PROGRES PENDIDIKAN
Vol. 2, No. 2, May 2021, pp. 81∼88
p-ISSN: 2721-3374, e-ISSN: 2721-9348, DOI: 10.29303/prospek.v2i2.128

THE INFLUENCE OF FUN THINKERS BOOK MEDIA TOWARDS SCIENCE CONCEPTS UNDERSTANDING OF 5^{th} GRADE STUDENT ON MIN 3 CENTRAL LOMBOK IN 2020/2021 ACADEMIC YEAR

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Article Info

Article history:

Received: 16-12-2020
Revised: 18-12-2020
Published: 10-05-2021

Keywords:

Fun Thinkers
Learning media
Science Concept
Elementary Students

ABSTRACT

This study aims to determine the effect of the fun thinkers book media on understanding the science concept of class V MIN 3 Lombok students in the middle of the 2020/2021 school year. This research is a quantitative research method with Quasi Experimental Design type Nonequivalent Control Group Design. The population in this study were all students in class V while the sample was class VB as the experimental class and class VA as the control class. The instrument used was a test to measure conceptual understanding and observation to determine the feasibility of learning using the fun thinkers book media. The post-test average score of the experimental class students was 73.15, the control class was 63.96. Post-test learning outcomes data were analyzed using non-parametric tests, the results obtained were Sig.2-tailed value $<$ 0.05 (0.012 $<$ 0.05) at the 95% confidence level. This shows that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, which means that there is a difference in the mean value of the experimental class and the control class, it can be concluded that there is an effect of the fun thinkers book media on the understanding of the science concept of class V MIN 3 students. Lombok in the middle of the 2020/2021 school year. The media fun thinkers book media can provide a better understanding of the concept, the researcher suggests the teacher to use the fun thinkers book media as an alternative in solving students' conceptual understanding.

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1. INTRODUCTION

Science is one of the main subject in the education curriculum in Indonesia which is taught from elementary school onwards. Science seeks to increase the sensitivity of individuals to increase their intelligence and understanding of the environment in everyday life. Meanwhile, according to Rustaman (2011) learning science or teaching science to students is to provide opportunities to process science and apply it in their daily lives through the right ways and following scientific ethics.

The essences of science are as a product, process, and scientific attitude. Science as a product is a variety of phenomena / behavior / characteristics that are packaged into a collection of facts, theories, concepts, laws and principles. Science as a process is a process of obtaining knowledge through scientific methods.

Meanwhile, Science as a scientific attitude is the cultivation of attitudes in students when carrying out the investigation process (scientific method) and the science learning process (Tursinawati, 2013). Studying the concepts in science learning, students do not just memorize these concepts, but must be actively involved in conducting experiments, analyzing and concluding the learning outcomes. Thus students are able to find for themselves about the concepts they are learning as well as understand these concepts in depth.

Concept understanding can be understood as a network of relationships between objects, events, and others, which have fixed and observable features (Ermiana, Karma, & Affandi, 2020). She further states that usually students memorize concept definitions faster than just paying attention to the relationship between one concept and another. Consequently, new concepts are not integrated with existing concepts, but stand alone without being linked to other concepts (Ermiana et al., 2020). In other hand, Bruner, Goodnow and Austin stated that science concepts has five most important elements namely (1) Term, (2) Definition, (3) Symbols, (4) Value, and (5) Example (Chiappetta & Koballa, 2014; Erfan & Ratu, 2018; Erfan, Widodo, Umar, Radiusman, & Ratu, 2020). Concept understanding can be interpreted as the ability to absorb meaning such as being able to explain a problem by presenting the problem in an understandable form; being able to provide clarification; and implementing it.

Based on research conducted by researchers. One of the factors that causes students' low understanding of concepts is the lack of variation in teaching that is effective and fun for students. This is known from the results of interviews with 5th grade teacher of MIN 3 Central Lombok who said that in teaching, teachers more often use the lecture method. Furthermore, based on the results of interviews from 5th grade teachers of MIN 3 Lombok Tengah, they said that there was still a lack of learning media, especially in schools, teachers only assisted teaching materials for student books and student worksheets. Furthermore, the teacher also said that the obstacles in the learning process were found in students, namely the lack of student concentration which was only able to last 10 minutes. This is due to the lack of learning media that is suitable for the characters of elementary school children.

