

The effective integration assessment of life skills education for students in teaching physical education at high schools in Buon Ma Thuot city



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ABSTRACT: Physical education contributes to forming key qualities and general abilities for students; In addition, through equipping students with knowledge about health, health management, and training, physical education helps students form and develop physical capacity physical culture, and a sense of responsibility towards others. with the health of oneself, famifamilyn,d community; know how to choose a sport that suits your physical ability to practice; know how to adapt to living conditions, be optimistic and share with oothershav a healthy life physically and mentally. Through commonly used scientific research methods, the paper has formulated an experimental plan for three high schools in Buon Ma Thuot City for the academic year 2022 - 2023. Based on this, the effectiveness of integrating life skills education for students in teaching physical education at high schools in Buon Ma Thuot City is assessed.

KEYWORDS: Effectiveness; Integration of life skills education, physical education, high school, Buon Ma Thuot City.

INTRODUCTION

Physical education at the high school level aims to equip students with knowledge of movement science, motor skills, personal hygiene, exercise methods, and the cultivation of long-term physical activity habits. Additionally, it guides learners toward self-awareness, the development of motor skills, self-directed training, and career orientation. The teaching activities in physical education also strive to create an environment and opportunities for students to cultivate ethics, comprehend scientific movement principles, and integrate knowledge and skills to solve issues related to personal growth and the development of basic life skills. Modern educational perspectives suggest that students can master this knowledge system more effectively if teaching is organized to integrate knowledge, enabling students to utilize resources in solving practical issues in their lives rather than solely applying them in sports training and competition. This direction aims to facilitate a comprehensive understanding of a subject to help learners develop their abilities more holistically

Based on the assessment of life skills education integration, the integration of life skills education into physical education classes in high schools within the Buon Ma Thuot City area has been evaluated practically. These evaluations form the basis for designing a plan to implement integrated teaching of life skills education in physical education classes in high schools in Buon Ma Thuot City. Simultaneously, it assesses the effectiveness of integrating life skills education into the teaching of physical education for students at high schools in Buon Ma Thuot City.

RESEARCH METHODS

Methods of document analysis and synthesis; Interview methods; Classroom observation methods; Pedagogical assessment methods; Pedagogical experimental methods; and Statistical mathematical methods.

RESULTS AND DISCUSSION

Application of experimental integration of life skills education for students in physical education classes at High Schools in Buon Ma Thuot City

Experimental Plan

The experimental plan for integrating life skills education for students in physical education classes at High Schools in Buon Ma Thuot City was carried out in 4 steps as follows:

Step 1: Experiment preparation.

Step 2: Development of a plan and training for Physical Education teachers at the experimental schools.

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Step 3: Implementation of the experiment.

Step 4: Evaluation of the experimental results.

Subject, Content, Experiment Form, and Result Evaluation

Experimental subjects: 579 11th-grade students from Cao Nguyen High School, Tran Phu High School, and No Trang Long Boarding High School in Buon Ma Thuot City.

Experimental content: The experiment involved integrating several Life Skills (LS) within the curriculum of physical education classes for students in various High Schools across Buon Ma Thuot City. This was achieved by designing and implementing the integration of Life Skills for students within the physical education classes through specific lessons.

Experiment form: The experimental form utilized a comparative self-referential method. Evaluation criteria: The effectiveness of integrating Life Skills for students within physical education classes in the High Schools in Buon Ma Thuot City was experimentally established through the use of both quantitative and qualitative evaluation criteria.

Quantitative evaluation: Assessing the physical fitness of 11th-grade students at three schools (Cao Nguyen Practical High School, Tran Phu High School, and No Trang Long Boarding High School) after applying the selected measures and conducting the experimental application. Evaluation tools: Using physical fitness assessment tests according to Decision 53/2008/QD-BGDDT dated September 18, 2008, issued by the Ministry of Education and Training on the assessment and classification of students' physical fitness.

Experiment Location, Time

Experiment location: The experiment took place at three schools: Cao Nguyen Practical High School, Tran Phu High School, and No Trang Long Boarding High School.

