

The Effect of Learning Media on Students' Academic Achievement at Elementary School

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Abstract: Learning requires media to help simplify and expedite the learning process objectives effectively and efficiently. This study aims to determine the effect of Learning Media on Students' Academic Achievement at Elementary School. This research is a quantitative research. The population in this study were 189 students. While the samples in this study were 66 students. Collecting data using a questionnaire documentation, then analyzed using simple regression techniques. The results of this study that is learning media has a positive effect on the student academic achievement, as evidenced by the value of $\text{Sig} = 0.005 < = 0.050$, while the value of the correlation coefficient (r^2) = 0.116 or contributes 11.6%. This means that learning media has been proven to play a role in improving student academic achievement. Learning media is able to help simplify and help smooth the learning process.

Keywords: *The Effect, Learning Media, Students' Academic Achievement, Elementary School*

1. Introduction

Education plays an important role for the progress of a nation. Education must always be carried out as well as possible. The efforts to achieve the expected quality of education certainly need to be supported by mutual awareness and commitment. Education stakeholders and education personnel must unite and synergize with each other in making it happen. Educational facilities must also be adequate, in order to support the implementation of quality education [1].

As a public elementary school, State Elementary School in the General Sudirman Group always tries its best to improve the quality of its education. The principal as a superior, tries his best and as much as possible to improve all existing qualities, among others

by paying attention to educational facilities, including learning media.

Based on a preliminary study (pre-survey) that the author conducted in March 2020, it is known that State Elementary School in the General Sudirman Group already have adequate educational facilities. This is certainly a potential for improving the quality of learning. As stated by Arsyad, that "learning media can increase motivation, learning outcomes and understanding of lessons" [2].

As an educator, the teacher is obliged to work professionally. In the teaching and learning process, teachers need to use the right learning media, to help smooth the learning process in the classroom. The teacher as a leader for students in the classroom or at school must be able to bring change or have a good impact. Therefore, the existence of learning media has an important role as an intermediary for students in understanding the subject matter. The effectiveness of the teaching and learning process (learning) is strongly influenced by the factors of the method and learning media used. Both are interrelated, where the selection of a particular method will affect the type of media to be used [3].

Based on the results of the documentation at the beginning of the research (pre-research survey) in March 2020, the author found information that 6th grade students of state elementary school in General Sudirman Group had good academic achievements. This is evident from the value of the majority of learning outcomes above the minimum completeness criteria.

The location of this study is a State Elementary School in General Sudirman Group, Karanggayam District, Kebumen Regency. The author chose to research in that location because until now, the

elementary school experienced an increase in student academic achievement. This certainly could not have been possible without the intervention of all teachers and school principals. In addition, it is also very possible by the existence of adequate school facilities, including learning media used by teachers. The purpose of this study was to determine the effect of learning media on Students' Academic Achievement at State Elementary School.

2. Related Works/Literature Review

According to Djamarah, "Achievement is the result of an activity that has been done, created, both individually and in groups" [4]. Achievement is the result achieved by a person when doing certain tasks or activities. According to Nurkencana, "academic achievement is the result that has been achieved or obtained by children in the form of subject values" [5].

Student academic achievement is the result of students' learning on the mastery of knowledge or skills developed through subjects, usually indicated by test scores or scores given by the teacher and successful in carrying out the tasks assigned to them. Student academic achievement is the result of student learning which is marked by the acquisition of knowledge values written in student report cards.

According to Usman & Setiawati, "factors that affect student academic achievement can be classified into two, namely internal factors and external factors" [6]. Internal factors include: health, intelligence, attention, talent, interest, motivation, maturity, readiness. While external factors include: community factors, social factors, family factors, school factors, principal leadership factors, educators or teachers factors, learning media factors, and so on.

Student academic achievement is a set of cognitive abilities possessed by students after following the learning process. Student academic achievement is influenced by many factors, such as principal leadership, teacher performance, and learning media.