Table 1. Mid Semester Test Result

Aspect	Information
Lowest Score	63
Highest Score	95
Average Score	77
The number of student	27
The number of students have score $>$ 73	17
The number of students have score $\leq$ 73	10
Completeness Score	63%

The average value of the five learning loads and the analysis based on the table above can be concluded that the lowest student average score is the science learning content when compared to other learning content. When viewed from the table above, from the total number of students, namely 31 students, only 17 students who got a score $>$ 73 while 10 people who got a score $\leq$ 73. From the problems that have been described, we cannot use interesting teaching variations in order to improve student motivation in the learning process. Student's uninterested in learning has a great impact on way of students' thinking ability (Ratu & Erfan, 2017).

One of the efforts that can be made in developing students' conceptual understanding is by utilizing learning media. Meanwhile, according to Arsyad (2013), media is a human, material, or event that builds conditions that enable students to acquire knowledge, skills or attitudes. Teaching materials that are manipulated in the form of teaching media can attract students interest in learning and make students learn while playing (Turrahmi, Erfan, & Yahya, 2017). One alternative learning media that can embed students' conceptual understanding is the Fun Thinkers Book.

Therefore, a research will be conducted using the Fun Thinkers Book learning media on students' conceptual understanding to find out how the Fun Thinkers Book media influences students' conceptual understanding. According to Gordon (2013), media Fun Thinkers Book is a set of books packaged to make learning activities more enjoyable. This media presents a game with a book and a display frame. In addition, Gordon (2013) added that the Fun Thinker Book media is like a modern encyclopedia for students. There are two materials used for Fun Thinkers Book, namely the box frame that is made of wood and the book is made of paper which is designed very attractively according to the character of elementary school children (Riani, Huda, & Fajriyah, 2019). Based on the media grouping, it can be stated that the learning media used in this study,

namely the Fun Thinkers Book, is included in the print learning media group. The development of this media needs to consider various things, namely elements as the basis for the content of the material.

Based on this role, it can be seen that the application of learning media in the form of Fun Thinkers Book can support optimizing learning and is able to motivate students to study harder and to understand the learning material better. One of the processes is playing the Fun Thinkers Book media with the group study. This process able students to build conceptual understanding and solve the stages of media play together along encourage them to be more active in learning.

2. RESEARCH METHOD

This type of research is quantitative research. Researchers used a quasi experiment research method type nonequivalent pretest post-test control group design. Quasi Experimental Design Type Nonequivalent Pretest-Posttest Control Group is a quasi-experimental research design in which it consists of 2 groups of subjects, one group is give treatment with the accordance of the study idea and one group is the control group.

This research was conducted in the odd semester of the 2020/2021 academic year, namely on 21-27 October 2020 and was carried out in 5^{th} grade of MIN 3 Central Lombok. The population of this study were all 5^{th} grade students of MIN 3 Central Lombok for the 2020/2021 academic year, totaling 51 students. The sampling technique used in this study was purposive sample. This purposive sampling technique is carried out by taking subjects not based on strata, random, or region but based on considerations. The reason why the researcher took the purposive sample was due to the limited time of the study and the relatively small population. The experimental group used in this study was class VA as the experimental group because class VA had a lower average value of learning outcomes than class VB. So the researcher had an influence on class VA by applying the Fun Thinkers Book media. The researcher wanted to know the effect of the Fun Thinkers Book media on the Science Concept understanding of 5^{th} grade students of MIN 3 Central Lombok.

The data in this study were in the form of learning outcomes related to students' understanding of the science concept. The data collection method in this research is documentation that examines the curriculum in accordance with the material being taught so as not to deviate from the learning objectives. In addition, it is used to identify what material is needed in the media and the weaknesses contained in the media that need to be developed. Observation of the implementation of the fun thinker book learning media aims to determine the extent of the application of the media during the learning process that will be carried out in the experimental class. The test method as a research tool in the form of questions given to students in order to get answers. The test questions used were made in the form of multiple choice of 20 questions with 4 alternative answers (a, b, c, d).

