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The Effect of Bamboo Dancing Learning Method on Interest, Motivation, and Learning Outcomes in Electricity Law

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ABSTRACT

This study aimed to determine the effect of bamboo dancing learning on the learning interest of industrial electronics engineering students and the effect of bamboo dancing learning methods on students' interest in studying electricity law. Students in tenth grade have demonstrated increased interest, motivation, and learning outcomes in industrial electronics engineering courses taught using the bamboo dancing method. The research utilized a quasi-experimental design, and the experimental method employed a control group design with non-equivalent participants. The findings demonstrated several points: (i) the bamboo dancing learning method does not affect interest, (ii) the bamboo dancing affects student motivation, and (iii) the bamboo dancing method affects the learning outcomes of the laws of electricity. The experimental class increased the learning outcomes of students who participated in learning the material of the law of electricity. The bamboo dancing method increased students' interest, motivation, and academic achievement.

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1. INTRODUCTION

A vocational school's curriculum is founded on a combination of knowledge, understanding of theory, and application, to prepare students to enter the workforce upon completion of their schooling. The focus of a vocational or vocational curriculum is an education system that emphasizes a specific skill or vocation. The benefit of this curriculum is that students can directly enhance their skills and then adapt these skills to the requirements of the working world. Human Resources (HR) must be enhanced for the nation's future, and one strategy that can be implemented is through learning.

The teacher is an essential component of any endeavor to advance resources since the success of teaching and learning is contingent on the teacher's complete control over the learning process. The skills of educators should be enhanced to improve the quality of education (Prayitno *et al*., 2019). A teacher's capabilities is the ability to design engaging lessons that will motivate students (Dewayani, 2017).

Teachers are a process for accomplishing learning objectives. Teachers are factors that affect the academic success of students. Efforts can be made to enhance learning outcomes by fostering interest and developing motivation, among other strategies (Putri & Isnani, 2015). Students will develop a strong interest in learning by establishing an active learning environment. Applying learning methodologies in the classroom affects student interest in learning.

During conducting observations at State Vocational High School 4 of Serang as part of the teacher field experience program, we discovered issues with the process of learning activities in class X Industrial Electronics Engineering. Observation yielded the following results: After observing the learning process in Basic Electricity and Electronics, it was found to be under the 2013 Curriculum. However, regrettably, during the learning process, the problem frequently encountered is that the motivation and interest of students in the classroom are shallow, and only a small number of students are active. This is indicated by the students' evident requirement for more readiness for learning.

During learning activities, there is apparent student interaction when the instructor explains how to mark a problem; however, the student experiences boredom when receiving material from the teacher. As a result of the lack of chairs and tables, it was also observed that some students were conversing with their peers on the bench, and others were even observed dozing off on the floor. One of the causes of pupil inactivity is the teacher's continued reliance on the lecture method (conventional) and decreased creativity in the classroom (Abdullah & Putra, 2017).

The lecture method affects the communication system between students and teachers in that only one-way communication occurs, and only a small number of students are willing to listen to the material presented to gain knowledge from the teacher for each lesson. Due to the implementation of less creative and active learning methods by the teacher, the learning outcomes of the students are also problematic in this study, as they cannot support students' scores in reaching the Minimum Mastery Criteria value (KKM).

The Minimum Mastery Criteria for electrical law content in the Basic Electricity and Electronics course is 78. About two students out of thirty-six were able to calculate the Minimum Mastery Criteria. Appropriate learning methods must be employed to attain learning success, (Dewayani, 2017). It is anticipated that students will be able to comprehend a lesson through appropriate learning methods to achieve learning objectives. Moreover, it is anticipated that students will become more engaged in learning a subject, particularly Basic Electricity and Electronics (Dewayani, 2017).

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According to Aritonang (2019), the learning model is a strategy teachers can use to increase students' interest in learning and improve their literacy abilities. By employing non-repetitive and varied learning models, we hope to help students learn more effectively, encouraging them to become more engaged in their education. We used bamboo dancing as a cooperative learning model, which is anticipated to increase students' interest in learning by providing a fun and engaging environment in which to collaborate.