Academic achievement is known from the value of student learning acquisition (student knowledge value). The academic achievement of students referred to in this study is student learning achievement in the aspect of knowledge (cognitive) as measured by the report card value in the last year. The higher the student's report card score, the better the student's academic achievement.

Media is a tool that can be used to distribute messages or information from the sender to the recipient of the message [7]. The presence of media in learning is also said to be able to help increase student understanding, present data/information more

attractively and reliably, facilitate data interpretation, and condense information. So in this case it is said that the function of the media is as a tool in teaching and learning activities.

According to Sadiman, learning media has a physical sense which today is known as hardware, which is an object that can be seen, heard, or touched with the senses. Learning media has a non-physical meaning known as software, namely the message content contained in the hardware which is the content to be conveyed to students [8]. The emphasis of learning media is on visual and audio. Meanwhile, according to Sudjana, there are several types of learning media that are commonly used in the learning process. These include two-dimensional media, three-dimensional media, projection media, and the environment as media [9].

Learning media in general are as follows: (a) clarifying the presentation of the message so that it is not too visual; (b) overcome the limitations of space, time, and senses, for example objects that are too large to be brought to class can be replaced with pictures, slides, etc., events that occurred in the past can be displayed again through films, videos, photos or film frames; (c) increasing enthusiasm for learning, enabling students to learn on their own based on their interests and abilities, and overcoming students' passive attitudes; and (d) providing the same stimulus, can equate students' experiences and perceptions of the content of the lesson. [10].

3. Material & Methodology

The research location is in State Elementary School in the General Sudirman Group, Karanggayam District, Kebumen Regency. While the time of this research, it was carried out for \pm 6 months, starting from July 2020 to December 2020. This research uses a quantitative research method. In this study, there is one independent variable, namely Learning Media (X), and one dependent variable, namely Student Academic Achievement (Y). The population in this study were all of 6th grade students of State Elementary School in the General Sudirman Group totaling 189 students. While the samples in this study were 66 students.

Determination of the sample based on the percentage sampling table according to Yount above shows that this research is included in the category of population 101–1000, so the number of samples is 10% of the population of 6th grade students of State Elementary School in Jenderal Sudirman Group, Karanggsayam Regency, Kebumen Regency in 2020 with a total of 189 students, namely 19 samples. However, due to various considerations, the researcher

determined the total number of samples for this study was 66 students.

The research instruments are Questionnaire and Documentation Guidelines. In preparing the questionnaire instrument in this study, it was carried out in several stages, namely: (a) determining the research variables; (b) developing indicators of research variables; (c) compiling the instrument grid; (d) develop research instruments; (e) conducting instrument trials; and (f) testing the validity and reliability of the instrument.

Table 1. General Grid of Research Instruments

Component	Indicator	Data Source	Method	Instrument
Learning Media (X)	Fixative Characteristics, Manipulative Characteristics, & Distributive Characteristics	Students	Questionnaire Distribution	Questionnaire
Students' Academic Achievement (Y)	Student Report Values	Student Report Books	School Documentation	Documentation Guidelines

Validity testing in this study is intended to measure the level of accuracy of the measuring instrument against a symptom. The validity testing is carried out in two ways, namely by asking for expert opinion and by content validity, namely by comparing the contents of the instrument with the design that has been determined.

For content validity, the authors tested the validity and reliability of the instrument. The research instrument trials were conducted in two elementary schools, namely State Elementary School of Kalibening with 20 students. The two elementary schools that were chosen as the place for testing the instrument were not part of the elementary schools that became the research sample. Meanwhile, for testing the validity of each item using item analysis, which correlates the score of each item with the total score which is the number of each item score. In providing an interpretation of the correlation coefficient, items that have a positive correlation with the criteria (total score) and high correlation, indicate that the item has high validity as well. The minimum requirement to be considered valid (valid) with $N = 20$ is if $r \geq 0.468$. So if the correlation between items with a total score of < 0.468 , then the items of the research instrument are invalid. The correlation formula used is Pearson Product Moment. Meanwhile, the instrument reliability test was carried out with the help of the IBM SPSS 25 Software Statistics program with the Cronbach' Alpha technique.