The data analysis techniques used are as follows:

1. The data normality test was carried out by the one-sample Kolmogorov-Smirnov test
2. Linearity test
3. Hypothesis testing using the Independent sample t-test which will be assisted by the SPSS version 23 program.
4. Analayze Effect Size using partial eta squared which can be generated by SPSS Version 23 program.

3. RESULT AND DISCUSSION

Observation is applied to measure the implementation of the use of the Fun Thinkers Book media when the treatment is given to the experimental class students. This observation is carried out by the observer who fills in the observation sheet when the treatment is given.

Table 2. Observation Result Data

Aspect	Information
Total Score	82
Ideal Maximum Score	72
Implementation Value	85.41
Category	Very Good

Based on Table 2, the implementation of the Fun Thinkers Book media by the teacher reaches a score of 85.41 which is classified as very good. This is because the teacher has carried out all the core activities of the Fun Thinkers Book learning media.

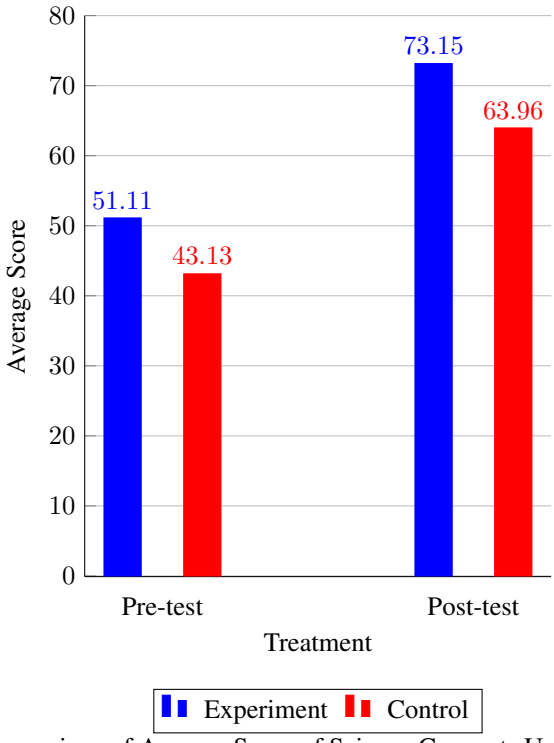

Figure 1. Comparison of Average Score of Science Concepts Understanding

Based on Figure 1, it can be seen that the mean score of the pre-test learning outcomes of the experimental class is 51.11 and the control class is 43.13. After being given the Fun Thinkers Book media treatment, the post-test results of the experimental class have an average value of 73.15. While the control class that uses conventional learning has an average value of 63.96. This shows that the value of learning outcomes to determine the conceptual understanding of the experimental class students using Fun Thinkers Book media increased compared to the control class who only used conventional media.

Table 3. Posttest and Pretest Normality Test Results for Experiment and Control Class

	Class	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Students' Science Learning Outcomes	Pretest Eksperiment Class	0.123	27	.200*	0.972	27	0.647
	Postest Eksperiment Class	0.158	27	0.081	0.964	27	0.455
	Pretest Control Class	0.142	24	.200*	0.95	24	0.273
	Postest Control Class	0.137	24	.200*	0.971	24	0.692

Table 4. Posttest and Pretest Homogeneity Test Results

	Levene Statistic	df1	df2	Sig.
Pre-test	0.000	1	49	0.995
Post-test	0.727	1	49	0.398

Based on Table 3, the calculation of the data normality test using the help of the SPSS version 23, can be seen that the data significance value is .200 for the pre-test of the experimental class, while for the post-test for the experimental class the significance value is .081. If interpreted, the value becomes 0.200 for the pre-test and 0.081 for the post-test. When compared with a significant level of 0.05, the significant value of

the normality test of the two data, both pre-test and post-test data, is greater than 0.05, so it can be concluded that the two research data are normally distributed.

Meanwhile, based on Table 4, to find out the homogeneous data can be seen from the significance value of the pre-test and post-test which is compared with 0.05. The significance value (sig) in the pre-test is $0.995 > 0.05$, while the posttest significance value is $0.398 > 0.05$, so it can be concluded that the pre-test and post-test values have a homogeneous variance.