When teachers employ the bamboo dancing learning model, the cognitive aspects of students are activated. There are numerous opportunities for learners to analyze vast amounts of information, which can increase their motivation to learn. In the learning phase of bamboo dancing, students listen to knowledge and literacy in groups in pairs or face-to-face to share information simultaneously (Tutty & Klein, 2008).

Thus, students have ample time to process a great deal of information that can enhance their learning motivation, the bamboo dancing method is expected to be able to create an active learning environment with each other in this class, and spark students' interest, when using the bamboo dancing learning method for Basic Electricity and Electronics material, the existence of learning steps makes it easier for students to exchange information with their peers, allowing those who can and those who cannot to do so regularly and fostering students' curiosity; thus, learning is more effective.

We intended to conduct Research titled "The effect of the bamboo dancing learning model on interest, motivation, and learning outcomes for electrical law material at State Vocational High School 4 of Serang" based on the above description. We focused on several points:

(i) To determine the impact of the bamboo dancing learning method on the learning interest of students in class X Industrial Electronics Engineering State Vocational High School 4 of Serang regarding the material of electricity law;
(ii) To determine the impact of the bamboo dancing learning method in electricity law material on the learning motivation of students in class X Industrial Electronics Engineering State Vocational High School 4 of Serang; and
(iii) To determine the impact of bamboo dancing learning method on the learning motivation of students in class X Industrial Electronics Engineering State Vocational High School 4 of Serang.

2. METHOD

A solid research methodology must be developed to create a new perspective for the expanding capacity of science. The outcomes of thought are always inadequate and susceptible to modification. In other words, a thought founded on changes in thinking is always relative; this issue is determined by the information and reality obtained from real life, which is then analyzed using scientific principles. Through research, scientific norms are established. When "re" and "search" are combined to form "research," the meaning is "looking back."

We are looking for something that vanishes. Disappear in the sense that something that should exist does not exist. If there should be a total of 100; however, there are only 80, the question is where the remaining 20, and this is what should be sought. When people hear the word Research, they begin to consider something that has not yet been discovered and, therefore, must be discovered, "it is still not very clear; thus, it must be explained clearly," or "It is still a question; thus, it must be answered," and "it is not optimal enough so it must be optimised." Therefore, a method is required to address the "lack of clarity," all "questions," and everything that remains "not optimal."

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This interpretation of comprehension is consistent with the concept of falsification, which is based on the assumption that review results are frequently falsified. It implies that nearly every scientific discovery has a flaw that can be revised if something new is discovered the next day. This work will focus on quantitative and qualitative research issues and efforts to unite them in the phases of the conducted Research concerning previous efforts to discover scientific truths through the research process. In this Research, the primary considerations in the unification are discussed as part of the paper's discussion. Quantitative Research is used as a type of Research, and the experimental technique is used as a research method. There are available classes in Experiment and Control. In this investigation, the research design is a control group design, and the method is a pseudo-experiment (Kadivar *et al.*, 2022).

Independent variables are variables that affect the dependent variable (bound). The dependent variable, on the other hand, is the variable that the presence of the independent variable affects or produces. Independent variable (unrestricted): the method of teaching electricity law material involving bamboo dancing. At the same time, the dependent variable (Bound) consists of three variables: interest, motivation, and learning outcomes in the theory of electrical law among tenth-grade students at State Vocational High School 4 of Serang. The design of the relationship between the independent and dependent variables is in **Figure 1**.