Table 2. Learning Media Instruments Grid

Component	Indicator
Fixative Characteristics	Describing media recording, storing, preserving, and reconstructing an event or object.
Manipulative Characteristics	Transforming a particular event or object with time-lapse recording or media (video or audio recording) shooting techniques.
Distributive Characteristics	Using video, audio, computer diskettes, which can be spread all over the place.

Based on the data collected from 20 respondents, the results of the item analysis are shown in the following table.

Table 3. Learning Media Questionnaire Validity Test

No Item	r_{hitung}	$r_{tabel} = 0,468$ $\alpha = 0,05; n = 20$ $dk = n - 2 = 20 - 2 = 18$	Decision
1	.638	.468	Valid
2	.748	.468	Valid
3	.692	.468	Valid
4	.745	.468	Valid
5	.598	.468	Valid
6	.605	.468	Valid
7	.898	.468	Valid
8	.817	.468	Valid
9	.673	.468	Valid
10	.630	.468	Valid
11	.562	.468	Valid
12	.695	.468	Valid
13	.705	.468	Valid
14	.644	.468	Valid
15	.776	.468	Valid
16	.640	.468	Valid
17	.697	.468	Valid
18	.748	.468	Valid
19	.692	.468	Valid
20	.745	.468	Valid

Based on table 3 above, it can be concluded that based on the decision-making criteria above, all twenty items are declared valid. It can be seen that the Pearson Correlation is greater than for a significance level of 5%, which is 0.468.

The results of the calculation of the reliability of the questionnaire can be obtained data as shown in the following table:

Table 4. Learning Media Questionnaire Reliability Test

Cronbach's Alpha	N of Items
.952	20

Table 4 above shows the results of calculating data reliability using Cronbach's Alpha method with a score of 0.952. The number 20 informs that the number

of questions or statements processed is 20. Then the value of 0.952 is compared with the table of r product moment values. By using the distribution of the r table for $\alpha = 0.05$ with degrees of freedom as follows: then the value = 0.468, then compared with Cronbach's Alpha value of 0.952. Thus, it can be decided that the alpha value is $0.956 > 0.468$, so the data is said to be reliable or reliable as a data collector in the study.

The data analysis method, the researcher conducted a data analysis requirement test which included data normality test and data linearity test. Based on research and calculations using the IBM SPSS 25 Software Statistics program, the following results were obtained:

Table 5. Output Uji Normalitas Data One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		66
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	1.88279634
Most Extreme Differences	Absolute	.080
	Positive	.080
	Negative	-.065
Kolmogorov-Smirnov Z		.650
Asymp. Sig. (2-tailed)		.793

a. Test distribution is Normal.

Based on the data from the analysis of the normality test above, it is known that the significance value is $0.793 > 0.05$. Thus, it can be concluded that the residual value is normally distributed, so it can be continued to the regression analysis stage.

Furthermore, based on research and calculations using the IBM SPSS 25 Software Statistics program, the following results were obtained:

Table 6. Output Data Linearity Test ANOVA Table of Learning Media

			Sum of Squares	df	Mean Square	F	Sig.
Students' Academic Achievement * Learning Media	Between Groups	(Combined)	58.326	15	3.888	1.024	.447
		Linearity	8.524	1	8.524	2.246	.140
		Deviation from Linearity	49.802	14	3.557	.937	.527
Within Groups			189.795	50	3.796		
Total			248.121	65			

Based on the table of results of the linearity test of the data above, it can be seen that the value of Sig. deviation from linearity is $0.527 > 0.05$, it can be

concluded that there is a linear relationship between the independent variable (learning media) and the dependent variable (student achievement).