Table 5. Independent Samples Test Result

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.727	0.398	2.595	49	0.012	9.19	3.541	2.074	16.306
Equal variances not assumed			2.561	43.885	0.014	9.19	3.589	1.956	16.424

As for determining the hypothesis can be done by comparing the value of $t_{count} 2.595 > t_{table} 2.009$ at the 5% significance level with df = 49. Thus H_a is accepted and H_0 is rejected. When calculating the hypothesis test using the Sig value. 2-tailed. It can be seen in the Equal variances assumed value column $.012 < 0.05$ can be described as the basic rule of decision making in the Independent Samples T-Test. It can be concluded that the Ha which reads, there is an influence of Fun Thinkers Book media on the 5^{th} grades students' science concept understanding of MIN 3 Central Lombok academic year 2020/2021, accepted.

Table 6. *Effect Size* Test Result by *Partial Eta Squared*

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Treatment	Sphericity Assumed	6556.019	1	6556.019	89.409	0	0.775
	Greenhouse-Geisser	6556.019	1	6556.019	89.409	0	0.775
	Huynh-Feldt	6556.019	1	6556.019	89.409	0	0.775
	Lower-bound	6556.019	1	6556.019	89.409	0	0.775
Error(treatment)	Sphericity Assumed	1906.481	26	73.326			
	Greenhouse-Geisser	1906.481	26	73.326			
	Huynh-Feldt	1906.481	26	73.326			
	Lower-bound	1906.481	26	73.326			

Based on Table 6, the calculation results of the Effeect Size showed that the partial eta squared value generated from the measurement of students' conceptual understanding was 0.775. The number 0.775 shown by the partial eta squared means that the variable understanding of the students' concepts is 77%. When compared with the predetermined criteria the value is in the range of 0.50 - 0.80 which means that the Fun Thinkers Book media has a moderate effect on the understanding of the science concept of 5^{th} grade students of MIN 3 Central Lombok in the 2020/2021 academic year.

The treatment given by researchers to the experimental class in the form of using the Fun Thinkers Book learning media, by implementing the steps for using the media, is according to Budhiarti (2014) as follows:

1. Opening a page of the book then placing a plastic box / wood that has been provided. This media is visually attractive because it has colorful and playable pictures. This starts with reading the text at the top of each page as an initial stimulus related to conveying the concept of the material of motion organs in animals and humans;

2. Moving one plastic box according to the serial number listed from the right to the left of the plastic box. The researcher invites the students to play while learning so they don't get bored because every time a students opens a plastic / wooden tile, they will find a related picture with the box he opened and he

had to attach it to the box on the left of the book in accordance with the material for human and animal organs;

3. After attaching all parts of the page, the student closes the box and turns it over. At the back of the box, there are colors that form a pattern, with this pattern students will be aware simultaneously and stimulated their critical thinking skills regarding the correct answer or not, so that they will dig up more information from the stimulus obtained;

4. If the student correctly pairs the existing pictures, the color pattern that is formed will be the same as the pattern that is already available on the book page. Students realize that after they understand something after going through the process, something is known or remembered and interpreted the meaning of animal and human movement organs that have been studied.

The implementation of concept achievement in the experimental class and the control class is different, along with the explanation of concept achievement according to Klausmeier (1977), as follows:

1. Concrete Level, Conceptual understanding of the concrete level in the experimental class is considerably good. Students pay attention to the Fun Thinkers Book media that has been given by the teacher. Students study the cartoon image media to be able to distinguish so that concrete understanding can be achieved. While understanding the concept of the concrete level in the control class, students are not given the Fun Thinkers Book media. Students are only given picture media and reading textbooks, so that understanding the concept at a concrete level is rather difficult to achieve;

2. Identification level, This stage is about the concept of identification level in the experimental class after students pay attention to the Fun Thinkers Book media. The students review the contents some of the Fun Thinkers Book media so that understanding the concept of the identification level can be achieved. Meanwhile, understanding the concept of identification level in the control class is difficult to achieve, because in this class the teacher does not provide cartoon image media to be studied. So that students cannot study according to the media, but study based on reading text or textbooks;

