IMPLEMENTATION OF PREZI MEDIA BASED ON A SCIENTIFIC APPROACH TO SCIENTIFIC LITERACY

Wahana Panjang Nugraha[1], Ellyna Hafizah[2], Yasmine Khairunnisa[3]
[1,2,3] Science Education Study Program, Faculty Teacher Training and Education, University of Lambung Mangkurat , Banjarmasin, Indonesia
E-mail : 1910129310005@mhs.ulm.ac.id

ABSTRACT

Scientific Literacy is needed to analyze information or scientific issues that arise in society. The purposes of this study are: 1) to know that there are differences in scientific Literacy between classes taught using Prezi media based on a scientific approach and one taught using conventional teaching methods; 2) to find out the difference in scientific Literacy before and after using the prezi media based on a scientific approach; and 3) to know the effect of using Prezi media based on a scientific approach on scientific Literacy. The type of research used was quantitative research with a quasi-experimental design with a non-equivalent control group design. The sample was chosen using a purposive sampling technique to determine the control and experimental classes. The data in this study were collected from tests in the form of scientific literacy questions and questionnaires for students' opinions on the Prezi media. The data analysis techniques used to test hypotheses are independent sample t-test, paired sample t-test, and simple linear regression. The results of the study show 1) there is a difference in scientific Literacy in the control class and the experimental class with an average value of 72.17 and 80.71, respectively; 2) there is a difference in scientific Literacy before and after using Prezi media based on a scientific approach increased from 70.29 to 80.71; And 3) there is an influence on the use of prezi media based on a scientific approach to scientific Literacy of 90.5%. The use of Prezi media based on a scientific approach has an influence and can increase students' Scientific Literacy.

Keywords: Prezi, Science Literacy, Scientific Approach

1.   INTRODUCTION

Indonesia is entering the 21st Century, which is closely related to the era of globalization, where the development of technology and information is taking place rapidly (Mardhiyah et al., 2021). Mastering the basic skills of reading, writing, and arithmetic is not enough to compete in this Century, which is full of challenges (Nahdi, 2019). Therefore, science learning in the era of globalization must equip students with a scientific attitude in solving personal problems and issues they face to become quality human resources through scientific Literacy.

Scientific Literacy is one of the keys to facing the challenges of the 21st Century. Scientific Literacy is an individual's ability to understand and apply concepts.

Science in everyday life (Kimianti & Prasetyo, 2019). Scientific Literacy is important for every individual, both in everyday life and the world of work. With scientific Literacy, students can use scientific information to solve problems in everyday life (Sakdiah & Jamilah, 2022).

According to Alatas & Fauziah (2020), Indonesian Literacy is still low compared to other countries in the world, ranking 71 out of 79 participating countries in PISA. The results of the PISA survey from 2000 to 2018, as cited by Rokhayati, Prasasti, & Maruti (2022), also show that Indonesia is included in the category of countries with a low literacy rate. In the 2018 PISA study released by the OECD, Indonesian students achieved an average score of 371 in reading ability, while the average OECD score was 487. Similarly, in mathematics, the average score of Indonesian students was 379,

compared to the average - OECD average is 487. Furthermore, in science, the average score of Indonesian students is 389, while the OECD average is 489 (Hewi & Shaleh, 2020).

Required right strategy To use increase the level of literacy science participants educate. One _ effective method of upgrading _ the level of literacy science participants educate is to approach scientific, as Siregar, Iskandar, and Rokhimawan (2020) explained. This approach requires participants educate involved in a manner active in the development process concept, law, or principle through a series of steps such as observation, problem formulation, creation of hypothesis, data collection, data analysis, withdrawal conclusion, and communication findings (Sativa & Jasmidi, 2022). This scientific approach aims to give a deep understanding of the participant learning about various materials through approach scientific and independent searching for information related to the concept being studied, not just depending on the knowledge provided by the teacher (Safitri & Putra, 2022). Thus, this learning is expected to encourage participants to learn to be active and look for information from various sources through observation, not just by passively accepting information.