After all the test requirements for data analysis are met, then proceed with testing the hypothesis using simple regression analysis. As for the data analysis test using the help of the IBM SPSS 25 Software Statistics program.

4. Results and Discussion

4.1. Result

Based on calculations using the IBM SPSS Statistics 25 program, the results of the analysis are as follows.

Table 7. Descriptive Statistics of X and Y

Variables	Mean	Std. Deviation	N
Student Academic Achievement	80.8764	3.73723	66
Learning Media	66.1515	8.96702	66

The table 7 above shows that the number of respondents was 66 people. Average Student Academic Achievement is 80.8764 with a standard deviation of 3.73723. That is, if it is associated with the average level of student academic achievement of 80.8764/person, then the level of student academic achievement will range from 80.8764 to 3.73723 levels, with an average learning media level of 66.1515.

Table 8. Correlations of X and Y

Model	Variables	Student Academic Achievement	Learning Media
Pearson Correlation	Student Academic Achievement	1.000	.341
	Learning Media	.341	1.000
Sig. (1-tailed)	Student Academic Achievement	.	.003
	Learning Media	.003	.
N	Student Academic Achievement	66	66
	Learning Media	66	66

From the table above, it can be seen that the relationship (correlation) between Learning Media and Student Academic Achievement is positive. Positive means in the same direction, meaning that the higher the learning media, the higher the student's academic achievement. The correlation between Learning Media

and Student Academic Achievement in the category of weak relationship strength; with an r value of 0.341.

Table 9. Variables Entered/Removed^b of X and Y

Model	Variables Entered	Variables Removed	Method
1	Learning Media ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Student Academic Achievement

The table above informs that the Learning Media variable was successfully entered, no variables were removed.

Table 10. Model Summary^b of X and Y

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
				R Square Change	F Change
.341 ^a	.116	.103	3.54036	.116	8.430

a. Predictors: (Constant), Learning Media

b. Dependent Variable: Student Academic Achievement

R (correlation) of 0.341 indicates the relationship between Learning Media (X) and Student Academic Achievement (Y) is positive.

R Square (correlation coefficient) of 11.6% shows the influence or contribution that X has contributed to Y.

Table 11. ANOVA^b of X and Y

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	105.661	1	105.661	8.430	.005 ^a
Residual	802.187	64	12.534		
Total	907.848	65			

a. Predictors: (Constant), Learning Media

b. Dependent Variable: Student Academic Achievement

Comparison of calculated F and table F as well as Sig: Fcount = 8.430 > Ftable = 4.00, then Ho is rejected and Ha is accepted.

Sig = 0.005 < = 0.050, then Ho is rejected and Ha is accepted.

Table 12. Coefficients^a of X and Y

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	71.471	3.269		21.865	.000
	Learning Media	.142	.049	.341	2.903	.005

a. Dependent Variable: Student Academic Achievement

The regression equation model for estimating Student Academic Achievement (Y) is influenced by Learning Media (X) as follows: If Learning Media (X=0), it is estimated that the level of Student Academic Achievement is 71.471. Meanwhile, if the learning media increases by 1 point (X=5), then the level of teacher performance will increase by 71.471 + 0.142 (5) = 72.181. Regression coefficient b = 0.142 indicates the amount of addition to the level of Student Academic Achievement for each addition of Learning Media answer points.

Table 13. Residuals Statistics^a of X and Y

Model	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	77.3002	82.8454	80.8764	1.27497	66
Std. Predicted Value	-2.805	1.544	.000	1.000	66
Standard Error of Predicted Value	.436	1.307	.596	.159	66
Adjusted Predicted Value	77.1016	83.0316	80.8692	1.28990	66
Residual	-6.88667	9.56896	.00000	3.51302	66
Std. Residual	-1.945	2.703	.000	.992	66
Stud. Residual	-1.979	2.761	.001	1.008	66
Deleted Residual	-7.12691	9.98861	.00720	3.62417	66
Stud. Deleted Residual	-2.026	2.919	.005	1.023	66
Mahal. Distance	.000	7.867	.985	1.268	66
Cook's Distance	.000	.167	.016	.027	66
Centered Leverage Value	.000	.121	.015	.020	66

a. Dependent Variable: Student Academic Achievement

The table above (table Residuals Statistics) provides a summary of the results of the "Predicted Value" (predicted value) which contains the Minimum, Maximum, Mean, Standard Deviation, and N values.