Experiment time: Academic year 2022 - 2023 (from September 2022 to May 2023).

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Physical Fitness Assessment

Before and after the experiment (academic year 2022-2023), the physical fitness of 579 11th-grade students at Cao Nguyen Practical High School, Tran Phu High School, and No Trang Long Boarding High School was evaluated. This group consisted of 255 male students and 324 female students. Utilizing 6 physical fitness assessment tests as per Decision No. 53/2008/QD-BGDDT issued on September 18, 2008, by the Minister of the Ministry of Education and Training concerning the assessment and classification of students' physical fitness. These tests included: Handgrip strength (kg); Sit-ups (repetitions/30s); Standing long jump (cm); 30m sprint (s); 4x10m shuttle run (s); 5-minute endurance run (m). The assessment results are presented in tables 1, 2 and 3.

Table 1. Physical fitness assessment indices of students after the experiment (n = 579)

No	Assessment criteria	male students (255)				female students (324)			
		\bar{x}	σ	Cv%	ϵ	\bar{x}	σ	Cv%	ϵ
1	Dominant hand grip strength	42.66	2.12	4.97	0.05	28.32	2.97	10.49	0.05
2	Supine abdominal curl-ups (times/30s)	19.14	3.81	19.91	0.05	14.74	1.72	11.67	0.05
3	Standing broad jump (cm)	213.87	11.04	5.16	0.05	162.89	7.11	4.36	0.05
4	30m Sprint (s)	5.19	0.25	4.82	0.05	6.23	0.56	8.99	0.05
5	4x10m Shuttle run (s)	11.82	0.73	6.18	0.05	12.43	0.94	7.56	0.05
6	5-minute endurance run (m)	1018.3	26.89	2.64	0.05	885.16	37.23	4.21	0.05

The data in Table 1 illustrates the coefficient of variation (Cv), a parameter that reflects the variability or fluctuation among individuals within the sample set, population. Across all indices of the studied subjects, it indicates:

Concerning the physical fitness of male students: Indices with high homogeneity (indicating low dispersion or variability) among the researched individuals ($Cv \leq 10\%$) are: Handgrip strength (kg); standing long jump (cm); 30m sprint (s); shuttle run 4x10m (s); 5-minute endurance run (m). The only index with low homogeneity ($Cv > 10\%$) is the sit-up test (repetitions/30s).

Regarding the physical fitness of female students: All indices with high homogeneity (indicating low dispersion or variability) among the researched individuals ($Cv \leq 10\%$) are: Standing long jump (cm); 30m sprint (s); shuttle run 4x10m (s); 5-minute endurance run (m). The indices of handgrip strength (kg) and sit-up test (repetitions) have low homogeneity ($Cv > 10\%$).

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Table 2. Level of physical fitness improvement in male students after the experiment

No	Test	male (n=255)		W	t	p
		Before the experiment ($\bar{x} \pm \sigma$)	after the experiment ($\bar{x} \pm \sigma$)			
1	Dominant hand grip strength	38.32±2.67	42.66±2.12	10.72	6.83	<0.001
2	Supine abdominal curl-ups (times/30s)	15.76±5.03	19.14±3.81	19.37	11.94	<0.001
3	Standing broad jump (cm)	204.24±15.87	213.87±11.04	4.61	13.95	<0.001
4	30m Sprint (s)	5.83±0.37	5.19±0.25	11.62	6.18	<0.001
5	4x10m Shuttle run (s)	12.34±0.85	11.82±0.73	4.30	8.81	<0.001
6	5-minute endurance run (m)	942.6±33.78	1018.3±26.89	7.72	5.04	<0.001

Table 3. Level of physical fitness improvement in female students after the experiment

