

# THE INFLUENCE OF GALLERY OF LEARNING TYPE BY USING MEDIA POSTER TOWARDS STUDENTS LEARNING OUTCOMES ABOUT ECOSYSTEM IN CLASS X SMA ISTIQLAL DELITUA.

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## Abstract

The purpose of this research is to find out the effect of Gallery of Learning model by using media poster towards students learning outcomes about ecosystem in SMA Istiqlal Delitua.

The population in this study is all students of class X SMA Istiqlal Delitua consisted of 143 students which are divided in four classes. Sample distributions were done with random sampling technique with the result of class X-3 which consisted of 35 students.

Learning model which used in this research was gallery of learning with 70 minimum pass score. Average pre-test score before using gallery of learning media poster is 61,4 while the average after-test score after the applying of gallery of learning media poster is 77,8. There is 8 student who passed the average pretest score (23%) and 27 students (77%) while in the after-test, 29 students passed (83%) and 6 students failed (17%).

Based on the hypothesis test obtained score  $t_{count} = 15,99$  while score  $t_{table} = 1,69$ , so that  $t_{count} > t_{table}$ , which means  $H_a$  is accepted and  $H_0$  is rejected because of the significant effect on the use of The Influence of Gallery of Learning Type By Using Media Poster Towards Students Learning Outcomes About Ecosystem In SMA Istiqlal Delitua.

## INTRODUCTION

The learning process occurs through many ways both intentional and unintentional and takes place over time and leads to a change in the student. The changes in question are changes in fixed behavior in the form of knowledge, understanding, skills and habits that students have just acquired. Meanwhile, experience is an interaction between students and the environment as a source of learning. So, learning here is defined as a process of changing fixed behavior from not knowing to knowing, from not understanding to understanding, from less skilled to skilled, and old habits to new habits, and is beneficial to the environment and the individual himself (Hadi, 2022).

These changes should occur as a result of interaction with the environment through the teaching and learning process. Where the teacher is not the only source of learning, although his duties, roles and functions in the teaching and learning process are very important. However, student activeness in seeking knowledge information by learning discussions with peers is also needed in reminding learning outcomes (Anam et al., 2021).

In addition to the role of teachers and students, the learning process will take place well if supported by several factors such as learning facilities, teaching models and methods, teaching techniques and learning media. The most important element in teaching is to stimulate and direct students to learn (H. Wulandari & Nurhaliza, 2023). Teaching is essentially nothing more than helping students to acquire knowledge, skills, attitudes, and ideas and appreciation that lead to changes in behavior and student growth. A good teacher's teaching method is the key and prerequisite for students to be able to learn well. One of the benchmarks that students have learned well is if the student can learn what should be learned so that the desired learning outcome indicators can be achieved by students (Wote & Sabarua, 2020).

Based on the results of direct observations and interviews with Biology Study Teachers at

Istiqlal Delitua High School, there are still many students who get daily exam scores below the KKM while the criteria for the level of learning completeness (KKM) that has been set by the school is 70.00. Only 40% of student grades meet the KKM and 60% of students still score below the KKM. However, efforts to complete student learning outcomes are influenced by many factors, lack of student interest in utilizing existing facilities at school, lack of variety of learning models given in each biology learning subject. With the existing supporting factors, it is necessary to make efforts to further improve learning success (A. P. Wulandari et al., 2023).

One of the benchmarks for assessing teaching success is using the results achieved by students in learning, so in determining the learning model. In improving the learning process, the teacher's role is very important, namely determining the right learning model. Because the target of the learning process is student learning, then in determining the learning model, the focus of the teacher's attention is on student learning efforts. In fact, teaching should be done with an effective learning model or method in order to obtain good results (Azis, 2021).