Using learning media as a learning tool is important in conveying information to students (Hsu, Lin, Yeh, & Chen, 2022). One type of interactive media used in a scientific approach is presentation media, which focuses on slides (Erayani & Jampel, 2022). One _ choice of modern learning media that can be used is Prezi. Prezi is a web-based platform used as a presentation tool to deliver material from lessons _ on virtual canvas (Fahrizal, 2021).

Based on the results of observations, classroom learning _ Still tends to center on the teacher using blackboard media. Participants listen to _ the teacher's explanation and get confused when requesting daily life-related questions. Therefore, it is required to use learning media that can encourage active participants to educate and shift the focus of learning from the teacher. By using Prezi, learning can focus on active participant students' roles while the teacher plays the role of facilitator. Participant teachers can be active learners and not completely dependent on the teacher as the only source of information (Ningsih & Komikesari, 2019).

Following the abovementioned problems, this study aims to determine the influence of Prezi media use based on a scientific approach to literacy science. In addition, media is needed to make it easier for teachers and participants to understand the material so that science learning in Indonesia can be connected with the usage of technology (Ichsan, Suhaimi, Amalia, Santosa, & Yulianti, 2022), and expected that using a pres-based approach scientific can achieve objective science learning and improve literacy science participant education.

2.   METHOD

This type of research is an experimental research design non-equivalent control group design. Research implementation will share become two classes, i.e., class control and class experiment.

Table 1. Research Design

Class	Pretest	Treatment	Posttest
Control	O_1	X_K	O_2
Experiment	O_3	X_E	O_4

Information:

O_1 = Control class pretest results
O_2 = Results of posttest control class
O_3 = Experimental class pretest results
O_4 = Results of the experimental class posttest
X_K = Providing learning in a way that the teacher usually does
X_E = Providing learning Prezi prezi media with a scientific approach

The population in this study were 8th-grade students at SMPN 3 Banjarmasin. Election samples apply a purposive sampling technique in which the sample is deliberately and subjective. The sample

data that the researcher chose for this study were students of SMPN 3 Banjarmasin from class 8A as the control class and 8B as the experimental class. Measuring tools in research are question literacy science and questionnaires. Question literacy science is used to determine students' scientific literacy abilities. Meanwhile, a questionnaire is used to collect students' opinions on using Prezi media based on a scientific approach. Data analysis techniques used to achieve the research objectives are prerequisite test normality, homogeneity, linearity, and hypothesis testing in the form of N-Gain score test, independent sample t-test, paired sample t-test, and simple linear regression test.

3.   RESULTS AND DISCUSSION
Results

The first prerequisite test performed is the normality test using the Kolmogorov-Smirnov method. Analysis results show that all data comes from a data class with a normal distribution. It can be seen from the Sig value. >0.05. Information in more detail regarding the normality test results can be seen in Table 2.

Table 2. Normality Test

Class	Kolmogorov-Smirnov		
	Statistics	df	Sig.
Control Pretest	0.112 _ _	35	0.200
PostTest Control	0.132	35	0.125
Experiment Pretest	0.115	35	0.200
PostTest Experiment	0.131	35	0.135

After normality test requirements are fulfilled, prerequisite tests are carried out next ie homogeneity and linearity tests. Homogeneity test results show that the research data comes from the same data class, visible from mark significance (sig.) of any test that exceeds 0.05 with a score on Levene's Test of Equality, the value of sig. It is 0.108 for literacy science. While the results of the linearity test use Prezi media based on a scientific approach and participants' scientific literacy abilities educate have a linear relationship seen from the mark significance (sig.) of each test that exceeds 0.05 with a value in the Deviation from linearity row is 0.217. Prerequisite test results have been met, and further tests can be carried out as a hypothesis test.