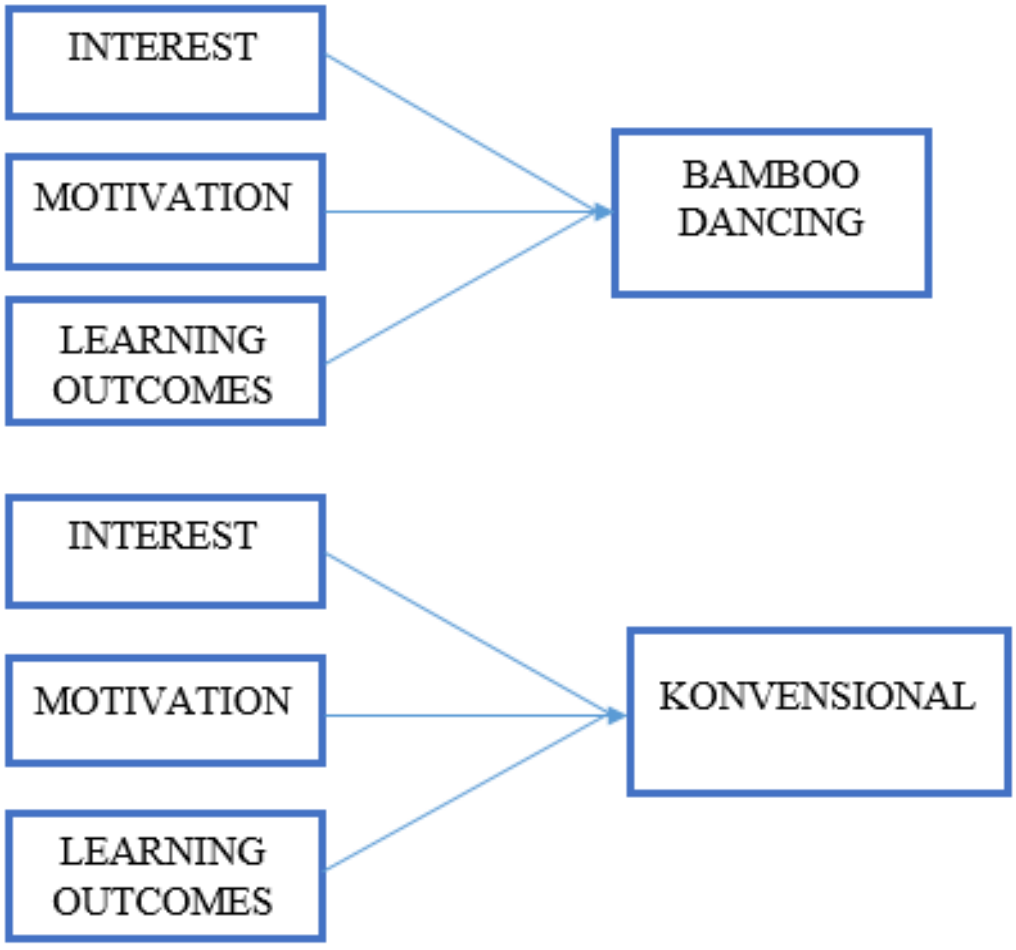

Figure 1. Research Variables.

3. RESULTS

3.1. Statistical Results

Data analysis is beneficial for displaying research data, such as the highest score, total data, lowest score, and average score. The results of the analysis are depicted in **Table 1**.

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Table 1. Data analysis.

	PreEks	PostEks	PreKon	PostKon
N Valid	18	18	18	18
Missing	0	0	0	0
Mean	69.17	85.44	69.00	76.72
Std. Error of Mean	1.302	.821	1.495	1.123
Median	70.00	86.00	69.50	77.00
Mode	67[a]	86	62[a]	76[a]
Std. Deviation	5.523	3.485	6.343	4.763
Variance	30.500	12.144	40.235	22.683
Range	20	12	22	21
Minimum	56	80	59	68
Maximum	76	92	81	89
Sum	1245	1538	1242	1381

a. Multiple modes exist. The smallest value is shown

3.1.1. Results of the pre-test in the experimental class

The results of the study when conducting a pretest before using the bamboo dancing learning method, among others: the results of the experimental group of students obtained the highest student learning outcomes value of 76 and the lowest of 56. In this result, the average count is also obtained at 69.17, the median is 62.00 and the mode obtained is 67. The distribution of the data above can be observed in **Table 2**.

Table 2. Pre-Test of experimental class group.

Experiment Class	*Pretest*
Highest Score	76.000
Lowest Score	56.000
Mean	69.170
Center Score	62.000
Standard Deviation	6.214

3.1.2. Experimental

The results when a post-test was administered following the use of the bamboo dancing learning method included the following point. The experimental group obtained the highest student learning outcome value of 92 and the lowest value of 80. In this result, the average is also calculated to be 85.44, the median is 86.00, and the score that appears most frequently is 86. The distribution of the data, as mentioned above, can be seen in **Table 3**.

