

ANALYSIS OF STUDENT RESPONSES TO USE MAGIC BAG CONSTRUCTION MEDIA SPACE FOR CLASS V SD

Antina Tri Mupida, Dwi Kameluh, Ida Putri Rarasati

Department of Primary School Teacher Education, Guidance and Counseling

Universitas Islam Balitar, Blitar

e-mail: 1antina.trimupida@gmail.com, dkameluhagustina@gmail.com, idaputri277@gmail.com

ABSTRACT

Based on observations and interviews conducted by the researchers found that teachers only use whiteboard media so as to make the students less active in learning, and the acquisition value of mathematics learners are still low. This study aims to develop learning media in the form of Build Space Magic Pockets that can be used as an effective medium in elementary school mathematics classroom. This study uses the Research and Development approach or Research and Development (R & D), which is directed at the development of geometrical magic pocket media for elementary school mathematics classroom. Step in this research was conducted through six stages: 1. Observation, 2. Planning Product Design, 3. Validation Expert, 4. Revision 5. Simulation Instructional, 6. Evaluation and Results, 7. Publications. Methods of data analysis in this study is a qualitative and quantitative approach. Learning media in the form of Pockets Magic Build Space that has been developed has been tested through a questionnaire validated by the validation results of the expert content of 94%, media experts, 83%, and for the acquisition of the validation results linguists still 83% of the three results of this validation media magic bag geometrical entered at a very decent qualifying, nothing needs to be revised. Based on the results of questionnaire responses of learners to wake magic pocket media room 258 the number of results obtained with the maximum number of results obtained 260 and the percentage 99% means media magic bag geometrical get a positive response from students. Magic bag so that the media can be used to wake space grade elementary school mathematics.

Keywords Analysis of the response, Pockets Magic Media, Build Space

1. INTRODUCTION

The learning process is an activity curriculum implement an educational institution, in order to achieve the goal of education. The purpose of education was to lead learners towards the behavioral changes both intellectual, moral and social order to be able to live independently as individuals and social beings .. The learning process also affects the success of learners in understanding the material presented by the teacher. So that teachers are required to use the media particularly attractive

Elementary School (SD) must be able to carry out the process of education, socialization, and also the transformation in other words, schools should play a role in improving the process. Education itself must be able to develop all the potential learners include cognitive, affective, and psychomotor. In order to develop these three aspects then the need for innovative learning and fun. Mathematics pelajaran eye needs to be given to students from elementary to equip learners have the ability to think logically, analytical, systematic, critical, and creative and the ability to work together. However, the subjects of mathematics generally regarded difficult for students because it is difficult to understand, full of symbols and mathematical learning approach less attractive.

Reviewing of the explanation above, in order to improve the effectiveness of learning mathematics, researchers conducted observations to see keterlaksanaan mathematics in class V SD Negeri 1 Tegalrejo Sumbermanjing Wetan. Based on direct pengamatan, the learning process shows that teachers teach using conventional media still learning (blackboard) so that learning is not effective and conducive. Researchers also conducted interviews with classroom teachers V obtained information that 20 learners average math scores are still low and the majority (58%) the value of learners is still below the minimum completeness criteria (KKM) is 75 and this is because the limitations the use of media in the learning process so that learners do not understand the material being taught by the teacher. To overcome these problems, researchers are trying to develop the Magic Pockets media Build Space for pembelajaran Math Class V (five) SD on Build Space Volume material in order to produce effective learning, optimal, and to provide new innovations to students and teachers.

The purpose of this study is to determine the feasibility of developing the Magic Pockets media Build Space for fifth grade elementary math learning and to determine the students' responses to simulated media instructional Build Space Magic Pockets for class V pembelajaran elementary mathematics.