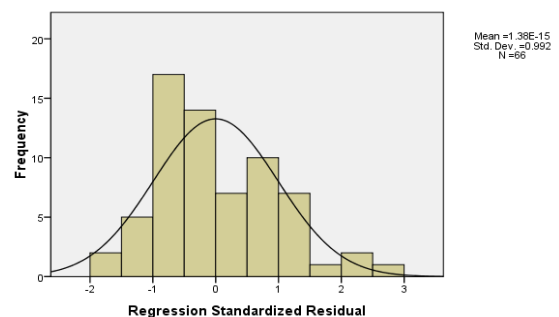


Fig 1. Grafik Histogram The Effect of X on Y

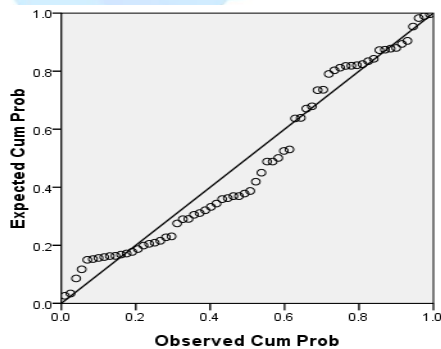


Fig 2. Normal Probability – Plot The Effect of X on Y

The results of the Normal Probability - The plot above shows the spread of the existing data on the variable (represents a regression line), because the points are located close to or around a straight line.

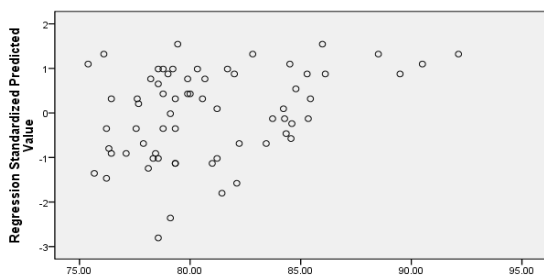


Fig 3. Scatterplot The Effect of X on Y

The results from the scatterplot above can help to determine the spread of the data, and help to predict the regression value between Learning Media and Student Academic Achievement.

4.2. Discussion

Learning media are everything that can be used to channel messages (learning materials), so that they can stimulate students' attention, interests, thoughts, and feelings in learning activities to achieve learning goals. Learning media is a tool for delivering learning material. Learning Media is everything that can be used by teachers to help facilitate the teaching and learning process. Learning media here are all facilities and infrastructure as well as facilities used in the learning process, which have Fixative Property characteristics; Manipulative Properties; and Distributive Properties [11].

Fixative properties or fixative properties describe media recording, storing, preserving, and reconstructing an event or object. An event or object can be sorted and rearranged using media such as photography, video tape, audio tape, computer diskette, and film. An object that has been photographed (recorded) with a camera or video camera can be easily reproduced.

Manipulative characteristics or Manipulative Property transforms an event or a particular object. Events that take days can be presented to students in a short time (for example, two or three minutes), using the technique of time-lapse recording. Media (video or audio recordings) can be edited, so that the teacher only displays the important/main parts of certain events or objects.

Distributive characteristics or Distributive Property allows an object or event to be transported through space, and simultaneously the event is presented to a number of students with relatively the same experience as the event. For example using video, audio, computer diskettes, which can be spread all over the place.