Table 3. Posttest of experimental class group**.**

Experiment Class	Posttest
Maximum Score	92.000
Minimum Value	80.000
Mean	85.440
Median	86.000
Standard Deviation	3.485

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3.1.3. Control class pretest results

The study's results, when a pre-test was administered before using conventional learning methods, revealed, among other things, that the control group obtained the highest student learning outcomes value of 81 and the lowest value of 59. This result also yields a mean of 69.00, a median of 69.50, and a mode of 62. The distribution of the data, as mentioned above, can be seen in **Table 4**.

Table 4. Control class group pretest.

Control Class	Posttest
Experiment Class	81.000
Maximum Score	59.000
Minimum Value	69.000
Mean	69.500
Median	6.343

3.1.3. Control class posttest results

The control group acquired the highest student learning outcomes value of 89. In contrast, according to the study's post-test results, the experimental group obtained the lowest value of 68 after using conventional learning methods. The average count was also determined to be 76.72; on the other hand, the median was 77.00 and the mode was 76. The data distribution can be observed in **Table 5**.

Table 5. Class group posttest**.**

Control Class	Post Test
Highest Score	89.000
Lowest Score	68.000
Mean	76.720
Center Score	77.000
Standard Deviation	4.763

3.2. Hypothesis Test Results

3.2.1. Analysis prerequisite testing

3.2.1.1. Normality test

The normality test is used. We given that a significance level of higher than 0.05 indicates that the data is standard. The experimental and control groups' first and last test results were used to test for normality. The Kolmogrov-Smirnof and Shapiro-Wilk tests were used to determine whether the subjects were normal. **Table 6** provides additional information about the results of the normality test for the experimental and control groups.

Table 6. Normality test.

Class		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Result	Pretest	.140	18	.200	.933	18	.220
	Expreriment	.174	18	.153	.952	18	.451
	Class	.118	18	.200	.972	18	.834
		.205	18	.044	.936	18	.245

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We can conclude that the distribution of the research data is expected based on the above results, which indicate that the significance level for all data, as determined by the *Shapiro-Wilk* and *Kolmogorov-Smirnov* tests > 0.05. In addition, the Research was conducted using parametric statistics, specifically the independent sample t-test and paired sample t-test, and measure for homogeneity.

3.2.1.2. Uji paired sample t test

This test is designed to determine the mean difference between the two samples. The data must have a normal distribution for the test of two paired samples to be valid. The hypotheses for the pre-test and post-test yield the following data in **Table 7**.

According to the significance value (2-tailed) of 0 derived from the pair 1 output, the average learning outcomes of experimental class students (learning method: bamboo dancing) before and after the test are different. Because the Pair 2 sig value (2-tailed) is 0.05, it can be concluded that students in the control class have distinct average learning outcomes (conventional learning method) on the pre-test and post-test. Due to the application of the bamboo dancing learning method to the material of the laws of electricity, there is a significant difference between the pre-and post-test scores.

The following data in **Table 8** is a presentation of the mean data regarding learning outcomes before and after implementing the bamboo dancing learning method. Before (pretest) the bamboo dancing learning method was implemented, students scored an average of 69.17 on this table. Moreover, after (the post-test), the average grade for the bamboo dancing learning method increased to 85.44.

Table 7. Paired sample T-test.

	Paired Difference							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig.(2-tailed)
				Lower	Upper			
Pair 1 PreEks - PostEks	-16.278	6.693	1.578	-19.606	-12.949	-10.318	17	.000
Pair 2 PreKon - PostKon	-7.722	4.800	1.131	-10.109	-5.335	-6.826	17	.000

Table 8. Paired samples statistic.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreEks	69.17	18	5.523	1.302
	PostEks	85.44	18	3.484	.821
Pair 2	PreKon	69.00	18	6.343	1.495
	PostKon	76.72	18	4.763	1.123

3.2.1.3. Homogeneity test

Value homogeneity is required for executing a t-test on two research groups using an independent sample. This study employs the Homogentiny of Variance test. The sample is deemed homogeneous if the significance value based on the Mean is more significant than 0.05. In addition, if the data is not homogeneous (the conditions are not met), the Mann-

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Whitney Test is performed. The homogeneity test results for the two research sample groups are presented in **Table 9**.

