Investigating the impact of Pencak Silat Theme Integrated Learning on Creativity, Problem Solving, and Motor Skills in Elementary School Students

Albadi Sinulingga, Indra Kasih[2], Sabaruddin Yunis Bangun[3], Nurkadri[4]

{father@unimed.ac.id[1], indrakasih@unimed.ac.id[2], Unisbgn@unimed.ac.id, nurkadri@unimed.ac.id}

Faculty of Sport Science, Universitas Negeri Medan, Indonesia[1,2,3,4]

Abstract. This study aims to investigate the implementation of integrated learning with a Pencak Silat theme to improve elementary school students' creativity, problem-solving ability, and motor skills. This study is an experimental research with one group pretest-posttest design. This study involved 26 third-grade elementary school students who were selected proportionally randomly. The treatment in the form of integrated learning on the theme of Pencak silat was carried out for four weeks with a frequency of 2 times a week (outside the pretest and posttest). To test creativity using balls, bicycle tires, and multifunctional boxes (there are 20 possible movements, and student success is measured by the number of children's ability to move. The test instrument for problem-solving was compiled with the third-grade teacher as many as ten movement choices that contain elements of obstacles. Each choice is calculated frequency as a basis for determining the score. The basic movement skills test consists of throwing targets, flexibility, a long jump without a start point, prone standing, push-ups leaning on a bench, static equilibrium, and zigzag running. The data obtained were then analyzed, including the normality test, homogeneity test, and t-test with the help of SPSS. The results showed that integrated learning with a Pencak silat theme could increase creativity (Sig 0.00 < 0.05), improve problem-solving ability (Sig 0.00 < 0.05), and improve motor skills (Sig 0.00 < 0.05). In conclusion, integrated learning with the Pencak Silat theme stimulates elementary school students to be more creative, solve problems, and improve motor skills that are beneficial to shaping children's future and complement their overall social, emotional, mental, and physical well-being development.

Keywords: Pencak silat, integrated learning, creativity, problem-solving, motor skills.

1 Introduction

The problem of education is always related to the problem of teachers, the issue of students, and the problem of quality of education, as a result of educational efforts carried out whether or not by the expectations or educational goals to be achieved (Setiakarnawijaya et al., 2022). In Indonesia, physical education, especially in elementary school, is an integral part of overall

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education which simultaneously involves the cognitive, affective, and psychomotor domains with the aim of physical, mental, emotional, and social development through selected physical activities/activities carried out at school (Kurniawan et al., 2022).

Physical education's learning process is described through didactic and methodic principles to develop fundamental movement skills (locomotor, non-locomotor, manipulative) with the accompanying impact of building high-thinking skills (Hanief, 2017; Ludyana et al., 2022; Sinag, 2023). Furthermore, Bessa et al. (2022) explained that "physical education has clear and directed pedagogical goals because motion as a physical activity is a natural basis for humans to learn to know the world and themselves by ignoring aspects of morals, character, art, and life skills.

Another fact in the field, physical education learning in elementary schools tends to use conventional learning with an emphasis on certain sports that elementary school children should not do because it is different from the level of growth and development of students. In addition, most physical education implementation in elementary schools tends to use and emphasize learning with teaching materials dominated by formal sports skills (Safitri et al., 2018). This means that the physical education learning process needs more initiative, creativity, problem-solving, fundamental movement skills, and attention to the freedom of children's interests. Creativity, problem-solving, and movement skills are essential for primary school students to shape children's futures and complement their overall social, emotional, mental, and physical development (Yalçın & Erden, 2021).

To overcome the gap between the reality on the ground and the expected ideal conditions, the government, through the Ministry of Education and Culture, gave birth to the 2013 Curriculum (K-13), which is a scientific approach called thematic or integrated learning to improve the quality of education at the primary level. Physical education learning with cross-discipline themes (cross-discipline approach) requires students to think holistically about things (high-order thinking skills). This model uses an inter-study system by combining other subject areas and setting priorities to ensure children get more experience from learning activities.

Thematic (integrated) learning stems from a learning approach that links various fields of study to simultaneously develop children's knowledge and skills. Integrated learning, according to Sinulingga (2014), is believed to be a learning approach that is in accordance with the needs of child development (Development Appropriate Practice) and can be used as an alternative approach to physical education in elementary school. This approach is relatively new in Indonesia but has developed in Europe or America, as in Fogarty's book (1991).