The results of the analysis show that learning media has a positive correlation with student academic achievement. This is evident from the r value of 0.341. Positive means in the same direction, meaning that the higher the learning media, the higher the student's academic achievement. Furthermore, based on the results of the analysis, it is known that the value of $Sig = 0.005 < = 0.050$, then H_0 is rejected and H_a is accepted. Thus, the second hypothesis stated "Learning media has a positive effect on the Academic Achievement of 6th grade students of State Elementary School in General Sudirman Group, Karanggayam District, Kebumen Regency" is proven to be true. The r^2 (r square or correlation coefficient) of 11.6% shows the contribution that X contributed to Y.

Thus, the findings of this study are in accordance with the theory of Juliantara, that utilization of media in learning can generate new desires and interests, increase motivation and stimulation of learning activities, and even have a psychological effect on students [12]. Furthermore, it is also in accordance with the results of Supartini's research, which shows that there is a significant influence on the use of media learning on learning achievement students [13].

Furthermore, related to learning media, then in the teaching and learning process, the media has the duty to motivate and provide learning facilities for students to achieve goals, so as to bring good influence to students. The Effect of Learning Media on Academic Achievement of 6th grade students of State Elementary School in the General Sudirman Group, Karanggayam District, Kebumen Regency, is a positive effect.

The importance of learning media for the education system is to support teaching and learning. The success of learning is determined by the ability in various ways, including efforts to utilize media in learning activities as sources for learning. The process

of using learning media is a decision taken by the learner (teacher) based on the design or learning design [14].

The role of classroom teachers in improving students' academic achievement is that the teacher first prepares complete learning tools, such as learning implementation plans and learning media. This is important because it serves as a guide for teachers in carrying out learning. Learning media is one of the tools to support the success of learning. Furthermore, the teacher chooses and applies the right learning method, the teacher also masters the learning material well.

The use of media should be part that must receive the attention of learners in every learning activity. Many types media that can be selected, developed and utilized in accordance with the conditions of time, cost and desired learning objectives. Each type of media has certain characteristics that we need understand, so that we can choose media according to the needs and conditions that exist in the field [15].

The role that the teacher does to improve the academic achievement of 6th grade students of State Elementary School in the General Sudirman Group, Karanggayam District, Kebumen Regency, is that the teacher plays an active role in the classroom. Teachers apply learning media and learning methods that are varied and appropriate to use. Furthermore, the teacher also tries to make the classroom atmosphere comfortable for learning.

5. Conclusion

Based on the results and discussion of the research ahead, it can be concluded that learning media has an important role in helping the success of learning. Learning Media as one learning components can determine the success of a learning. Learning media has a positive effect on the Academic Achievement of 6th grade students of State Elementary School in General Sudirman Group, Karanggayam District, Kebumen Regency, as evidenced by the value of $\text{Sig} = 0.005 < = 0.050$. The correlation coefficient value (r^2) = 0.116 or contributes 11.6%.

Learning media has an effect on the academic achievement of 6th grade students of State Elementary School in General Sudirman Group, Karanggayam District, Kebumen Regency. Learning media is proven to be able to help simplify and assist in the smooth learning process. In addition, it can also motivate students to be interested in learning. Therefore, the existence of learning media must be considered. Teachers need to use learning media to increase the effectiveness and efficiency of the learning process.

Application of media on Learning Activities can have a positive influence on student achievement. With the use of media, the involvement of students in learning be increasing. Use of learning media also motivate students during learning take place. In addition, the use of learning media helps students in understand the concept of the material and improve student achievement.

Utilization of media is basically intended to help make learning activities more effective achieve goals and be efficient in terms of energy, time and cost. Teachers should be able to use media in the learning process. Schools also need to seek assistance to improve facilities and infrastructure related to education in one related learning facility and media to improve student achievement and quality of education in schools.