Learning media are materials, tools, or techniques used in teaching and learning activities with a view to the process of educational communication interaction between teachers and students can take place in appropriate and efficient (Latuheru, 1988: 14). Learning media according to Danim (1995: 7) is the medium of education which is a set of tools or attachments are used by teachers or educators in order to communicate with students or learners. Based on the expert opinion, the researchers conclude that the definition of instructional media is a physical tool, which can be used by people with senses and limbs like hands. The tool is an intermediary tool in conveying the idea of the subject matter. The subject matter is associated in a real situation. The idea of such material, delivered through the medium of learning and for the addressee. Receiver in such matters learners.

The benefits of learning media by Kemp and Dayton (1985: 28) in the citation Arsyad (2002: 175) is as follows Submission learning message can be standardized. Learning can be more interesting. Learning to be more interactive with menerapkan learning theory. The timing of the learning can be shortened. Kualitan learning can be improved. The learning process can take place whenever and wherever needed. Positive Sikaf students to the learning materials and the learning process can be improved. The teacher's role changed in a positive direction.

Build Space Magic Pockets is a medium that is made of flannel-shaped pouch, containing beams and cubes that have an assortment of sizes so that learners can identify and determine the volume wake contextual space.

learning with media puzzle is more effective than using cardboard media. From the aspect of affective, using puzzles media student attitudes more orderly, and psychomotor aspects of using media puzzle more skilled students in learning.

Ar-Fitr UIN Raudhatul Raniry "Using the Cube Viewer Tool Unit in Mathematics Learning to Improve Student Results Class V MIN Lamtamot Aceh Besar". The purpose of this study was to determine the activities of teachers and students in mathematics, as well as improving student learning outcomes with the use of props in the learning of

mathematics in class V MIN Lamtamot Aceh Besar. This research is a class act, with the subject of his research are students of class V MIN Lamtamot Aceh Besar amounting to 23 students. The study took place in three cycles. Based on the results showed that (1) Activities of teachers in the first cycle is 88.8%, and increased in the second cycle is 97.7%, and the third cycle is 97.7% identical to the second cycle. (2) Activities of students in the first cycle is 67.8%, increased in the second cycle is 80.4% and the increase in the third cycle is 92.2%. (3) The results of students in the first cycle is 47.8%, increased in the second cycle, with 74% and increased in the third cycle is 87%. Based on the results, it can be concluded that the use of Unit Cube Viewer tool can increase the ability of teachers, students are more active, and student learning outcomes towards learning mathematics in class V MIN Lamtamot Aceh Besar increased.

Harmoko in a thesis entitled "Influence of Cartoons Against Media Math Student Learning Outcomes" explained that in the experimental class using media images better learning outcomes than the control class that does not use the media image. It can be seen from comparing the average results of experimental class learning and classroom control. The use of media in learning cartoons can be seen when Harmoko use images in any material being taught. Media images that are displayed in the form of cartoons that students often see on television. The cartoon images representing each step in question and answer.

Based on the three relevant studies, the researchers concluded that the media Build Space Magic Pockets can be adopted in order to facilitate the learning of mathematics learners in understanding the geometrical volume of material (cubes and blocks). The third relevant research can be used as a reference in the study "Magic Pockets Media Development Build Space For Mathematics Learning Class V SD.

2. METHODOLOGY

The method used in this development is a method of research and development or Research and Development (R & D). Sugiyono (2009: 5) said that research and development aiming to discover, develop and validate a product. While the approach of the study is to combine qualitative and quantitative approaches.