Based on the description above, that the model used is Gallery of Learning is considered relevant in Teaching and Learning Activities (KBM) on the subject matter of ecosystems in the field of biology, so it is necessary to conduct research on "The Influence Of Gallery Of Learning Type By Using Media Poster Towards Students Learning Outcomes About Ecosystem In Class X SMA Istiqlal Delitua" (Putra et al., 2020)(Makmun et al., 2020).

## METHODS

### Research Model and Design.

This research is experimental in nature by giving treatment to the population, namely learning the Gallery of Learning model using poster media. The **research design** can be seen as follows:

Pre-test	Treatment	Post-test
01	Kelas X-3	02

Description:

- 01 = Initial test before using the Gallery of Learning model using poster media.
- 02 = Final test after using the Gallery of Learning model using poster media
- X = Learning treatment using the Gallery of Learning model using poster media

### Research Procedure:

- Preparation Stage: a) Preparing for research; b) Determining the research location; c) Observing the school; d) Identify problems that exist in the school and classroom environment by interviewing Biology teachers
- Research Implementation: a) Determining the class that will be sampled using random sampling technique by drawing, which is taken as a sample that will use the Gallery of Learning model by using poster media; b) Giving a pre-test to students to determine the initial ability of students; c) Carry out the learning process of Ecosystem material using the Gallery of Learning model by using poster media; d) Giving a post test to determine student learning outcomes.
- Completion Stage: a) Performing data processing after data collection from the sample class; b) Perform data analysis process; c) Draw conclusions from the results of the data analysis that has been completed;

### Population

Population is the whole object that is targeted in research. The population in this study were all grade X students of SMA Istiqlal Delitua. Based on the review conducted, the data obtained from all class X students amounted to 143 people spread over 4 classes.

Table 1. Total Population of Class X Students of SMA Istiqlal Delitua



No.	Class	Male	Female	Total
1.	X – 1	15 Peoples	20 Peoples	35 Peoples
2.	X – 2	17 Peoples	21 Peoples	38 Peoples
3.	X – 3	16 Peoples	19 Peoples	35 Peoples
4.	X – 4	13 Peoples	22 Peoples	35 Peoples
	Total	61 Peoples	82 Peoples	143 Peoples

### Sampel

The sample is a part or representative of the population. Because the population consists of 4 classes and 1 class from the population is used as an Instrument Trial class, namely class X-2. Then the right to be a sample in this study is class X-1, X-3, X-4. Where the sampling technique in this study is Random Sampling which is done by drawing. From the results of the drawing conducted, one sample was obtained as a research class, namely class X-3 consisting of 35 students.

### Research Instruments and Data Collection Techniques

In this study, the results obtained were initial ability data and student learning outcomes tests, to obtain the necessary data, researchers used data collection tools in the form of pre and post tests.

#### 1. Pre-test

The pre-test was given before the Ecosystem material was taught. This test is conducted to determine the basic ability of students about the material to be taught. The test given amounted to 20 questions sourced from valid instrument test questions in the form of multiple choice (mutiple choice). And each question has 5 (options) namely a, b, c, d, and e. The questions given can describe valid based on content (Content Validity) and valid based on the level of difficulty (Construct Validity).

#### 2. Post-test

The post test was given after the Ecosystem material was taught. This test is conducted to determine student learning outcomes about the material taught using the Gallery of Learning Model using poster media on Ecosystem material. The test given amounted to 40 questions in the form of multiple choice (mutiple choice) and in a valid state. 27 questions come from instrument test questions and 13 questions come from question banks, each question has 5 choices (options) namely a, b, c, d, and e. The questions given can describe valid based on content (Content Validity) and valid based on the level of difficulty (Construct Validity). Then it can be seen through the grid below:

Table 2. Blue Print (Lattice - Lattice of Post Test Questions on Ecosystem Material in class X-3 SMA Istiqlal Delitua)