No	Test	female (n=324)		W	t	P
		Before the experiment ($\bar{x} \pm \sigma$)	after the experiment ($\bar{x} \pm \sigma$)			
1	Dominant hand grip strength	26.86±2.81	28.32±2.97	5.29	23.46	<0.001
2	Supine abdominal curl-ups (times/30s)	13.23±3.12	14.74±1.72	10.80	9.27	<0.001
3	Standing broad jump (cm)	151.58±10.83	162.89±7.11	7.19	7.14	<0.001
4	30m Sprint (s)	6.79±0.86	6.23±0.56	8.60	14.06	<0.001
5	4x10m Shuttle run (s)	13.01±1.07	12.43±0.94	4.56	6.72	<0.001
6	5-minute endurance run (m)	841.39±52.96	885.16±37.23	5.07	5.78	<0.001

From both Tables 2 and 3, it can be observed that in both groups of male and female students undergoing the experiment at the high school level, there is an improvement in physical fitness after the experiment, with a significant difference at the $p < 0.001$ level.

Table 4. Classification results of physical fitness for male-female students before and after the experiment (based on the criteria set by the Ministry of Education and Training)

No	Test	Before the experiment						after the experiment					
		Good		Achieved		Not Achieved		Good		Achieved		Not Achieved	
		n	%	n	%	n	%	n	%	n	%	n	%
male students (n = 255)													
1	Dominant hand grip strength	33	12.94	19	76.47	5	10.59	102	40.00	141	55.29	12	4.71
2	Supine abdominal curl-ups (times/30s)	27	10.59	21	84.71	6	4.71	87	34.12	159	62.35	9	3.53
3	Standing broad jump (cm)	21	8.24	21	85.88	9	5.88	111	43.53	138	54.12	6	2.35
4	30m Sprint (s)	33	12.94	20	78.82	1	8.24	117	45.88	123	48.24	15	5.88
5	4x10m Shuttle run (s)	15	5.88	20	80.00	4	14.12	84	32.94	153	60.00	18	7.06
6	5-minute endurance run (m)	27	10.59	18	72.94	6	16.47	126	49.41	117	45.88	12	4.71
female students (n = 324)													
1	Dominant hand grip strength	30	9.26	26	80.56	1	10.19	132	40.74	171	52.78	21	6.48

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2	Supine abdominal curl-ups (times/30s)	24	7.41	27 3	84.26	27	8.33	114	35.19	189	58.33	21	6.48
3	Standing broad jump (cm)	21	6.48	28 2	87.04	21	6.48	135	41.67	171	52.78	18	5.56
4	30m Sprint (s)	18	5.56	28 2	87.04	24	7.41	114	35.19	198	61.11	12	3.70
5	4x10m Shuttle run (s)	15	4.63	27 0	83.33	39	12.04	81	25.00	213	65.74	30	9.26
6	5-minute endurance run (m)	24	7.41	25 2	77.78	48	14.81	114	35.19	192	59.26	18	5.56

According to Table 3.4, in both the male and female student groups, after the experiment, the number of students who achieved the fitness test results in all 6 tests increased compared to before the experiment. Particularly, after the experiment, the proportion of students achieving excellent fitness test results significantly increased, while the proportion of students who did not meet the fitness test standards decreased. This is illustrated specifically in graphs 3.1 and 3.2 as follows:

Rubric Evaluation

Assessment based on rubric standards

Goal-setting skill: To assess the level of achievement in students' goal-setting skills before experimenting, students performed tasks to assess the criteria for goal-setting skills and utilized a rubric scale to evaluate those criteria. The data obtained afterward were statistically processed, and the results are presented in Table 3.5.

Table 5. Level of achievement in goal-setting skill criteria before and after the experiment

Level Criteria	Excellent				Average				Poor			
	Before the experiment		after the experiment		Before the experiment		after the experiment		Before the experiment		after the experiment	
	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)
Clarity of goal	35	6.04	185	31.95	359	62.00	243	41.97	185	31.95	151	26.08
Measurability of goal	98	16.93	203	35.06	336	58.03	278	48.01	145	25.04	98	16.93
Achievability of goal	18	3.11	133	22.97	376	64.94	319	55.09	185	31.95	127	21.93
Relevance of goal	41	7.08	151	26.08	295	50.95	237	40.93	243	41.97	191	32.99
Goal attainment plan	53	9.15	180	31.09	312	53.89	255	44.04	214	36.96	144	24.87

From the data in Table 5, it is noticeable that before the experiment, the proportion of students achieving a good level in the goal-setting skill criteria was minimal, predominantly focused on the average and poor levels. After the experiment, the proportion of students achieving the criteria at a good level in all 5 criteria significantly increased compared to before the experiment. Therefore, there is a significant difference in the goal-setting skills of students before and after the experiment.