Integrated learning is reported to have been successfully implemented at the primary school level (Pratama et al., 2020; Winarni et al., 2018; Yusrina et al., 2018). Various competencies can be achieved through the implementation of integrated learning. Among the researches that implement integrated learning are integrated learning integrated with Information and communication technologies (ICT) (Winarni et al., 2018), integrated learning with a scientific approach (Dewi & Rukmini, 2019), and integrated learning based on interactive multimedia (Rachmadtulla et al., 2019).

Of the previous research reported to be limited to specific competencies such as learning outcomes (Yusrina et al., 2018), multiple intelligence (Dewi & Rukmini, 2019), and critical thinking (Twiningsih et al., 2019), none have investigated its impact on problem-solving and

motor skills. Therefore, this study seeks to investigate the implementation of integrated learning to improve elementary school students' creativity, problem-solving, and motor skills. In addition, to achieve these competencies, this research involves the theme of Pencak Silat. The materials to be learned in Pencak Silat during the learning process are the basic techniques of hitting, kicking, parrying, and dropping. Therefore, this research aims to investigate the implementation of integrated learning on the Pencak Silat theme to increase elementary school students' creativity, problem-solving ability, and motor skills.

2 Materials and Methods

Research Design

This type of research is a quantitative research using experimental research with one group pre-test-post-test design. According to class hours, the study was conducted in October - November 2022.

Participants

A proportional random technique was chosen to determine the number of participants, resulting in 26 primary school students (8.6□0.154) in grade three.

Procedures

All participants have agreed to participate in this research until it is completed. The research was conducted for four weeks by implementing integrated learning with the theme of Pencak Silat. During the four weeks, four meetings were conducted (excluding the pretest and posttest). Students followed Pencak silat learning activities, starting from the material of punching techniques, kicking techniques, blocking techniques, and falling techniques.

Before getting the treatment, all participants were given a pretest which included a creativity test, problem-solving test, and fundamental movement skills test. The same test was conducted after all participants were treated with the same test to determine whether there was an increase in creativity, problem-solving, and fundamental movement skills.

Instrument

This study consists of 3 test instruments, including 1) creativity tests, namely with balls, bicycle tires, and multifunctional boxes (there are 20 possible movements (children are given the freedom to jump and walk in all directions), and the success of children is measured by the number of children's ability to move. The more the number of movements made, the better the creativity score, 2) problem-solving tests were compiled with the third-grade teacher as many as ten movement choices with obstacles. Each choice is calculated frequency for determining the score), and 3) basic movement skills test. The basic movement skills test consists of an agility test using a 4x10 meter shuttle run, a coordination test using a tennis ball throwing catch with a distance of 1 meter from the wall, a balance test using a stork stand positional balance, and a speed test with a 30-meter run (Nurhasan, 2000).

Statistical Analysis

The data that has been obtained is then analyzed using the t-test with the help of SPSS version 23.

3 Results

All participants conducted a series of tests, including creativity, problem-solving, and movement skills tests, both before and after treatment. The treatment given was learning with the theme of Pencak silat for four meetings. The pretest results can be seen in Table 1, and the posttest results can be seen in Table 2.

Table 1. Pretest Results for Creativity, Problem-Solving, and Motor Skills

	N	Minimum	Maximum	Mean	Std. Deviation
Ball Test	26	3	13	7.12	2.628
Bicycle Tire Test	26	2	10	5.73	1.951
Multifunctional Box	26	2	11	6.38	2.913
Problem-Solving	26	15	45	28.50	7.067
Motor Skills	26	22	37	28.81	3.795

Table 2. Posttest Results for Creativity, Problem-Solving, and Motor Skills

	N	Minimum	Maximum	Mean	Std. Deviation
Ball Test	26	5	15	9.50	2.249
Bicycle Tire Test	26	4	13	7.62	2.041
Multifunctional Box	26	5	14	9.81	2.136
Problem-Solving	26	21	46	31.85	6.130
Motor Skills	26	26	38	31.96	2.973

Based on the pretest and posttest scores (Table 1 and Table 2), it can be seen that the mean values of all components have increased. To find out whether there is an increase in each component, it is necessary to conduct a different test.

a. Integrated Learning Outcomes for Creativity Enhancement

Table 3. Paired T-Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest-Posttest Ball Test	-2.385	1.791	.351	-3.108	-1.661	-6.791	25	.000
Pair 2	Pretest-Posttest Bicycle Tire Test	-1.885	1.451	.285	-2.471	-1.298	-6.622	25	.000
Pair 3	Pretest-Posttest Multifunctional Box	-3.423	1.963	.385	-4.216	-2.630	-8.891	25	.000