No	Indicator	%	Bloom's Cognitive Domain						Total
			C1	C2	C3	C4	C5	C6	
			20%	20%	30%	30%			
1.	Explain the meaning		37	36	40	39			8

	of ecology as a science	20	17	18	23	26			
2.	Differentiate the use of the terms habitat, niche, nisia, population, community, ecosystem, abiotic factors.	40	1	5	3	11			16
			19	7	6	12			
			20	8	9	13			
					10	14			
					16	15			
3.	Identify various interactions that occur in ecosystems	20	21	24	27	29			8
			22	25	28	30			
4.	Connecting the notions of food chains, and food pyramids	20	4	31	34	38			8
			2	32	33	35			
Total		100							40

Description:

- |                    |                 |
|--------------------|-----------------|
| C1 = Knowledge     | C4 = Analysis   |
| C2 = Understanding | C5 = Synthesis  |
| C3 = Application   | C6 = Evaluation |

### Instrument testing

Before obtaining a valid question, a question of 60 (items) is first made, then this question is tested at Istiqlal Delitua High School in class X-2, totaling 38 people and when the instrument test is carried out, only 33 students are present who study material about ecosystems with the aim of knowing whether the question has met the requirements or not. The steps of the instrument test carried out are starting from the level of difficulty, test distinguishing power, test validity and test reliability with the question grid.

#### 1. Difficulty level

To determine the level of difficulty of the question the formula used is :

$$P = \frac{B}{JS} \quad (\text{Arikunto, 2014})$$

Description:

- |  |   |
|--|---|
| $P$ = Difficulty index   | $JS$ = Total number of students taking the test |
| $B$ = The number of students who answered the question correctly |   |

With the classification of difficulty level:

- Questions with  $P$  0.00 to 0.30 are difficult questions
- Problems with  $P$  0.31 to 0.70 are moderate problems
- Questions with  $P$  0.71 to 1.00 are easy questions

#### 2. Question Differentiation

The formula used to calculate the differentiating power of the question is:

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B}$$

Description:

- |                             |   |
|-----------------------------|---|
| $D$ = Differentiating power | $B_A$ = The number of upper group participants who answered the |
|-----------------------------|---|



$J$	=	Number of test takers	$B_B$	=	question correctly The number of lower group participants who answered the question correctly
$J_A$	=	Number of upper group participants	$P_A$	=	Proportion of upper group participants who answered correctly
$J_B$	=	Number of lower group participants	$P_B$	=	Proportion of lower group participants who answered correctly

The criteria for calculating differentiating power are as follows:

$D = 0,00 - 0,20$ : (*poor*)

$D = 0,41 - 0,70$ : (*good*)

$D = 0,21 - 0,40$ : (*satisfactory*)

$D = 0,71 - 1,00$ : (*excellent*)

### Test Validity

Validity is a measure that shows the level of reliability or validity of a measuring instrument. A test is called valid if it can precisely measure what it is intended to measure.

The formula for calculating item validity is:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Description:

$N$	=	Total of students	$X$	=	Item score (number of students who answered correctly)
$r_{xy}$	=	Correlation coefficient between variable x and variable y	$Y$	=	Total question score
$XY$	=	Sum of multiplication of X score and Y score			

### Test Reliability

To calculate the reliability of the question, the Kuder Richardson formula (KR-20) is used, namely:

$$r_{11} = \left( \frac{n}{n-1} \right) \left( \frac{S^2 - \sum pq}{S^2} \right)$$

$$S^2 = \frac{k \sum x^2 - (\sum x)^2}{k(k-1)}$$

Description:

$r_{11}$	=	Overall test reliability	$\sum pq$	=	The sum of the product of p and q
$P$	=	Proportion of subjects who answered the item correctly	$n$	=	Banyak item
$q$	=	Proportion of subjects who answered the item incorrectly	$S^2$	=	Standard deviation of the test

### Data Analysis Technique

Before testing the data requirements, calculations were carried out to determine the average and standard deviation, on the pre test and post test using the formula:

### 1. Mean

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i} \quad (\text{Sudjana, 2016})$$