To affirm the accuracy of the initial achievement level of the goal-setting criteria, we conducted a comparison of the mean scores using a paired t-test. The results are presented in Table 3.6 as follows:

Table 6. T-test results of the implementation of goal-setting skill criteria in students before and after the experiment

Goal-setting skills	Before the experiment		after the experiment		Sig.
	Average score	Standard deviation	Average score	Standard deviation	
Clarity of goal	2.25	0.33	2.45	0.41	0.05
Measurability of goal	2.22	0.30	2.52	0.38	0.05
Achievability of goal	2.31	0.27	2.61	0.25	0.05
Relevance of goal	2.31	0.29	2.48	0.38	0.05
Goal attainment plan	2.40	0.31	2.89	0.32	0.05

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The results shown in Table 6 indicate that the t-test with a significance level of 0.05 reveals a statistically significant difference in the mean scores of the 5 criteria of goal-setting skills in students before and after the experiment. Hence, it can be affirmed that the implementation of goal-setting skills in students after the experiment is better than before.

Teamwork Skills: To evaluate the level of achievement in students' teamwork skills before and after experimenting, students performed tasks to assess the criteria of teamwork and used a rubric scale to evaluate those criteria. The data obtained afterward were statistically processed, and the results are presented in Table 7 below:

Table 7. Level of achievement in teamwork skill criteria before and after the experiment

Level Criteria	Excellent				Good				Average				Weak			
	Before the experiment		after the experiment		Before the experiment		after the experiment		Before the experiment		after the experiment		Before the experiment		after the experiment	
	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)	Quantity	Ratio (%)
Individual contribution to the team	0	0	151	26.08	238	41.1	295	50.9	324	55.6	133	22.7	17	2.94	0	0
Problem-solving ability	0	0	145	25.04	127	21.9	301	51.9	336	58.3	133	22.7	116	20.3	0	0
Attitude in teamwork	0	0	168	29.02	220	38.0	330	56.9	318	54.2	81	13.9	41	7.08	0	0
Level of focus on tasks assigned by the team	0	0	156	26.94	220	38.0	324	55.6	284	49.5	99	17.0	75	12.95	0	0
Ability to collaborate with others in the team	0	0	179	30.92	185	31.9	359	62.0	272	46.8	41	7.08	122	21.07	0	0
Time spent participating in group activities	69	11.92	185	31.95	278	48.01	278	48.01	186	32.12	116	20.3	46	7.94	0	0
Level of connection between the individual and the team	0	0	168	29.02	203	35.06	318	54.92	301	51.9	93	16.6	75	12.95	0	0

The results presented in Table 7 indicate that the proportion of students achieving the criteria at a good and satisfactory level across 7 criteria after the experiment is significantly higher compared to before the experiment. Conversely, the proportion of students achieving the criteria at an average and weak level across the 7 criteria after the experiment has decreased compared to before the experiment. Thus, there is a significant difference in the teamwork skills of the students before and after the experiment.

To accurately confirm the extent of meeting the criteria for teamwork skills among the students, the study carried out a comparison of the average scores of the 7 criteria before and after the experiment using a t-test, with a significance level of 0.05.

