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Implementation of Sport Education Model (SEM) to Increase Learning Interest and Critical Reasoning Ability of Grade VI Elementary School Students in PJOK Subject in Pagedongan Sub-District

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ABSTRACT

This research aims to determine the effect of learning videos on interest and learning outcomes for class VI SD Negeri 1 Pagedongan for the 2023/2024 academic year. This type of research is quasiexperimental research with The Posttest-Only Control-Group Design. Data on learning interest was collected using an assessment instrument in the form of a questionnaire and learning outcome data using a description test instrument. Data was analyzed using analysis assisted by SPSS 23 for Windows. The results of the research show that: First, there is a significant influence of Sport Education Model on the interest in learning PJOK of class VI students at SD Negeri 1 Pagedongan, Pagedongan District, Banjarnegara Regency for the 2023/2024 academic year. Second, there is a significant influence of Sport Education Model on PJOK learning outcomes for class VI students at SD Negeri 1 Pagedongan, Pagedongan District, Banjarnegara Regency for the 2023/2024 academic year. And third, there is a significant influence of Sport Education Model on interest and learning outcomes in PJOK in class VI students at SD Negeri 1 Pagedongan, Pagedongan District, Banjarnegara Regency for the 2023/2024 academic year.

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1. INTRODUCTION

In this modern era, we are faced with increasingly complex challenges in providing meaningful and inspiring education. As our lives become busier, it is important that we find effective ways to provide sustainable and meaningful physical education learning for students. "Sport Education Model". SEM emphasizes the importance of providing role-playing experiences as players, coaches, and spectators and other roles.

The use of learning videos is expected to increase students' interest and critical reasoning skills. Siedentop (1994, 1998, 2002) stated that SE is designed to provide an authentic and rich experience in education, for girls and boys in the context of physical education in schools....

Based on observations and interviews conducted by the 6th grade teacher at SD Negeri 1 Pagedongan, Pagedongan District, Banjarnegara Regency, the results of the formative assessment on soccer material obtained low results, where the average score of students on soccer material was 67, below the school's Minimum

Completion Criteria. This is because, in soccer material, students tend to be uninterested because they think it is something that is difficult to do, especially female students. In addition, the learning provided to students still does not apply integrated learning, or only *monodicipline* learning, even though solving problems in everyday life cannot be solved with just one field of science, but must be multidisciplinary to be able to solve these problems. Seeing the condition of students, learning is needed that can help students increase their interest and ability to reason critically.

In an effort to increase interest and critical reasoning skills, students must be given something that attracts students' attention in the learning process. One of the learning models that can provide the greatest opportunity for students to increase their interest and ability to reason critically is the implementation of the Sport Education Model. Sport Education (SE) model is a curriculum model that can be widely developed by teachers to be used in various forms of sports activities. Daryl Siedentop is one of the main developers of the SE model. He outlined the theoretical and practical intentions of the SE curriculum in a speech at the Commonwealth Games Conference in Brisbane, Australia, in 1982 (Jewett, Bain, & Ennis, 1995).

Furthermore, Jewett, Bain, & Ennis (1995) stated that SE is a form of curriculum learning model based on the theory of competitive play with competition results depending on the skills and strategies of each team. When interpreted based on the above definition SE model is a curriculum model based on play theory in competitive activities that helps an individual to gain maturation and individual social competence according to the role in the group to coordinate and manage their own sports experience, accept individual responsibility, and demonstrate membership skills in the group in order to achieve success in following the SE season.

SE model according to Metzler (2005), Metzler (2000) has strong implications as a curriculum and teaching, so it is a dual-function model. The most prominent application of learning is sport which is the organizing center for physical education programs: everything taught and learned in the achievement context is a progression of direct instruction (DI), small group cooperative, and peer teaching designed with a comprehensive approach to teaching and learning sport.

So, the SE model in addition to being a curriculum model can also be used as a learning model. When SE is seen by the length of the learning season, it can be called a curriculum model, while when SE is seen from each meeting, it can be said that it is a learning model by using various learning models.

Referring to the above problems, the purpose of this study is to identify the effect of the Implementation of the Sport Education Model on learning interest and critical reasoning skills of grade VI students in PJOK subjects at SD Negeri 1 Pagedongan.

2. METHODS

The purpose of this study was to identify the implementation of the Sport Education Model on students' interest in learning and critical reasoning skills. The research was conducted in class VI of SD Negeri 1 Pagedongan, 2023/2024 academic year which is located on J1 Raya Pagedongan KM 5 Banjarnegara, Pagedongan Village, Pagedongan District, Banjarnegara Regency. The research was conducted in March 2024. This research is a pseudo-experimental research with the design of *The Posttest-Only Control-Group Design*.