Test the N-Gain score used to find out effectiveness increase in test results literacy science participant students being taught without Prezi media by the way learning is usually done in class control and taught using Prezi media with approach science in-class experiment. The results of the N-Gain test score can be seen in Table 3 below.

Table 3. N-Gain Score Test Results

	Control		Experiment	
	N-Gain	Information	N-Gain	Information
Average	0.1235	Low	0.3687	Enough
Max Value	0.50	Enough	1.00	Tall
Min Value	-0.20	Low	0.00	Low

According to Hake (1998), the obtained N-gain value can then be interpreted based on the criteria in Table 4.

Table 4. Characteristics of the N-Gain Score

N-gain value	Characteristics
$g \geq 0.7$	Tall
$0.7 > g \geq 0.3$	Enough
$g < 0.3$	Low

The increase in the scientific literacy skills of the control class and the experimental class can be seen through the N-Gain scores in Table 3. The control class has an N-Gain score of 0.1235 with low criteria compared to the experimental class with an N-Gain score of 0.3687 with medium criteria. After testing the N-Gain score, an independent sample t-test was carried out to see the average difference in the post-test results of the scientific literacy abilities of students from the control and experimental classes, whose results can be seen in Table 5.

Table 5. Descriptive Statistical Results of the Independent Sample T-Test

Class	N	Means
Experiment Class Post Test	35	80,71
PostTest Control Class	35	72,71

The results of the independent sample t-test showed a significance value of 0.001 <0.05. According to these results, there are differences in scientific literacy abilities between classes taught using Prezi media based on a scientific approach and classes taught using the (conventional) way of teaching teachers in class. The large difference in scientific literacy ability between the two classes can be seen by looking at the difference in the average scores of the two classes, namely a value of 8, which means that the average value of the control class is smaller than the average value of the experimental class.

A hypothesis test was carried out. Then is a paired sample t-test conducted to determine differences in scientific literacy abilities before and after using Prezi media based on a scientific approach to class experiment. The following in Table 6 can be seen in experimental class students' average yield pre- and posttest scientific literacy abilities.

Table 6. Descriptive Statistical Results of the Paired Sample T-Test

Ability Science Literacy	N	Means
Before	35	70,29
After	35	80,71

The results of the paired sample t-test showed a significance value of 0.00 0 <0.05. Based on these results, there are differences in scientific literacy abilities before and after using Prezi media based on a scientific approach to scientific Literacy. In addition, the average value of the data before and after the difference in increasing the ability of scientific Literacy is worth 10.42, which means that this value is the difference between the initial and final abilities of students' Scientific Literacy.

After paired sample t-test was performed, a simple linear regression test was carried out to measure the effect of using Prezi media based on a scientific approach to students' scientific literacy abilities. A simple linear regression test can also identify whether the value has a positive or negative direction and predict the value of the dependent variable if the value of the independent variable increases or decreases. The following in Table 7 below can influence Prezi media use based on a scientific approach to students' scientific literacy abilities.

Table 7. Descriptive Statistical Results of the Paired Sample T-Test

Information	Coefficient Regression	Sig.
Constant	7,140	0.098
Prezi based on Scientific Approach	2,263	0.000

Simple linear regression test results show a mark significance of 0.000, smaller than 0.05, which means there is an influence of the use of Prezi media based on a scientific approach to students' scientific literacy abilities. The table & also shows the tests' results to obtain equality Y = 7.140 + 2.263X. Equality the show constant of 7.140 means that marks the consistency of the dependent variable ability literacy science of 7.140. Whereas coefficient X regression of 2.263 states that adding 1% value of Prezi

media-based approach scientific, mark ability literacy science will increase or increase 2.263. Coefficient regression is worth positive, so the direct influence of the Prezi media-based approach scientific to ability literacy science is positive.

Relationship value and influence of Prezi media use-based approach scientific to ability Literacy science participant students can be seen in Table 8 below.