Table 8. T-test Table Showing the Results of Criteria Performance of STUDENTS' Teamwork Skills Before and After the Experiment

Teamwork skills	before the experiment		after the experiment		Sig.
	Average score	Standard deviation	Average score	Standard deviation	
Individual contribution to the team	3.05	0.39	3.65	0.33	0.05
Problem-solving ability	2.92	0.28	3.68	0.30	0.05
Attitude in teamwork	2.81	0.32	3.71	0.19	0.05

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Level of focus on tasks assigned by the team	3.01	0.38	3.72	0.28	0.05
Ability to collaborate with others in the team	2.88	0.30	3.80	0.18	0.05
Time spent participating in group activities	2.42	0.36	3.62	0.31	0.05
Level of connection between the individual and the team	3.10	0.33	3.75	0.23	0.05

Evaluation based on self-reports and student perceptions

Self-assessment of the effectiveness of learning according to the experimental content of the research: Compared to the results obtained from the evaluation by teachers before the experiment, there is a significant change in the self-assessment perception of the students themselves. From an educational standpoint, the development of a positive learning attitude is identified as the foundation for the student's long-term learning efforts. A positive attitude is also recognized as a crucial criterion for predicting the future academic outcomes of the students.

Self-assessment of the level of interest in the experimental content of the research: The proportion of students confirming high interest constitutes a high ratio among both male and female students, with percentages of 88% and 86% respectively. High-interest levels enable teachers to smoothly continue implementing student-centered teaching methodologies integrated with the research into subsequent teaching hours. Simultaneously, it provides an advantageous condition for teachers to design and implement physical education development strategies aimed at enhancing physical activity and learning for students in the future. The results also affirm the application of integrated teaching methods from research into the actual subjects has stimulated and developed students' intrinsic interest in Physical Education and experimental content.

Understanding the significance of students in integrated education through Physical Education: The proportion of students self-assessing the level of importance, both important and very important, overwhelmingly stands out, with ratios of 207 male students and 252 female students. Through the research's experimental activities, students were exposed to the integrated teaching content of Life Skills Education within Physical Education. The obtained results regarding the level of awareness of importance have shown that students recognize the value of this activity, which they had not experienced before. The innovation in awareness demonstrates an expansion of knowledge and skills while also reflecting a shift in thinking towards new methods interspersed with traditional monotonous content. The results further confirm the obtained outcome regarding the change in students' attitudes after this research experiment's activities.

Self-perception and evaluation of the effectiveness when teachers integrate life skills education in goal setting and teamwork into Physical Education: The proportion of students self-assessing as effective and very effective is significantly high, with percentages of 192 male students and 225 female students. Therefore, through the experimental activities within the research, the students were exposed to integrated life skills education within the subject of Physical Education. The overall perceived effectiveness level obtained from this has demonstrated that the students recognize the value of this activity, which they hadn't experienced before. However, the difference in the proportions between male and female students is notable. This distinction, as identified in the study, is influenced by the nature and characteristics of gender in the dominant subject of Physical Education, impacting the psychology of the students. It's observed that the attention and interest of males in the core activities of Physical Education classes are higher than females. This needs attention when devising teaching plans and integrating student forms in different subjects.

CONCLUSION

From our research, we draw the following conclusions:

Quantitative test results obtained during the study show that: Before the experiment, the physical fitness of the students involved in the research had low uniformity ($C_v > 10\%$). After the experiment, there was a significant difference in the physical fitness of the students compared to before the experiment, confirmed with a p -value < 0.001 . Furthermore, the proportion of students at the non-achieving level after the experiment decreased compared to before the experiment.

Qualitative test results obtained after the experiment show that: Before the experiment, the proportion of students achieving a good level in the goal-setting skills criteria was minimal, mostly focusing on the average and weak levels. After the experiment, the proportion of students meeting the criteria at a good level in 5 criteria was significantly higher compared to before the experiment (results confirmed with $\text{sig.} = 0.05$). The teamwork skills, tested through a t -test, show a statistically significant difference in the average scores of the 7 criteria of teamwork skills before and after the experiment at a 0.05 probability threshold. Based on the average scores obtained, the results of the students after the experimental process are notably better than before the experiment.

The qualitative evaluation results from the beneficiaries of the experimental teaching plan also show that the proportion of students confirming high interest constitutes a high ratio among both male and female students, with percentages of 88% and 86%

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respectively. The proportion of students self-assessing the level of importance as very important is significantly high, with percentages of 207 and 252 among male and female students respectively. The proportion of students self-assessing the level of effectiveness as very effective is notably high, with percentages of 192 and 225 among male and female students respectively.

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