The type of research used is in accordance with the objectives to be achieved, which is to determine the effect of the implementation of the *Sport Education Model* on learning interest and critical reasoning skills after being applied to learning assisted by the *Sport Education Model*.

The following is the research paradigm used, which is a double paradigm with two dependent variables (Sugiyono, 2009). The picture is as follows.

 r_1 Y1 r_2 Y2

Figure 1: Multiple Research Paradigm

Description:

 X_1 : Independent variable

Y₁ : Dependent/relative variable 1 Y₂ : Dependent/relative variable 2 r₁, r₂ : Simple correlation

The population of this study were all grade VI students of SD Negeri 1 Pagedongan and SD Negeri 1 Gentansari in the 2023/2024 academic year.

The sampling technique used is random sampling technique. Random sampling technique is a technique or method of sampling that uses the rules of chance in determining the sample elements. That is to say, this technique is taken randomly or randomly. Generally, random sampling techniques provide opportunities for all members of the population to become selected specimens.

In order to obtain data related to this study, the researchers used data collection techniques consisting of observation methods with questionnaires, and documentation methods. Instruments are measuring instruments used in a study. Research instruments that are useful as measuring instruments in and as support in data collection techniques in this study. The research instrument used in the study used a questionnaire. The instruments used by researchers in conducting research are described as follows:

- 1. The questionnaire contains statements that describe students' interest in learning which contains 20 items with 4 answer choices with a value range of 1 to 5.
- 2. The questionnaire contains statements that describe students' critical reasoning skills containing 20 items with 4 answer choices with a value range of 1 to 5.

Before the research instrument is used for data collection, the researcher first tests the validity and reliability of the instrument. To test items, test questions must have requirements in the form of validity and reliability so that the instrument in the form of a questionnaire that will be given is valid and reliable. Researchers conducted validity and reliability tests using the SPSS 23 for windows application. The instrument test is declared valid if rcount> rtable, and vice versa rcount < rtable then it is declared invalid or invalid. The results of the instrument reliability test were consulted with the price of r produc moment at the 5% significance level. If the price of rcount> rtable, then the research instrument is said to be reliable, but if on the contrary the price of rount < rtable, then the instrument is said to be unreliable.

Before analyzing the effect of the independent variable on the dependent variable, it is necessary to conduct a prerequisite test. The pre-requisite test consists of normality test and linearity test. The data normality test is used as a reference to be able to see that the sample data comes from a normally distributed population. Normality testing using SPSS 23 for windows based on the Kolmogorov-Smirnov test. To determine the normality of the data, the test significance level uses $\alpha = 0.05$. If the significance obtained $> \alpha$, then the sample comes from a normally distributed pupolation. Meanwhile, the linearity test is a procedure used to determine the linear status or not of research data. Testing on SPSS 23 for windows using Test for Linearity the basis for decision making uses ANOVA output at a significance level of 0.05. If sign> 0.05 then the relationship between the two variables is linear.

After the instrument test and prerequisite test were carried out, then the researcher took data using the instrument. The data obtained was then analyzed. Researchers used simple linear regression analysis to determine the effect between the independent variable and the dependent variable. The choice of simple regression is because researchers want to identify the effect of the Sport Education Model (X) on learning interest (Y₁) and the effect of the Sport Education Model (X) on critical reasoning skills (Y2). The simple linear regression formula used in this study is:

Description:

Y : dependent variable

X : independent variable a and b : constants

To find the price of a and b, the following formula is used:

$$a = \frac{\sum y \sum x^2 - \sum x \sum xy}{N \sum x^2 - (\sum x)^2}$$

$$b = \frac{N \sum xy - \sum x \sum y}{N \sum x^2 - (\sum x)^2}$$

However, in this study, the calculation of the simple linear regression test was analyzed using SPSS 23 for windows. The criteria for acceptance and rejection of the hypothesis if:

- 1. $t_{table} < t_{(count)}$, or significant ≤ 0.05 then the null hypothesis (H₀) is rejected and the alternative hypothesis (H_a) is accepted. This means that there is a significant influence between one independent variable on the dependent variable.
- 2. t_{table} $t_{(count)}$, or significant ≥ 0.05 then the null hypothesis (H₀) is accepted and the alternative hypothesis

(H_a)is rejected. This means that there is no significant influence between one independent variable on the dependent variable.