The significance value Based on the Mean is 0.574. Thus, the conclusion is that the data variance of the Experiment post-test class and the control post-test class are identical. The conclusion is that one of the (non-absolute) conditions of the independent sample test has been met.

Table 9. Homogeneity Test.

		Levene Statistic	df1	df2	Sig.
Pair 1	Based on mean	.323	1	34.000	.574
	Based on median	.412	1	34.000	.525
Pair 2	Based on median and with adjusted df	.412	1	29.414	.526
	Based on trimmed mean	.337	1	34.000	.565

3.2.1.4. Independent sample t-test

The independent sample t-test is used to determine whether there is a significant difference between the experimental and control groups' post-test results. **Table 10** displays the results of the independent sample hypothesis test calculation. Based on **Table 10**, we obtained a significance (2-tailed) of 0, meaning that there is a difference between the bamboo dancing learning method and the conventional method on the average learning outcomes of students. Further data can be seen in **Table 11**.

The statistics in the table above pertain to the experimental class using the bamboo dancing learning method. The average post-test score of the experimental class is 85.44, indicating a higher value. In contrast, the average value for the control group using conventional procedures was only 76.72.

Table 10. Independent sample t test.

	Levenes test for equality f varience		t-test for equality of means						
	f	Sig.	t	df	Sig. (2 tailed)	Mean difference	Std Error Different	95% confidence interval of difference	
								Laser	Upper
Result of study, equal variances assumed	0.323	0.574	6.271	34	0	8.722	1.391	5.895	11.549
Equal variances not assumed			6.271	31.148	0	8.722	1.391	5.886	11.559

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Table 11. Statistics of learning outcomes of control and experimental classes**.**

Class	N	Mean	Std. Deviation	Std. Error Mean
PostTest Experiment Class	18	85.44	3.485	.821
PostTes Control	18	76.72	4.763	1.123

3.3. Hypothesis Testing

3.3.1. Multiple regression test of bamboo dancing method

Multiple Regression Test is valuable for determining whether two or more independent variables (X) affect the dependent variable (Y).

Hypothesis Formulation

H1: Does interest (X1) affect the bamboo dancing method (Y)?

Ho: There is no effect of the bamboo dancing procedure on interest.

Ha: There is an effect of interest in the bamboo dancing technique.

H2: Does Motivation (X2) affect the bamboo dancing method (Y)?

Ho: Motivation does not affect the bamboo dancing method.

Ha: Motivation affects the bamboo dancing method.

H3: Do the learning outcomes (X3) affect the bamboo dancing method (Y)?

Ho: There is no relationship between learning outcomes and the bamboo dancing method.

Ha: Ha! Learning outcomes have an impact on the bamboo dancing method.

H4: Do interest (X1), motivation (X2), and learning outcomes (X3) affect the bamboo dancing method (Y)?

Ho: The bamboo dancing method does not affect interest, motivation, or learning outcomes

Ha: Interest, Motivation, and learning outcomes affect the bamboo dancing method.

95% confidence level, a = 0.05

3.3.2. t-Test

The t-test decision-making process includes the following elements:

(i) If the significance value is <0.05, it indicates that variable X affects variable Y.

(ii) If the significance value is > 0.05, variable X does not affect variable Y.

3.3.3. F test

In deciding to take the F test, the following factors must be considered:

(i) If the significance value is less than < 0.05, variable X affects variable Y.

(ii) If the significance value is > 0.05, variable X does not affect variable Y.

Hypothesis Testing H1, H2, and H3 with the t-test for the Bamboo Dancing Method is displayed in **Table 12**.

Table 12. Hypothesis test coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
(Constant)	-28.770	13.810		-2.083	.056
Minat (X1)	0.288	0.142	0.255	2.028	0.062
Motivasi (X2)	0.609	0.225	0.346	2.702	0.017
Hasil Belajar (X3)	0.494	0.116	0.509	4.257	0.001

a. Dependent-Variabel: Metode Bamboo Dancing (Y).