Referring to Table 3, it can be seen that the ball test, bicycle tire test, and multifunctional box test have a Sig. (2-tailed) 0.00 < 0.05, which means that there is an increase in creativity caused by integrated learning with the Pencak Silat theme.

b. Results of Integrated Learning on Improving Problem Solving Ability

Table 4. Paired T-Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Intervalof theDifference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest-Posttest Problem-Solving	-3.346	2.097	.411	-4.193	-2.499	-8.138	25	.000

Referring to Table 4, it can be seen that the Sig. (2-tailed) 0.00 <0.05 which means there is an increase in problem solving caused by integrated learning with the Pencak Silat theme.

c. Results of Integrated Learning on Improving Motor Skills

Table 5. Paired T-Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest-Posttest Motor Skills	-3.154	1.642	.322	-3.817	-2.491	-9.795	25	.000

Referring to table 4, it can be seen that the Sig. (2-tailed) 0.00 < 0.05 which means there is an increase in basic movement skills caused by integrated learning with the theme of Pencak Silat.

4 Discussion

This study aims to determine whether integrated learning with the theme of Pencak Silat can increase creativity and problem-solving ability and improve motor skills in grade III elementary school students. The findings show that integrated learning with the Pencak Silat theme for four meetings can increase students' creativity, problem-solving ability, and motor skills. The Pencak Silat theme learning materials, which include kicking, punching, parrying, and falling, can stimulate increased creativity, problem-solving, and movement skills. This is because integrated learning has advantages, as Majid (2014) said, where learning is tailored to children's abilities and develops thinking skills. In addition, integrated learning emphasizes play, freedom, and factuality. In playing, the child has the opportunity to experiment (try) as the characteristics of the child, for example, when students are told to jump while imitating the movements of animals that are around them, making students able to think quickly what animals want to imitate and what kind of movements will be done.

Integrated learning integrates different materials and several related topics to provide students with meaningful learning experiences (Amris & Desyandri, 2021). Integrated thematic learning allows students to explore and process the information obtained because learning is student-centered, while the teacher only supports it during the learning process, so students are proactive in learning (Amris & Desyandri, 2021). By being student-centered, students will be stimulated to think creatively and try to solve problems that the teacher has provided.

The physical education learning environment with various obstacles stimulates children to think as the learning scenario scene demands. Simatupang (2016) says the physical education learning environment full of social or group atmosphere with game games stimulates students to learn to solve problems or solutions. This is where the scientific learning (scientific approach) contained in the K-13 Curriculum lies.

Spyanawati et al. (2021) stated that learning the game-game model with integrated (thematic) with several fields of study in physical education learning supports the ability to solve problems even in small groups. Özdayi (2019) found differences in problem-solving skills in participating in physical education and sports but no significant differences with different sports, gender, and grade of students. Alpaslan Görücü, Erkan Cantav (2017) found the problem-solving skills of physical education departments were lower compared to other departments, such as the Department of Tourism or the Department of Administrative Sciences at the Faculty of Economics. The habit of solving problems needs to be built early or earlier through physical education learning scenes full of various conflicts because they involve groups, so individuals are required to become problem solvers at the next/later age stage.

These results strengthen previous findings, which state that integrated learning can improve problem-solving skills (Adikayanti & Retnawati, 2022; Amris & Desyandri, 2021). The findings also report that integrated learning enhances problem-solving skills and can increase student creativity (Supiadi et al., 2023) as well as the findings in this study. The success of integrated (thematic) learning will be significant if interesting learning environments and resources support it, and creativity will be reduced if the way of care (teachers) does not provide stimulation.

This study's findings align with research conducted by Pan et al. (2020), which says that stimuli from the environment provide a synapse or signal, which forms a relationship between the brain's nerves (synapse). In a broader concept, Lutan (2001) says that the perspective of a curriculum that integrates with the environment (ecological integration) is one of the references

for physical education teachers to achieve learning objectives. The curriculum that integrates with the environment in question is a curriculum that rests on the assumption that each individual is unique and holistic, continuously undergoing a process of improvement so that there is complete integration between the person and his environment.

These findings are influenced by constructivist learning theory (Sugrah, 2019) because elementary school-age children more easily understand an object or learning material as a whole or whole rather than in parts and adapted to students' abilities and with clear goals. Therefore, there is an increase in learning outcomes carried out through integrated learning on the Pencak silat (self-defense) theme

5 Conclusions

Integrated learning with the Pencak Silat theme stimulates elementary school students to be more creative, have the ability to solve problems, and can improve motor skills. Creativity, problem-solving, and movement skills are essential components for primary school students to shape their future and complement their overall social, emotional, mental, and physical development.

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