Description:

$\bar{x}$  = Mean  
 $f_i$  = Frequency  
 $x_i$  = value

### 2. Standard deviation

$$S^2 = \frac{n \sum x_i^2 - (\sum x_i)^2}{n(n-1)}$$

Description:

$S^2$  = Standard deviation  
 $n$  = Many samples  
 $x_i$  = Mean

## Data Analysis Requirements Test

### 1. Normality Test

Data normality test, Liliefors test is used to determine whether the research variables are normally distributed. According to Sudjana (2016: 466) as follows:

- Observations  $X_1, X_2, \dots, X_n$  are made into standardized numbers  $Z_1, Z_2, Z_3, \dots, Z_n$ . By using the formula:  $Z_1 = \frac{x_1 - \bar{x}}{s}$  where  $\bar{x}$  and  $S$  are the mean and standard deviation of the sample respectively).
- For each standard number using the standard normal distribution list, then calculate the probability of  $F(Z_1) = P(Z \leq Z_2)$ .
- Calculate the proportion of  $X_1, X_2, \dots, X_n$  that is less than or equal to  $Z_1$ . If this proportion is expressed by  $S(Z_1)$  then :

$$S(Z_1) = \frac{\text{many } \dots, X_1, X_2, \dots, X_n}{N}$$

- Calculate the difference between  $F(Z_1) - S(Z_2)$ , then determine the absolute price.
- Taking the largest price Between the absolute prices of the difference  $F(Z_1) - S(Z_2)$  is called  $L_0$
- Comparing the  $L_0$  price with its critical price at the real level  $\alpha$  with the test criteria:
  - If  $L_0 < L$  then the sample table is normally distributed.
  - If  $L_0 > L$  then the sample table is not normally distributed.

### 2. Homogeneity Test

The data used the formula for the largest variance compared to the smallest variance with the formula:

$$F_{count} = \frac{\text{Largest variance}}{\text{Smallest variance}}$$

Comparing the  $F_{count}$  value with  $F_{table}$  with the formula:

dk numerator =  $n - 1$  (for largest variance) ; dk denominator =  $n - 1$  (for smallest variant)

significant level ( $\alpha$ ) = 0.05, then look for it in the F table, with the test criteria:

If  $F_{count} > F_{table}$  means not homogeneous.

If  $F_{count} < F_{table}$  means homogeneous.

### 3. Hypothesis Test

Hypothesis testing is used to see the effect of using the Gallery of Learning model using poster



media on student learning outcomes. To test whether the research hypothesis is accepted or rejected, statistical testing is carried out with the formula:

$$t = \frac{Md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}$$

Md = Mean of the difference between pretest and posttest

$\sum x^2 d$  = Sum of squared deviations

N = Subjects in the sample

To test the significant effect, the tcount price is consulted to the t distribution table with the criterion t count > t table with a significant level  $\alpha = 0.05$  and dk = n - 1, then the effect is declared significant.

## RESULTS AND DISCUSSION

### Results

#### 1. Describe Research Data.

Research data obtained from pre-test and post-test scores given to students. The pre test is given before the learning model is applied while the post test is given after the learning model is applied to students. The pre-test research data obtained is data from questions that have been tested for validity.

Based on the Pre Test score, the highest student was 80 as many as 2 people and the lowest was 40 as many as 1 person. Based on the Minimum Completeness Criteria (KKM), there were 8 students who completed the test (23%) and 27 students who did not complete the test (77%).

