good job". Since its establishment, FPT Polytechnic Practical College has a mission to provide good training services on the following criteria: consistent with students' learning ability; Meeting the great needs of businesses and provide standard training services. Therefore, it is necessary to educate students scientifically and creatively to improve their health.

However, currently in the physical education program of students at universities and colleges in general and especially at FPT Polytechnic Practice College in Ho Chi Minh City is still limited. For example, the quality of teaching is low, the forms and methods of teaching are not abundant and diverse. This leads to less stimulating student's interest and self-discipline. Therefore, conducting research on renovating physical education programs that specifically need to invest in and adjust martial arts elective subjects - Vovinam to improve the effectiveness of physical education subjects is necessary.

II. Material And Methods

Research object: The study object included 140 students (70 men and 70 women) in the second year of the FPT Polytechnic Practice College in Phu Nhuan, Ho Chi Minh City studying Vovinam during physical education class in the academic year 2019 - 2020.

Proceed: The study was conducted from November 2018 to July 2020 at FPT Polytechnic Practice College in Ho Chi Minh City.

Method: Common methods used in solving research tasks include: Summary and analysis of relevant documents; Sociological Investigation; Pedagogical examination; Experimental pedagogy; Statistics and calculations.

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III. Result

3.1. Actual situation of Vovinam curriculum for students of FPT Polytechnic Practical College HCMC

The current curriculum is compiled under the "Credit training and test system" of the Vovinam Association in Ho Chi Minh City. This content has been drafted by the lecturer and applied in teaching from 2015 - 2018 (Table 1)

Table no 1. Current Vovinam curriculum in FPT Polytechnic Practical College HCMC

Content	Number of periods
1. Theory	9
- Origin, development history of Vovinam	3
- The importance criteria of Vovinam martial arts	4
- The belt system and the martial arts forms of Vovinam	2
2. Practice	48
- The basic techniques: Standing techniques (Horse stance), hand techniques, foot techniques	15
- Fist techniques: Initial martial arts forms	18
- Strategic positions: 10 strategic positions from 1-10	12
- Physical development exercises	3
3. Inspection and evaluation	3
Total:	60

- Advantages:

The program adheres to the regulations of the "Credit and grant check system" of the Vovinam Association of Ho Chi Minh City.

Ensuring consistency and inheritance throughout the teaching process.

The content of teaching is quite comprehensive, including basic attacks and standing postures in Vovinam and equips students with basic knowledge about the history, origin and spirit of Vovinam.

- Limitations:

Teaching content is not applicable and highly rubbed, students only practice hand exercises.

The theoretical part takes a lot of time.

The question and answer form is easy to be subjective.

Teaching methods are not rich and lively, not attractive to students.

The allocation of subjects is not rational, leading to boring.

3.2 Research to improve and apply the Vovinam curriculum for students of FPT Polytechnic College of Practice HCMC

From the above reasons, it is very necessary to rebuild the new curriculum to suit the actual situation and help students feel more comfortable and interested in practicing Vovinam.

In order to renovate and improve the content of Vovinam curriculum of FPT Polytechnic Practice College HCMC to achieve high results, the topic interviews 30 lecturers and coaches who have professional qualifications and experience, understanding the peculiarities of Vovinam. Principles of program innovation must ensure: Legality; Scientific; Consistency; Practicality; Pedagogy; Updating; Feasibility.

The contents selected for further surveying are those with results of over 75% of people agreeing and have a consistency after 2 interviews, one month apart. Interview results are presented in Table 2.

Table no 2. Content distribution of the improved Vovinam program at FPT Polytechnic Practice College HCMC

Content	Number of periods
1. Theory	4
<i>1.1. Significance, effect and history of the birth and development of Vovinam</i>	<i>1</i>
<i>1.2. Rituals in Vovinam</i>	<i>1</i>
<i>1.3. Basic principles of techniques in Vovinam</i>	<i>1</i>
<i>1.4. Vovinam competition rules</i>	<i>1</i>
2. Practice	52
<i>2.1. Basic technique</i>	<i>12</i>
- Rituals for beginner students, basic hand technique (punch, support/resist, slash, elbow techniques, knee strike)	3
- Standing techniques (high standing, average standing, crosswise standing, horseshoe-shaped standing, one leg standing, snake standing, low standing)	2
- Kicking techniques (straight kick, cross kick, pushing kick, edge kick, axe kick/ half moon)	4