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Based on the results of the above hypothesis testing, the following conclusions can be drawn:

(i) **Testing the First Hypothesis (H1).**

The significance value for the effect of variable X1 (interest) on variable Y (bamboo dancing method) is 0.062; on the other hand, the value of t-value of 2.028; therefore, Ho is accepted, and Ha is rejected, indicating that variable X1 does not affect variable Y.

(ii) **Second Hypothesis Testing (H2).**

Based on the above table, the significance value for the effect of X2 (Motivation) on Y (bamboo dancing method) is 0.017, and the significant value of t-value of 2.702. Therefore, Ho is rejected, and Ha is accepted, indicating that variable X2 affects Y.

(iii) **Testing the Third Hypothesis (H3).**

Based on the above table, the significance value for the effect of variable X3 (learning outcomes) on variable Y (bamboo dancing method) is 0.001, and the significant value of t-value of 4.257; thus, Ho is rejected, and Ha is accepted, indicating that variable X3 affects variable Y.

(iv) **Testing the fourth hypothesis (H4) with the f test.**

Based on the preceding table, the significance value of the combined effect of X1, X2, and X3 on Y is 0.000 and an F-value of 30.014 see **Table 13**. It can be concluded from this description that Ho is declined, and Ha is accepted. This presupposes that X1, X2, and X3 all affect Y.

Table 13. Anova.

	Model	Sum of Square	df	Mean Square	F	Sig.
1	Regression	102.043	3	34.014	30.587	0
	Residual	15.569	14	1.112		
	Total	117.611	17			

(v) **R-Square Test of Bamboo Dancing.**

The Adjusted R Square (coefficient of determination) is 0.839, which indicates that the effect of the independent variable (X) on the dependent variable (Y) is 83.9% based on the output of the above summary method **Table 14**.

Table 14. Test R-square model summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.931	0.868	0.839	1.05453

a. Predictors: (Constant), Result of Study (X3), Learning Interest (X1), Motivation (X2).

(vi) **Multiple Regression Test Conventional Method.**

Multiple Regression or Regression with Multiple Steps Test determines whether two or more dependent variables (Y) are affected by independent variables (X).

Hypothesis Formulation

H1: Does interest (X1) affect conventional methods (Y)?

Ho: There is no effect of interest on conventional procedures.

Ha: Interest affects conventional methods

H2: Does Motivation (X2) affect conventional methods (Y)?

Ho: Motivation does not affect conventional methods.

Ha: Motivation affects conventional methods.

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H3: Does a relationship exist between learning outcomes (X3) and conventional methods (Y)?

Ho: There is no relationship between learning outcomes and conventional methods.

Ha: Learning outcomes affect conventional methods.

H4: Does conventional instruction affect interest (X1), motivation (X2), and learning outcomes (X3)?

Ho: Interest, Motivation, and learning outcomes do not affect conventional methods.

Ha: Interest, Motivation, and learning outcomes affect conventional methods.

(vii) **The t-test.**

In deciding to conduct the t-test, the following elements must be considered:

1. If the significance value is 0.05 or the t-value is greater than the t>table, variable X is assumed to affect variable Y.
2. Variable X does not affect variable Y if the significance level is more significant than 0.05 or the t-value.

(viii) **F tes**

In deciding to take the F test, the following factors are fundamental:

If the significance value is < 0.05, variable X affects variable Y.

If the significance value is > 0.05, variable X does not affect variable Y.

The results of testing hypotheses H1, H2, and H3 with the t-test using the conventional method are shown in **Table 15**.

Table 15. F Test coefficients.

Model		Unstandardized Coefficients		Unstandardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.987	8.617		2.784	0.015
	Interest (X1)	0.476	0.111	0.603	4.267	0.001
	Motivation (X2)	0.089	0.094	0.151	0.942	0.362
	Result of Study (X3)	0.155	0.062	0.381	2.516	0.025

a. Dependent Variabel: Metode Konvensional (Y)

Testing results are in the following:

(i) **Testing the Effect of Interest on Conventional Methods.**

According to the preceding table, the significance value for the effect of X1 (interest) on Y (conventional method) is 0.005. In contrast, the significant value of t-value of 4.267 indicates that interest variables affect conventional methods.