3. RESULTS AND DISCUSSION

A. Data Description

The purpose of this study was to determine the implementation of the *Sport Education Model* to increase learning interest and critical reasoning skills in class VI at SD Negeri 1 Pagedongan Banjarnegara. This research is included in associative research using quantitative analysis methods (data in the form of numbers) which aims to determine the relationship or influence between two or more variables. The population of this study were all grade VI students of SD Negeri 1 Pagedongan and SD Negeri 1 Gentansari in the 2023/2024 academic year. The determination of the sample was carried out by random sampling technique, it was found that: grade VI SD Negeri 1 Pagedongan as the experimental group and grade VI SD Negeri 1 Gentansari as the control group.

The first procedure carried out by the researcher was to ask permission from the head of SD Negeri 1 Pagedongan that he would carry out the research. The research was conducted on March 19-20, 2024. The data in this study were obtained through a questionnaire. Collecting information using a questionnaire that is used aims to determine the implementation of the Sport Education Model on students' interest in learning. This assessment is carried out to students when carrying out PJOK learning activities. The assessment rubric used was developed from indicators to determine learning interest with 20 statement items and a rating scale of 1-5.

B. Instrument Test, Prerequisite Test, and Hypothesis Test

Based on the instrument validity test, the value of each item for the PJOK learning variable using SEM, learning interest and critical reasoning ability $r_{(count)} > r_{(table)}$, and the sig value. (2 tailed) value is 0.000 <0.05 in each question item so that it is declared valid.

The results of the reliability test calculation, a variable is said to be reliable if it has a Cronbach Alpha (α) value> 0.6. The value of Cronbach Alpha for each variable in this study is> 0.6, which means that the instrument in this study is reliable and can be used for further research.

The normality test used in this study is the *One-Sample Kolmogrov-Smirnov* test using a significance level of 0.05. Data is declared normally distributed if the significance is greater than 5% or 0.05. The critical thinking skills and collaboration variables have a significance value of 0.200. So in this study the two variables can be said to be normally distributed.

Test for Linearity with the basis for decision making using ANOVA output at a significance level of 0.05. If the sign > 0.05 then the relationship between the two variables is linear and if the sign < 0.05 then the relationship is not linear. The results of the calculation of the linearity test in this study show the significance value of the product> 0.05, which means that the variables of learning Mathematics using Learning Videos and interest and learning outcomes are linear.

Hypothesis testing in this study uses simple linear regression to determine the effect of the independent variable on the dependent variable with the following equation Y = a + bx. The criteria for accepting the hypothesis is if t $_{(table)}$ <t $_{count}$, or significant ≤ 0.05 then the null hypothesis (H $_{0}$)is rejected and the alternative hypothesis (H $_{a}$)is accepted. This means that there is a significant influence between one independent variable on the dependent variable.

1. Hypothesis 1 Analysis

Hypothesis 1 in this study is as follows.

- H_0 : $\mu_1 = \mu_2$ there is no effect of learning PJOK using SEM on the learning interest of 6th grade students of SD Negeri 1 Pagedongan.
- H₁: μ_{(1) ≠}μ₂There is a significant effect of learning PJOK using SEM on the ability of learning interest of grade VI students of SD Negeri 1 Pagedongan.
- Through the simple linear test, the results are presented in tables 4 and 5 below.

 Model Summary

 Model
 Adjusted R Square
 Std. Error of the Estimate

 Model
 R
 R Square
 Estimate

 1
 .566a
 .320
 .292
 6.563

Table 4. Regression Test Output (Model Summary)

a. Predictors: (Constant), SEM

The table above shows the value of the correlation / relationship (R) which is 0.566. From this output, the coefficient of determination (R Square) is 0.320, which means that the effect of the independent variable SEM on the dependent variable (Learning Interest) is 32%, and the influence of other factors is 68%.

Table 5. Regression Test *Output* (Coefficients)

Coefficients^a

				Standardized Coefficients		
		Unstandardized Coefficients				
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	44.185	9.914		4.457	.000
	SEM	.496	.148	.566	3.362	.003

a. Dependent Variable: Learning Interest

Based on the significance value of the Coefficients table, the significance value is 0.000 < 0.05 so it can be concluded that the SEM variable (X) HAS AFFECT on the Learning Interest variable (Y $_{1}$).

Based on the t value of the t $_{calculated}$ value of 3.362> t $_{(table)\ 1.314}$ so it can be concluded that the Learning Video variable (X) AFFECTS the Learning Interest variable (Y 1).