kick, scissor kick)	
- Coordinating between support techniques and techniques standing	3
2.2. Hand techniques	10
2.3. Strategic position (5 strategic positions from 1 to 5)	8
2.4. Technique to compete	6
- Move in combination with counter-attacks	2
- 2 people fighting freely	4
2.5. Lock up	10
- Squeeze the neck in front of type 1 and 2, strangle the back	3
- Grasp chest type 1 and 2, hug in front without arms and with arms	3
- Hug behind without arms and with arms, holding horizontal, locking hands style 1 and 2	4
2.6. Strength training	6
- Stretching, pressure exercises, exercises to develop hands and legs	2
- Body movement games	4
3. Inspection and evaluation	4
Total:	60

3.3. Organize application program

Experimental Objects: Control group and the experimental group, each group of 70 students (35 male students, 35 female students) are studying the 2nd year, have similar physical qualifications and have never practiced Vovinam.

- Content of teaching: Control group practices Vovinam according to the current program (Table 1). Experimental groups practice according to renovation program (Table 2).
- Experimental application period: 6 months of the first term, academic year 2019 - 2020, from September 2019 to December 2019, including 60 periods distributed in 15 weeks, 4 periods per week.
- Experimental and testing place: FPT Polytechnic Practical College, Ho Chi Minh City.
- Time to make comparisons: The groups participating in the program are used to check and compare the indicators of physical fitness development (according to the standards of physical training) 2 times (before and after experiment periods).
- Evaluation tool: To evaluate the effectiveness of the application of Vovinam martial arts curriculum for students of FPT Polytechnic College of Practice HCMC, we have used six criteria for testing and assessing students' fitness level under Decision No. 53/2008 of the Ministry of Education and Training (Vietnam).

3.4. Evaluate the program's effectiveness through the physical development of the groups that participated in the experimental process

3.4.1. Evaluation before the application of innovative Vovinam program

The physical strength of the control group (male and female) and experimental group (male and female) before the experiment period was relatively even. All 6/6 fitness indicators of control and experimental groups have t calculated $< t$ table, at probability threshold $P > 0.05$. The disparity of each indicator between the two groups was not significant. This confirms that the fitness level of the groups before applying the new program was rather equal.

3.4.2. Evaluation after the application of innovative Vovinam program

In order to evaluate the effectiveness of the innovative Vovinam program, the thesis used a method of matching between control and experimental groups. It was also self-referenced in the same group before and after the experiment period to compare the physical growth rate of students participating in the program.

a. Assess the physical development after experimental period between male student groups

The research results presented in Table 3 show that, after the experiment period, there were 5/6 physical tests of the experimental group outperformed the control group with $P < 0.05$. Particularly, in the test Running for 5 minutes depending on ability, the experiment group's results were better than those of the control group but the difference the average values between the two groups was not statistically significant ($P > 0.05$).

Table no 3. Test results of male students in experimental and control groups after application of the new program

Tests	The control group (n=35)		The experimental group (n=35)		Comparison	
	\bar{X}_1	$\pm S1$	\bar{X}_2	$\pm S2$	t	P
Force squeeze upon hand (Kg)	44.2	2.16	45.5	1.99	2.42	<0.05
Lie on your back with belly bend (times / 30s)	21.5	1.81	23.2	1.79	3.65	<0.05
Standing long jump (cm)	224	7.78	230	7.65	3.01	<0.05

Running 30m (s)	4.96	0.37	4.73	0.36	2.44	<0.05
Shuttle running 4 x 10m (s)	11.91	0.51	11.61	0.49	2.32	<0.05
Running for 5 minutes depending on ability (m)	1015	72.7	1033	70.4	0.97	>0.05

b. Assess the physical development after experimental period between female student groups

Similarly, the research results presented in Table 4 show that, after the experiment period, in addition to the 30m Running test, 5/6 of the fitness tests of the female experiment group were higher than those of the female control group, the difference was statistical significance (with P <0.05).

Thus, after one semester of applying the improved Vovinam curriculum, the achievement test of male and female students in the two experimental groups increased significantly compared to those of the two control groups in all 5 out of 6 tests and the mean difference was statistically significant at probability threshold P <0.05.