Table 3. Pre Test Frequency Distribution Data of Class X-3 Students on Ecosystem Material at Istiqlal Delitua High School

No	Interval	fi	xi	xi <sup>2</sup>	fi <sup>2</sup>	fi.xi	fi(xi) <sup>2</sup>
1	40-46	2	43	1849	4	86	2178
2	47-53	4	50	2500	16	200	6400
3	54-60	9	57	3249	81	513	22090
4	61-67	12	64	4096	144	768	32076
5	68-74	6	71	5041	36	426	22326
6	75-81	2	78	6078	4	156	9248
<b>Σ</b>		<b>35</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2149</b>	<b>134505</b>

Based on Table 3 above, it can be seen that there are 6 classes of frequency distribution of pre-test scores and 7 class lengths for each class. In the table, it is known that  $\sum fi.xi$  is 2149, so it can be known that the average pre-test value  $\bar{x} = 61.4$  and standard deviation (SD) = 8.67.

The Post Test value of class X-3 students taught using the Gallery of Learning model using poster media, the highest Post Test value is 95 as many as 1 person and the lowest value is 55 as many as 1 person. Based on the KKM, there were 29 people (83%) who were complete and 6 people (17%) who were not complete.

Table 4. Frequency Distribution Data of Post Test of Class X-3 Students on Ecosystem Material at Istiqlal Delitua High School.

No	Interval	fi	xi	xi <sup>2</sup>	fi <sup>2</sup>	fi.xi	fi(xi) <sup>2</sup>
1	55-61	2	58	3364	4	116	6728
2	62-68	4	65	4225	16	260	16900
3	69-75	6	72	5184	36	432	31104
4	76-82	11	79	6241	121	869	68651
5	83-89	10	86	7369	100	860	73960
6	90-96	2	93	8649	4	186	17298
<b>Σ</b>		<b>35</b>	-	-	-	<b>2723</b>	<b>214641</b>

Based on the above, it can be seen that the number of frequency distribution classes for the post-test scores is 6 classes and the class length is 7 for each class. In the table, it is known that  $\sum fi.xi$  is 2723, so it can be known that the average value of the post-test  $\bar{x} = 77.8$  and standard deviation (SD) = 9.06.

## 2. Research Data Analysis Test

### Normality test

Normality test is conducted to determine whether the data is normally distributed or not. This test is done using the Liliefors formula. Data is said to be normal if  $L \text{ count} < L \text{ table}$  and vice versa can be said to be abnormal if  $L \text{ count} > L \text{ table}$ . Based on the calculations made on the pre-test scores, the  $L \text{ count}$  and  $L \text{ table}$  values can be seen in the following table:

Table 5. Pre Test normality test data of X-3 class students of Ecosystem Material of Istiqlal Delitua High School.

No	xi	fi	f(kum)	Zi	F(Zi)	S(Zi)	F(Zi) S(Zi)
1	43	2	2	-2,12	0,0170	0,0571	0,0401
2	50	4	6	-1,31	0,0951	0,1714	0,0763
3	57	9	15	-0,50	0,3085	0,4285	<b>0,12</b>
4	64	12	27	-0,64	0,7389	0,7714	0,0325
5	71	6	33	-1,10	0,8642	0,9428	0,0786
6	78	2	35	-1,91	0,9719	1	0,0281

From the table above, it can be seen that the calculation results with the number of students 35 pre-test data obtained  $L \text{ count} = 0.12$  which is the largest value obtained from the difference between  $Fzi$  and  $S(Zi)$ .  $L \text{ table}$  with  $n = 35$  at the real level  $\alpha = 0.05$  obtained  $L \text{ table} = 0.886/\sqrt{35} = 0.149$ . Thus  $L \text{ count} < L \text{ table}$  ( $0.12 < 0.149$ ), it can be stated that the student learning outcomes in the pre-test are normally distributed on Ecosystem material given at SMA Istiqlal Delitua Year.