Based on the *Constant* value and the regression equation on the effect of learning Mathematics using Learning Videos on Learning Interest is Y = a + bX, namely Y = 9.914 + (0.496X), which means that every addition of one value of learning PJOK using SEM on learning interest skills is 0.496.

2. Hypothesis II Analysis

Hypothesis 2 in this study is as follows:

- H_0 : $\mu_1 = \mu_2$ There is no effect of learning PJOK using SEM on the critical reasoning ability of grade VI students of SD Negeri 1 Pagedongan.
- H_1 : $\mu_{(1)} \neq \mu_2$ There is a significant effect of learning PJOK using SEM on the critical reasoning ability of grade VI students of SD Negeri 1 Pagedongan.
- Through the simple linear test, the results are presented in tables 6 and 7 below.

Table 6. Regression Test Output (Model Summary)

Model SummaryModelRAdjusted R
SquareStd. Error of the
EstimateModelRR Square1.549a.302.2736.926

a. Predictors: (Constant), SEM

The table above shows the value of the correlation / relationship (R) which is 0.549. From the output, the coefficient of determination (R Square) is

0.302 which implies that the influence of the independent variable (SEM) on the dependent variable (critical reasoning ability) is 30% and the influence of other factors is 70%.

Table 7. Regression Test *Output* (Coefficients)

Coefficients^a

			0.00======				
					Standardized Coefficients		
			Unstandardize	ed Coefficients			
ı	Model		В	Std. Error	Beta	t	Sig.
	1	(Constant)	43.314	10.462		4.140	.000
		SEM	.502	.156	.549	3.221	.004

a. Dependent Variable: Critical Thinking

Based on the significance value of the Coefficients table, the significance value is 0.000 < 0.05 so it can be concluded that the Learning Video variable (X) AFFECTS the critical reasoning ability variable (Y2).

Based on the t value of the t calculated value of 3.221> t (table) 2.036, it can be concluded that the Learning Video variable (X) AFFECTS the critical reasoning ability variable (Y2).

Based on the Constant value and the regression equation on the effect of PJOK learning using SEM on critical reasoning skills is Y = a + bX, namely Y =

43.314 + (0.502X), which means that every addition of one value of PJOK learning using SEM on critical reasoning skills is 0.502.

Learning Implementation Using SEM

The implementation of the use of SEM in learning PJOK class VI soccer material is carried out according to the learning flow that has been designed by the teacher. Based on the assessment conducted by the teacher, it was stated that the implementation of the learning process obtained a score of 66.61% at the meeting that had been carried out, where each stage of learning was carried out well by students and researchers. The implementation of the learning process with Video Learning is presented in Figure 2 below.



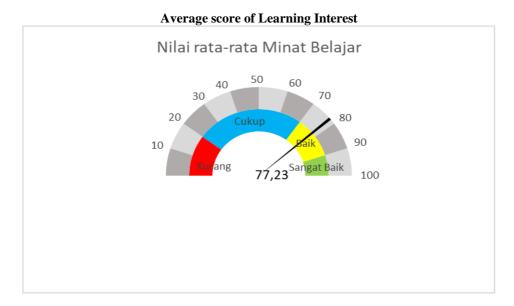
Figure 2: Implementation of the Learning Video

D. Learning Interest Results

Assessment of students' interest in learning is carried out at the end of learning using SEM. Data collection is done by giving a questionnaire containing statements related to learning interest as many as 20 statements where the scoring is in the range of 1, 2, 4, and 5. For positive statements, the scoring is very always = 5, often = 4, sometimes = 2, never = 1, while for negative statements the scoring is very always = 1, often = 2, sometimes = 4, never = 5.

The acquisition of students' learning interest scores is calculated using the following formula:

From the results of data collection, the average value of learning interest is 77.23. The average score of 77.23 is presented in Figure 3 below.



After obtaining the average value, the value can be categorized according to table 8 below.

Table 8. Criteria for Learning Interest

Category	Interval (%)
Very High	81 - 100
High	61 - 80
Simply	41 - 60
Less	21 - 40
Very Less	≤ 20

Source: Adaptation of Suyitno (2004:73)

Based on the Learning Interest criteria, the average score obtained shows that the Learning Interest of grade VI students of SD Negeri 1 Pagedongan is in the high category.

E. Critical Reasoning Assessment

Assessment of student learning outcomes was carried out at the end of the meeting after the learning process using SEM was carried out. The assessment was obtained using a questionnaire containing statements related to learning interest as many as 20 statements where the scoring is in the range of 1, 2, 4, and

- 5. For positive statements, the scoring is very always = 5, often = 4, sometimes = 2, never = 1, while for negative statements the scoring is very always = 1, often
- = 2, sometimes = 4, never = 5.