Table no 4. Test results of female students in experimental and control groups after application of the new program

Tests	The control group (n=35)		The experimental group (n=35)		Comparison	
	\bar{X}_{DC}	$\pm SDC$	\bar{X}_{TN}	$\pm STN$	t	P
Force squeeze upon hand (Kg)	27.3	2.40	28.7	2.54	2.370	<0.05
Lie on your back with belly bend (times / 30s)	15.8	1.54	16.6	1.58	2.145	<0.05
Standing long jump (cm)	160	7.55	168	8.87	4.063	<0.05
Running 30m (s)	6.15	0.41	5.95	0.36	2.169	>0.05
Shuttle running 4 x 10m (s)	12.38	0.67	12.12	0.61	1.698	<0.05
Running for 5 minutes depending on ability (m)	905	66.5	941	62.5	2.334	<0.05

c. Assess the rate of physical growth after experimentation period in male student groups themselves

As shown in Table 5, after the experimental period, the male control group had a growth in all physical tests but only 3 out of 6 surveyed tests (including the hand squeeze, standing long jump, Running 30m) the means value difference were statistically significant, at probability threshold P <0.05 (t calculated > t 0.05 = 2.03).

Table no 5. Male students in the control group's growth rate of physical after applying the innovative Vovinam program (n = 35)

Tests	\bar{X}_{Con1}	$\pm SCo_{n1}$	\bar{X}_{Con2}	$\pm SCo_{n2}$	W	t	P
Force squeeze upon hand (Kg)	42.6	2.24	44.2	2.16	3.69	2.81	<0.05
Lie on your back with belly bend (times / 30s)	20.8	2.11	21.5	1.81	3.31	1.37	>0.05
Standing long jump (cm)	218.5	8.35	224	7.78	2.49	2.64	<0.05
Running 30m (s)	5.16	0.39	4.95	0.37	-4.15	2.14	<0.05
Shuttle running 4 x 10m (s)	12.06	0.54	11.91	0.51	-1.25	1.10	>0.05
Running for 5 minutes depending on ability (m)	999	78.7	1015	72.7	1.59	0.81	>0.05

(Con: Control group)

Similar analysis, the results presented in Table 6 found that, after the application of the innovation program, the male experimental group showed a growth in all fitness tests. Specifically, 6 of 6 tested surveyed had statistically significant difference of mean values, at probability threshold P <0.05 (t calculated > t 0.05 = 2.03).

Table no 6. Male students in the experimental group's growth rate of physical after applying the innovative Vovinam program (n = 35)

Tests	\bar{X}_{EXP1}	$\pm SEX_{P1}$	\bar{X}_{EXP2}	$\pm SEX_{P2}$	W	t	P
Force squeeze upon hand (Kg)	42.4	2.23	45.5	1.99	7.05	5.68	<0.05
Lie on your back with belly bend (times / 30s)	20.6	2.13	23.2	1.79	11.87	5.11	<0.05
Standing long jump (cm)	218.7	8.36	230	7.65	5.04	5.46	<0.05
Running 30m (s)	5.14	0.39	4.82	0.36	-6.43	3.30	<0.05
Shuttle running 4 x 10m (s)	12.1	0.55	11.61	0.49	-4.13	3.64	<0.05
Running for 5 minutes depending on ability (m)	991	78.6	1033	70.4	4.15	2.18	<0.05

(EXP: experimental group)

d. Assess the rate of physical growth after experimentation period in female student groups themselves

After the application of the innovative Vovinam program, the female control group had growth in all fitness tests but only 3 out of 6 surveyed tests (including the Hand squeeze, Lie on your back with belly bend, Standing long jump), the difference of mean values was statistically significant, at probability threshold $P < 0.05$ (t calculated $> t_{0.05} = 2.03$).

Table no 7. Female students in the control group's growth rate of physical after applying the innovative Vovinam program (n = 35)

Tests	\bar{X}_{Con1}	$\pm SCon1$	\bar{X}_{Con2}	$\pm SCon2$	W	t	P
Force squeeze upon hand (Kg)	25.8	2.41	27.3	2.4	5.65	2.41	<0.05
Lie on your back with belly bend (times / 30s)	14.7	1.88	15.8	1.54	7.21	2.47	<0.05
Standing long jump (cm)	155.4	9.48	160	7.55	2.92	2.07	<0.05
Running 30m (s)	6.32	0.45	6.15	0.41	-2.73	1.53	>0.05
Shuttle running 4 x 10m (s)	12.53	0.77	12.38	0.67	-1.20	0.80	>0.05
Running for 5 minutes depending on ability (m)	890	72.6	905	66.5	1.67	0.83	>0.05

(Con: Control group)

After the application of the innovative Vovinam program, the female experimental group had a good growth in all 6 of 6 fitness tests, the mean value difference were statistically significant at the probability threshold $P < 0.05$ (t calculated $> t_{0.05} = 2.03$).