(ii) **Testing the Effect of Motivation on Conventional Methods.**

According to the preceding table, the significance value for the effect of X2 (Motivation) on Y (conventional method) is 0.362; on the other hand, the significant value of t-value of 0.942. Therefore, it can be concluded that Motivation does not affect conventional methods.

(iii) **Testing the Effect of Learning Outcomes on Conventional Methods.**

Based on the previous table, the significance value for the effect of X3 (learning outcomes) on Y (conventional methods) is 0.025, and the value of the large t-value is 2.516; therefore, it can be concluded that learning outcomes affect conventional methods.

(iv) **Testing the Effect of Interest, Motivation, Learning Outcomes on Conventional Methods.**

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The significance value of the effect of X1, X2, and X3 on Y is 0.000, and the F-value is 14.864. Therefore, interest, Motivation, and learning outcomes impact conventional methods see **Table 16**.

(v) **R-Square Test.**

The Adjusted R Square value (coefficient of determination) is 0.710, which indicates that the effect of the independent variable (X) on the dependent variable (Y) is 71% based on the output see **Table 17**.

Table 16. ANOVA.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.648	3	7.216	14.864	0
	Residual	6.797	14	0.485		
	Total	28.444	17			

Table 17. R-square test summary method.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.872	0.761	0.710	0.69676

4. DISCUSSION

After evaluating the hypotheses, the bamboo dancing and conventional learning methods yielded different research results. Where conventional learning methods do not affect the learning interest variable, as indicated by the Sig value. The value of t for the effect of X1 (interest) on conventional methods is 4.267. Although interest in learning is not affected by the bamboo dancing method, the effect of X1 (interest) on Y (bamboo dancing method) is 0.062.

The following result is the motivation variable, which only affected the bamboo dancing learning method via the Sig value. The effect of X2 (motivation) on Y (bamboo dancing method) is 0.017. Thus, t table of 2.145 Y is affected. On the other hand, conventional learning methods do not affect motivation, the Sig value for the effect of X2 (motivation) on conventional methods is 0.362, and the t value is 0.942. As opposed to the learning outcomes variable, using the Sig value, the results of hypothesis testing demonstrate the effect of learning outcomes from both conventional learning methods and bamboo dancing .

The effect of X3 (learning outcomes) on Y (bamboo dancing method) is 0.001, then t-value of 4.257, indicating that there is a relationship between the two variables. On the other hand, the sig value. For the effect of X3 (learning outcomes) on conventional methods is 0.025, and the t value is 2.516, it can be concluded that learning outcomes impact conventional methods.

The last hypothesis testing is testing the effect of the three dependent variables at once on the bamboo dancing learning method and conventional learning methods. Obtained the results of the significance of variables X1, X2, and X3 simultaneously on the bamboo dancing learning method is 0 and F-value of 30.014. Thus, the conclusion is Ha is accepted, meaning that there is an effect of interest, motivation, and learning outcomes simultaneously on the bamboo dancing learning method (Shi *et al.*, 2022).

On the other hand, the effect of variables X1, X2 and X3 on conventional learning methods is 0 and F-value of 14.864. Thus, it can be concluded that there is also an effect of X1, X2, and X3 simultaneously on conventional learning methods. To see the percentage difference in effect between the bamboo dancing learning method and conventisonal learning methods, the R-Square test is carried out. Thus, the results obtained for the independent variable (X)

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on the bamboo dancing learning method are 83.9%. On the other hand, the effect of the independent variable (X) on conventional learning methods is 71%. Hence, it can be concluded that the greater the effect of the bamboo dancing learning method on student interest, motivation and learning outcomes (Rahayu & Istiani, 2019).

5. CONCLUSION

The bamboo dancing learning method's hypothesis analysis and testing results indicated that H1 is rejected; on the other hand, H2 and H3 are accepted. This finding suggests that the bamboo dancing learning method affects motivation and learning outcomes concerning electrical law material at State Vocational High School 4 of Serang.

(i) The bamboo dancing learning method does not affect interest. In this instance, where it proves the results of empirical testing analysis, it is known that the Sig. The value for the effect of X1 (interest) on Y (bamboo dancing method) is 0.062. Thus, it can be concluded that in the first hypothesis, Ho is accepted. At the same time, Ha is rejected, indicating that variable X1 does not affect Y.