Table 8. Relationship Value and Prezi's Influence on Scientific Literacy

Connection	Influence
0.951	0.905

The result of Table 8 shows mark connection prezi based approach scientific to ability literacy science is 0.951. Whereas mark influence is 0.905, the influence of prezi based approach scientific to ability literacy science by 90.5%.

Discussion

The research data shows that the Prezi media use-based approach scientific has different ability literacy more science tall compared to class control, which is taught by the way teachers teach in class (conventional). The difference in ability in Literacy science between the second class happened Because the given class was taught using Prezi media-based approach scientific, making participants educate and learn by using as well as connecting material learning based on concepts or phenomena in life every day. This study's results align with research conducted by Sovia , Cicilia , and Vebrianto (2020) who said participant students can use various concepts and capable hook concepts with life every day. Differences in the ability of Literacy science participant students are also caused Because classes taught with Prezi media-based approach scientific more active during learning taking place, the statement opinion reinforced by Rusman (2017), which confirms that learning that emphasizes active participation participant education through activity observation, submission questioning, reasoning, experimentation, and formation connection will increase ability Literacy science.

Participant students who are taught using the Prezi media-based approach scientific, create participant educate more active during learning. Because participants educate more freely and gather information, as well as with Prezi media, participant students do not feel bored during learning. As mentioned by Perron & Stearns (2011), prezi media can be inserted into text, images, animation, audio, and video. Apart from that, according to Wardhana (2022), the values of class control are lower from class experiments Because participants in class experiments can already apply knowledge conceptual capable use knowledge to provide a description or explanation of something phenomenon scientific. Participant students can also choose appropriate procedures, organize and understand simple data, and interpret the results. On the other hand, participants taught in class control can only do procedures limited to one step, meaning they can only afford to remember learned facts, terms, and principles.

Ability literacy science participant education increase influenced by the steps approach scientific which is poured into Prezi media. The steps scientific approach consists of observation, submission questions, collection or experimentation, processing information, and communication. The view put forward by Siregar, Iskandar, and Rokhimawan (2020), Pratiwi (2022) confirms that the steps approach scientific aims to encourage the involvement of active participant education during the learning process, in line with the opinion of Rusman (2017) emphasizes the importance of activity participant such as observation, submission questioning, reasoning, experimenting, and collaborating on activities learning at school. Implementation steps approach scientific knowledge in Prezi media also adds Power pull learning for participant educated, as stated by Rusyfian (2016) and Yuseran (2022), that Prezi media is one of the possible online slide presentation programs Creation of attractive multimedia TAVAGIS (Text, Audio, Video, Animation, Graphics, Interactivity, and Special Effects) for activities learning.

The Prezi media-based scientific approach gives relevant real-world content or phenomena for participant education. Through Prezi media use-based scientific approach, participant students can better understand the problem of Literacy given science. In addition, according to Job (2022),

participant students are also able to explain scientific knowledge about phenomena, including the ability to remember and apply information relevant to scientific knowledge, identify, use, and model as well presentation appropriate explanations, formulate hypothesis explanation, as well explain the possible effects from information scientific.

The statement above follows research conducted by Kristiantari, Widiana, Tristiantari, & Rediani (2022), Effendi (2022), stating that Prezi media taught influences students' Scientific Literacy. In addition, the use of Prezi media based on a scientific approach influences students' scientific literacy Abilities. In this study, the influence of Prezi media was largely based on a scientific approach to students' scientific literacy abilities of 90.5%. This aligns with research conducted by Prezi media that can increase students' Scientific Literacy. The increase in students' scientific literacy skills occurred because they were given treatment by using Prezi media based on a scientific approach to learning.

4.　　CONCLUSION

Following the discussion, this research can conclude there is an influence of Prezi media use-based approach scientific to ability literacy science participant educate. Besides that, there is also a difference in Literacy science between classes taught using Prezi Media Based approach science and the classes taught using method teaching teachers in the classroom (conventional). Classes taught with the Prezi media-based approach scientific have different ability Literacy science before and after the Prezi media use-based approach scientific.

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