3. Classification level, Students in experimental class can provide similarities between one image and another, so that they can find out the relationship between these concept equations. The concept understanding at the classification level can be achieved. Meanwhile, concept understanding of the classification level in the control class is difficult to achieve, because teacher does not provide the Fun Thinkers Book media to provide equations so that students can find out the relationship between the picture equations;

4. The formal level, Concept understanding of the formal level in the experimental class, from the Fun Thinkers Book media, students can smoothly provide the names contained in the Fun Thinkers Book media so that understanding the concept of the formal level can be achieved. Concept understanding of the formal level in the control class is difficult to achieve, because in this class the teacher does not provide a Fun Thinkers Book to be able to give names of more specific understandings about something.

Concept understanding can be understood as a network of relationships between objects, events, and others, which have fixed and observable features (Ermiana et al., 2020). She further states that usually students memorize concept definitions faster than just paying attention to the relationship between one concept and another. Consequently, new concepts are not integrated with existing concepts, but stand alone without being linked to other concepts (Ermiana et al., 2020). In line with that, the Fun Thinkers Book media has a role in connecting existing knowledge with new knowledge when students link one statement to another in the form of media games.

After conducting the test, the researcher obtained the learning outcomes related to understanding the concept of the students. The researcher obtained two groups of data, which were seen from the pre-test and post-test scores of the two classes. The pre-test results of the experimental class had an average of 51.11 and the control class at the time of the pre-test had an average score of 43.13 with the highest score of 80 and the lowest of 25. Meanwhile, the post-test of the experimental class received the highest score of 95 and the lowest score of 50 with average score is 73.15. While the post-test score of the control class obtained the highest score of 90 and the lowest score of 35 with an average is 63.96. This indicates that after giving treatment the learning outcomes associated with students' understanding of concepts increased.

The data were further analyzed using the independent simple t-test method assisted by the SPSS Version 23. It can be seen that the decision making criteria are at the 5% significance level if the sig. value is less than 0.05, where the significance value obtained is 0.12, then Ha is accepted. Based on the results of these tests, it shows that Ha, who stated that there was an influence of the Fun Thinkers Book media on the science concept understanding of 5^{th} grade students on MIN 3 Central Lombok, was accepted.

The final data analysis conducted by the researcher was the effect size analysis by partial eta squared to determine how much influence the Fun Thinkers Book media had on science concept understanding. Based on the calculation of the Effect Size, the partial eta squared value generated from the measurement of students' conceptual understanding was 0.775. When compared with the predetermined criteria the value is in the range of 0.50-0.80 which means that the Fun Thinkers Book media has a moderate effect on the understanding of the science concept of class V MIN 3 Lombok Tengah students in the 2020/2021 school year. Based on this explanation, it can be concluded that there is an influence of the Fun Thinkers Book media on the science concept understanding of 5^{th} grade students MIN 3 Central Lombok in the 2020/2021 academic year.

4. CONCLUSION

Based on research conducted on 5^{th} grade students of MIN 3 Lombok Tengah, on the influence of the Fun Thinkers Book media on concept understanding using quantitative data analysis t test, obtained the value of $t_{value}\, 2.595 > t_{table}\, 2.009$ at the 5% significance level. Thus H_a was accepted and H_0 was rejected, so it can be concluded that there is an influence of Fun Thinkers Book media on concept understanding of 5^{th} grade students MIN 3 Central Lombok in the 2020/2021 academic year.

Based on experience when carrying out research, there are suggestions that can be conveyed to improve further research namely students should be actively involved in the learning process and follow instructions from the teacher regarding the use of Fun Thinkers Book media so that it will bring up interesting learning, it is hoped that the teacher understands how to apply the learning media that will be used so that its use can maximize learning and become a reference that can be used in teaching, especially in science subjects so that it can improve student learning outcomes, it is hoped that schools can support and facilitate teachers to use a variety of learning media so that learning can take place attractively and can embed conceptual understanding in students, this research is not only used as a reference but can be developed again. It is hoped that the Fun Thinkers Book media will not only improve students' understanding of concepts but can be developed in other aspects.

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