(ii) Motivation affects the bamboo dancing method. This demonstrates the empirical analysis of the Sig value obtained from the test. The effect of X2 (Motivation) on Y (bamboo dancing method) is 0.017. Thus, Ho is rejected, and Ha is accepted, indicating that variable X2 affects Y.

(iii) The effect of the bamboo dancing learning method on the retention of electricity law material was discovered. In the experimental class, student participation in learning about the laws of electricity resulted in improved learning outcomes. Where the teacher-prescribed learning method is implemented, bamboo Dancing is a method of learning in groups; thus, students become more active by exchanging ideas with their peers; the teacher may also pose queries to students regarding their schemata of prior knowledge of the subject matter. Contributing suggestions seek to make students' cognitive structure even more active, thereby enhancing students' learning outcomes. This demonstrates the empirical analysis results of the test; it is known that the Sig. The value for the effect of X3 (learning outcomes) on Y (conventional methods) is 0.025. Thus, Ho is rejected, and Ha is accepted, indicating that variable X3 affects variable Y4.

(iv) It was discovered that the bamboo dancing learning method simultaneously affects interest, Motivation, and learning outcomes. This demonstrates the results of the empirical testing analysis. Given that the significance value for the simultaneous effect of X1, X2, and X3 on Y is 0. Thus, Ho is rejected, and Ha is accepted, indicating that there is a simultaneous effect of X1, X2, and X3 on Y.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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7. REFERENCES

Abdullah, A.G., and Putra, A.P. (2017). Water level measurement altitude trainer integrated with human machine interface . *Indonesian Journal of Science and Technology* , *2*(2), 197-210.

Aritonang , T. (2019). Meningkatkan minat belajar PKN dengan menggunakan model pembelajaran tari bambu. *Jurnal Global Edukasi*, *3*(1), 31-38.

Dewayani, E. (2017). Penerapan model pembelajaran kooperatif bamboo dancing (tari bambu) untuk meningkatkan hasil belajar peserta didik pada pokok bahasan teks Faktuailmiah di kelas XII MIPA 2 SMA Negeri 2 Pekanbaru . *Jurnal Pendidikan Ekonomi Akuntans*i, *5*(2), 161-171.

Ena, Z., and Djami, S. H. (2021). Peranan motivasi intrinsik dan motivasi ekstrinsik terhadap minat personel bhabinkamtibmas polres kupang kota. *Among Makarti*, *13*(2), 168-175.

Kadivar , M., Gauss , C., Stanislas , T. T., Ahrar , A. J., Charca , S., and Savastano Jr, H. (2022). Effect of bamboo species and pre -treatment method on physical and mechanical properties of bamboo processed by flattening -densification . *Materials Chemistry and Physics*, 291, 1-10.

Prayitno , A., Rahayu , M. S., and Sugiyanto , Y. (2019). Peningkatan aktifitas belajar ilmu pengetahuan sosia tentang pergerakan nasional melalui pembelajaran kooperatif metode bamboo dancing pada siswa kelas V semester II sekolah dasar negeri Kandangsapi 2 Kecamatan Jenar Kabupaten Sragen tahun pelajaran 2015. *Civics Education And Social Sciense Journa*l (CESSJ), *1*(1), 1-17.

Putri, D. T. N., and Isnani, G. (2015). Pengaruh minat dan motivasi terhadap hasil belajar pada mata pelajaran pengantar administrasi perkantoran. *Jurnal Pendidikan Bisnis dan Manajemen* (JPBM), *1*(2), 118-124.

Rahayu , S., and Istiani , A. (2019). Experimentation on bamboo dancing learning model on student ’s mathematics learning outcomes viewed from adversity quotient (AQ). *In Journal of Physics: Conference Series, 1155* (1), 1-5.

Shi, A., Wang , Y., and Ding , N. (2022). The effect of game –based immersive virtual reality learning environment on learning outcomes : Designing an intrinsic integrated educational game for pre–class learning. *Interactive Learning Environments* , *30*(4), 721-734.

Tutty, J. I., and Klein, J. D. (2008). Computer-mediated instruction: A comparison of online and face-to-face collaboration. *Educational Technology Research and Development*, *56*, 101-124.

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