Based on the calculations made on the post-test scores, the  $L \text{ count}$  and  $L \text{ table}$  values can be seen in the following table:

Table 6. Normality test data for the Post Test of Students in class X-3 Ecosystem Material SMA Istiqlal Delitua





No	xi	fi	f(kum)	Zi	F(Zi)	S(Zi)	F(Zi) S(Zi)
1	58	2	2	-2,12	0,0146	0,0571	0,0425
2	65	4	6	-1,41	0,0793	0,1714	0,0921
3	72	6	12	-0,64	0,2611	0,3428	0,0817
4	79	11	23	0,13	0,5517	0,6571	0,1045
5	86	10	33	0,90	0,8159	0,9428	<b>0,1269</b>
6	98	2	35	2,22	0,9868	1	0,0475

From Table 6 above, it can be seen that the calculation results with the number of students 35 post-test data obtained L count = 0.1269 which is the largest value obtained from the difference between Fzi and S (Zi). L table with  $n = 35$  at the real level  $\alpha = 0.05$  obtained L table =  $0.886/\sqrt{35} = 0.149$ . Thus L count < L table ( $0.1269 < 0.149$ ), it can be stated that the learning outcomes of students in the post test are normally distributed on Ecosystem material given at SMA Istiqlal Delitua.

### Homogeneity test

The homogeneity test of variance is described to test the similarity of variables using the F test (largest and smallest variance), from the calculation of the F test, the data obtained F count = 0.95 and F table = 1.776 for  $N = 35$  students with a real level  $\alpha = 0.05$  with a denominator dk of 40 and a numerator dk of 30. From these data it can be concluded that F count  $0.95 < F$  table 1.776, this shows that the data on student learning outcomes taught using the Gallery of Learning model using poster media is declared homogeneous.

### Hypothesis Test

From the distribution results for  $\alpha = 0.05$  and dk  $n-1$  ( $35-1 = 34$ ) obtained the value of tcount = 15.99 and t table = 1.69 based on the results of the above calculations t count > t table is  $15.99 > 1.69$ . Thus it is concluded that there is a significant effect of Gallery of Learning Model by using poster media on student learning outcomes in Ecosystem material class X-3 SMA Istiqlal Delitua.

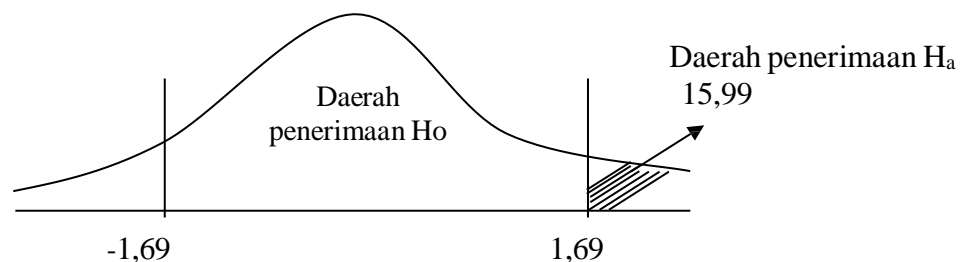


Figure 1. Hypothesis curve

Based on the curve above, the alternative hypothesis ( $H_a$ ) is accepted and the null hypothesis ( $H_0$ ) is rejected. Thus there is a significant effect of using the Gallery of Learning model by using poster media on student learning outcomes on Ecosystem material in class X-3

SMA Istiqlal Delitua.

## DISCUSSION

### Discussion of Research Results

In this study, the tests given were in the form of a student Pre-Test of 20 questions (items) and a Post-Test of 40 questions (items) which were multiple choice with a total research sample of 35 students. The results showed that the basic mastery of the student Pre-Test before the *Gallery of Learning model* using poster media obtained an average value of  $\bar{x}$  61.4 students with a minimum completeness criteria (KKM) value of 8 people (23% of the number of students) who were complete and 27 people (77% of the number of students) were not complete and a standard deviation of 8.67. Meanwhile, from the post test results to determine student learning outcomes, the average value  $\bar{x}$  77.8 with a minimum completeness criteria value (KKM) of 29 students (83% of the number of students) was obtained and 6 people (17% of the number of students) were not complete and the standard deviation was 9.06.