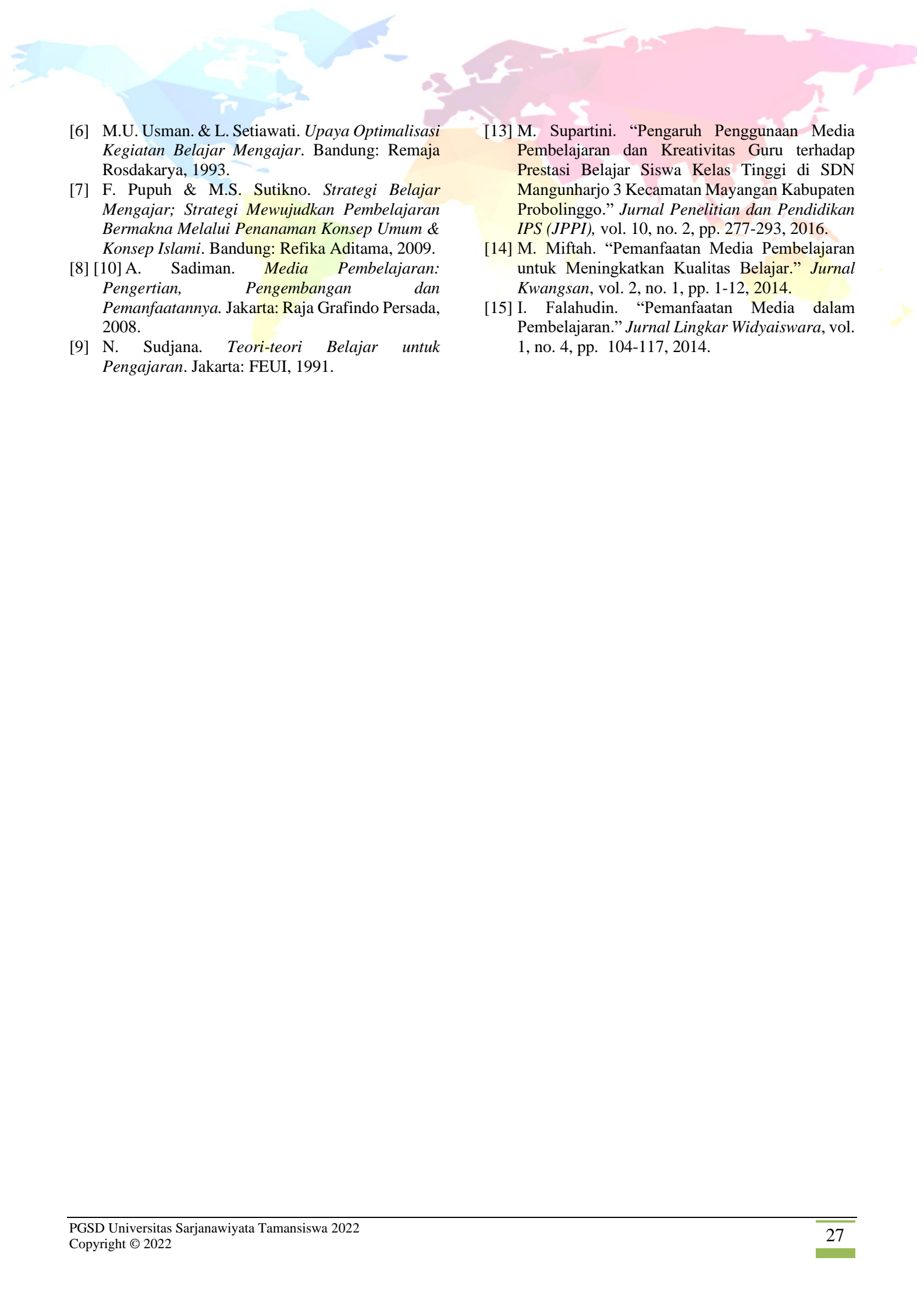
The researcher realizes that this research is still not perfect, there are weaknesses, shortcomings and limitations, so that there is a need for more extensive research because there are still many things that are not covered in this research. Future researchers are expected to be able to explore more deeply regarding the influence of learning media on student achievement. Future researchers also can use other variables to find out the dominant factors that can affect student achievement.

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