Table no 8. Female students in the experimental group's growth rate of physical after applying the innovative Vovinam program (n = 35)

Tests	\bar{X}_{EXP1}	$\pm SEXPI$	\bar{X}_{EXP2}	$\pm SEXP2$	W	t	P
Force squeeze upon hand (Kg)	25.6	2.39	28.7	2.54	11.42	5.25	< 0.05
Lie on your back with belly bend (times / 30s)	14.9	1.89	16.6	1.58	10.79	4.08	< 0.05
Standing long jump (cm)	156	9.46	168	8.87	7.41	5.47	< 0.05
Running 30m (s)	6.34	0.52	5.95	0.47	-6.35	3.29	< 0.05
Shuttle running 4 x 10m (s)	12.57	0.74	12.12	0.67	-3.65	2.66	< 0.05
Running for 5 minutes depending on ability (m)	894	73.3	941	70.2	5.12	2.74	< 0.05

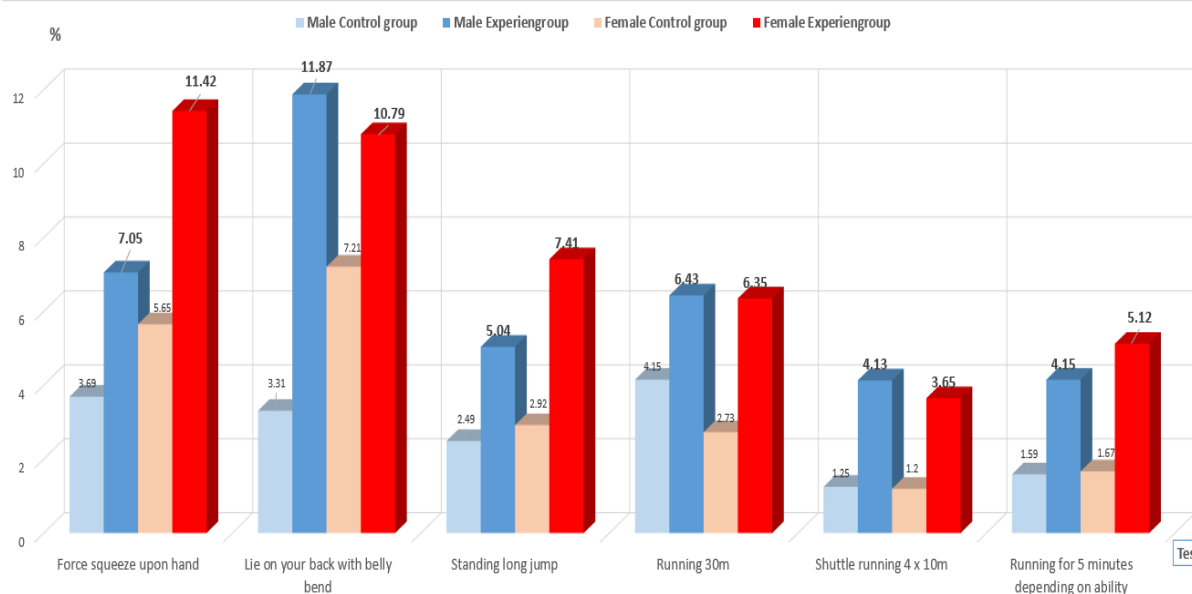


Figure 1. Comparing the rate of physical growth of student groups after application of the renovated Vovinam program

However, two experimental groups (male and female) have markedly improved through each learning period. The physical development of these groups were higher than that of the corresponding control groups's. It can completely confirm the effectiveness of the new Vovinam curriculum compared to the old one.

IV. Conclusion

The current situation of Vovinam curriculum of FPT Polytechnic Practice College HCMC was still inadequate in many aspects such as the content of teaching; The inspection and evaluation; Teaching methods; Program allocation; Student's fitness Therefore, It certainly is necessary for serious study to be given to innovative measures.

After the application of the renewal program, the test results show that the physical indicators of the male and female students in the two experimental groups have improved markedly and grown taller than those of control group. This has proved the effectiveness of the new Vovinam curriculum towards learners.

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