The acquisition of students' critical reasoning scores is calculated using the following formula:

After all the data is collected and analyzed, the average value of learning outcomes is 76.3. The average score of 76.73 is presented in Figure 3 below.



Figure 4: Average score of learning outcomes

After obtaining the average value, the value can be categorized according to table 9 below.

Table 8. Critical reasoning criteria

Category	Interval (%)
Very good	80- 100
Good	70 - 79
Simply	60 - 69
Less	50 - 59
Very Poor	0 - 49

Source: Adaptation from Masyhud (2012:195)

Based on the critical reasoning criteria above, the average score obtained shows that the critical reasoning of grade VI students of SD Negeri 1 Pagedongan is in the good category.

F. Discussion

The discussion of the research discusses how the results of the research that have been tested are then reanalyzed and seen how the influence given by the PJOK Learning Variable using SEM on Learning Interest and critical reasoning of grade VI students of SD Negeri 1 Pagedongan, Banjarnegara.

1. The Effect of Math Learning Using SEM on Learning Interest

The results of statistical testing between the PJOK Learning indicator using SEM (X) on the Learning Interest variable (Y $_1$)have a regression of 0.566 (Moderate), while the magnitude of the influence is 32%, and the influence of other factors is 68%. From the data also obtained t $_{(count)}$ (3.362) \geq t $_{(table)}$ (2.055). So that the results of the hypothesis test that has been carried out can be seen that H $_0$ is rejected and H $_a$ is accepted, meaning that there is a significant influence of the SEM variable (X) on the Learning Interest variable (Y $_1$).

Students' learning interest is generated from the questionnaire score at the end of the lesson. The statement items in the questionnaire are measured in accordance with the indicators of learning interest, while the statements in the questionnaire are adjusted to the learning activities of students who apply SEM. Through learning using SEM, learning is more effective because it can accommodate students' talents and interests. It is proven that the acquisition of the average value of students' PJOK learning outcomes in the experimental class is higher than the acquisition of the average value in the control class. The results of the u test calculation also show that there is an effect of using SEM in PJOK learning on student learning outcomes.

2. The effect of physical education learning using SEM on critical reasoning skills

The results of statistical testing between indicators of PJOK Learning using SEM (X) on critical reasoning variables (Y 2)have a regression of 0.549 (medium), while the magnitude of influence is 30%, and the

influence of other factors is 70%. From the data also obtained t $_{(count)}(3.221) > t$ $_{(table)}(2.055)$. So that the results of the hypothesis test that has been carried out can be known that H $_{0}$ is rejected and H $_{a}$ is accepted, meaning that there is a significant influence of the SEM variable (X) on the critical reasoning variable (Y $_{2}$).

The critical reasoning ability of students is generated from the questionnaire score at the end of learning. The statement items in the questionnaire are measured according to the learning interest indicators, while the statements in the questionnaire are adjusted to the learning activities of students who apply SEM.

After the application of SEM, learning is more effective because it can accommodate students' talents and interests. It is proven that the acquisition of the average value of students' PJOK learning outcomes in the experimental class is higher than the acquisition of the average value in the control class. The results of the u test calculation also show that there is an effect of using SEM in PJOK learning on student learning outcomes.

4. CONCLUSIONS

Based on the results of research and data analysis using simple linear regression techniques that have been carried out in this study, it can be concluded that first, there is a significant influence of learning PJOK using the *Sport Education Model* on the Learning Interest of Grade VI Students of SD Negeri 1 Pagedongan Banjarnegara Academic Year 2023/2024. The magnitude of the influence of learning PJOK using the *Sport Education Model* on Learning Interest is 32%, the remaining 68% is influenced by other factors.

Then second, there is a significant influence of learning PJOK using the *Sport Education Model* on the Critical Reasoning Ability of Grade VI Students of SD Negeri 1 Pagedongan Banjarnegara Academic Year 2023/2024. The magnitude of the influence of learning PJOK using the *Sport Education Model* on Critical Reasoning Ability is 30%, and the remaining 70% is influenced by other factors.

This is because learning PJOK using the *Sport Education Model* together can be a learning innovation that can increase students' interest in learning and critical reasoning skills, making it easier to solve a problem. Therefore, it is highly recommended for educators to use the *Sport Education Model* in teaching PJOK as a learning innovation in schools.

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