Based on the pre-test and post-test data, it can be analyzed that after using the *Gallery of Learning model* with poster media, there was an increase in learning outcomes.

The results of this study can also be seen from the results of data analysis. The results of the research data analysis show that the normality test data is normally distributed and the sample hypothesis comes from a homogeneous population. These values are then processed with the t test formula, where the value of  $\sum x^2/d = 1261.55$  Md value = 16.31. Then obtained tcount 15.99 to test the significant effect of using the *Gallery of Learning model* using poster media on student learning outcomes, the price is consulted to the t distribution value table, with the criteria t count > t table and a significant level  $\alpha$  0.05 and dk = 34 with 35 students t table 1, 69 the price of the tcount value obtained is 15.99 consulted with the ttable price of 1.69, then the t count > t table is  $15.99 > 1.69$  thus  $H_0$  is rejected and  $H_a$  is accepted which states that there is a significant effect of using the *Gallery of Learning model* using poster media on student learning outcomes on the subject matter of ecosystems in class X SMA Istiqlal Delitua.

The results of the hypothesis show that the *Gallery of Learning model* using poster media can improve biology learning outcomes, especially on the subject matter of ecosystems. The *Gallery of Learning model* using poster media is able to improve students' learning outcomes ability to study biology. According to Hysam, the *Gallery of Learning model* can improve student learning outcomes where in this learning students are more active in learning, students are able to convey information with other students, students can have a sense of cooperation and think critically.

In addition, the *Gallery of Learning model* is a way to assess and remember what students have learned so far. Based on this description, *Gallery of Learning* is a learning model that is able to cause students' emotional power to find new knowledge and can facilitate memory if something that is found is seen directly. Silberman (2006: 274)

## CONCLUSION

Based on the results and analysis of the research, the following conclusions can be drawn:

1. That the basic mastery or Pre Test of students before the *Gallery of Learning model* using poster media obtained an average value ( $\bar{x}$ ) students 61.4 and standard deviation (SD) 8.67. Based on the value of the minimum completeness criteria (KKM) students obtained 8 people (23%) who were complete and 27 people (77%) were not complete.
2. Based on the results of the Post Test to determine student learning outcomes obtained an average  $\bar{x}$  students 77.8 and standard deviation (SD) 9.06. Based on the value of the minimum completeness criteria (KKM) students obtained 29 people (83%) who were complete and 6 people (17%) were not complete.

When viewed from the average and minimum completeness criteria (KKM) of the students above, there has been an increase in student learning outcomes after learning by using the

Gallery of Learning model using poster media.

- Based on the results of hypothesis testing obtained that the data  $t_{count} = 15.99$  while  $t_{table} = 1.69$ . Thus  $H_0$  is rejected  $H_a$  is accepted, so there is a significant effect of using the Gallery of Learning model by using poster media on student learning outcomes on Ecosystem material at SMA Istiqlal Delitua.

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## AUTHOR CONTRIBUTION STATEMENT

- For school principals, pay special attention to the ongoing education curriculum so that it can be evaluated for the progress of the school they lead. Through curriculum review, adapted to the Gallery of Learning model using this poster media and other relevant learning models so that learning outcomes improve.
- For teachers, as well as prospective teachers to apply the Gallery of Learning model using poster media on ecosystem material, they must first design the activities that will be carried out carefully and estimate the condition of the class which may not run conducive, so good class mastery is needed in order to anticipate all possibilities that occur in this learning process when it is taking place such as a less conducive class atmosphere, besides that teachers or prospective teachers are able to make students interested in learning one of them by delivering material that is not too monotonous.
- For researchers who want to conduct similar research, the research should be carried out in other schools with different subject matter in order to have different respondents so that there are variations in the use of the Gallery of Learning model using poster media.
- For students, it is hoped that the use of the Gallery of Learning model using poster media can provide a pleasant learning atmosphere and attract students to study harder for brilliant achievements in the future.

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