Observation activities undertaken prior to the study, this activity aims to determine any problems faced by the students and teacher in fifth grade elementary school mathematics. Then planning media design at the planning stage media design originated from the discovery of the problems found during the observation of this problem researchers can determine media design planning stage. Then after the manufacture of the products Pockets Magic Build Space is completed, steps must be dilakukakn is to validate the product to the teacher in class V, as well as expert lecturers media, content and language, this activity bertujuan to obtain comments and suggestions about the media magic bag moder space that will be tested. After that melakukan revision or improvement magic pocket media wake up based on the results of expert validation that the media can be tested as well. Once the revision is completed, the next stage is the Instructional simulation, this stage is performed to determine whether Build Space Magic Pockets media appropriate to use effectively and contextual. Then Evaluation and Revision 2 conducted to assess the quality of products and processes in the manufacture of products that have been conducted by researchers, both before and after the trial. Evaluation and revision 2 is based on the analysis and suggestions obtained in instructional simulation. And the last

publication at this stage of the process media disseminate Build Space Magic Pockets. The next stage is the Instructional simulation, this stage is performed to determine whether Build Space Magic Pockets media appropriate to use effectively and contextual. Then Evaluation and Revision 2 conducted to assess the quality of products and processes in the manufacture of products that have been conducted by researchers, both before and after the trial. Evaluation and revision 2 is based on the analysis and suggestions obtained in instructional simulation. And the last publication at this stage of the process media disseminate Build Space Magic Pockets. The next stage is the Instructional simulation, this stage is performed to determine whether Build Space Magic Pockets media appropriate to use effectively and contextual. Then Evaluation and Revision 2 conducted to assess the quality of products and processes in the manufacture of products that have been conducted by researchers, both before and after the trial. Evaluation and revision 2 is based on the analysis and suggestions obtained in instructional simulation. And the last publication at this stage of the process media disseminate Build Space Magic Pockets. both before and after the trial. Evaluation and revision 2 is based on the analysis and suggestions obtained in instructional simulation. And the last publication at this stage of the process media disseminate Build Space Magic Pockets. both before and after the trial. Evaluation and revision 2 is based on the analysis and suggestions obtained in instructional simulation. And the last publication at this stage of the process media disseminate Build Space Magic Pockets.

In this study, data collection techniques used by researchers, namely interviews, observations, questionnaires validation, student questionnaire responses and documentation. This study uses data analysis techniques by means of a qualitative descriptive analysis of qualitative data obtained from interviews, observations and suggestions or comments validator and pengelolahan quantitative descriptive analysis of data with quantitative descriptive analysis is used to determine the feasibility and effectiveness of media products Build Space Magic Pockets developed. Qualitative descriptive data obtained from the questionnaire validation and the questionnaire responses of learners. Answer a questionnaire to experts using a Likert scale, measured variables are translated into the indicator variables. Likert scale used consisted of a score of 1 to score 5. After the questionnaire validated by a validator, then the questionnaire will be analyzed and dipersentase. According Sugiyono (2015):

Table 1 Category Rating On Likert Scale

No.	Score	Information
1	5	Very good
2	4	Well
3	3	Pretty good
4	2	Not good
5	1	Very poor

(Source: Sugiyono 2015: 134-135)

Obtaining validator research data analyzed by the following formula (Sugiyono, 2015: 418):

$$\text{Percentage score} = x 100\% \frac{\text{JumlahSkorPenilaian}}{\text{SkorPenilaianmaksimal}}$$

Percentage obtained is then converted into qualitative data as in table 2 below:

Table 2 Qualitative Data Conversion

No.	level Pencapaian	Qualification
1	81% - 100%	Very decent, do not need to be revised
2	61% - 80%	Decent, do not need to be revised
3	41% - 60%	Less worthy, need to be revised
4	21% - 40%	Not worth it, needs to be revised
5	<20%	Very decent, need to be revised

(Source: Arikunto, 2010: 35)

If the validation results showed the percentage is less than 60%, the product is declared less feasible for use in the learning process. Conversely, if the results of the validation and testing of the product shows the percentage of more than 61% then the product received a positive response from the validator and may be eligible for use as a learning support room bagun volume

To analyze the answers of the questionnaire responses of learners using Guttman scale questionnaire. Guttman scale that is used consists of two categories: two options namely the option Yes or No using checklist (Sugiyono, 2015: 139). Guttman scale display in the following table:

Table 3 Category Rating On Guttman Scale

No.	Score	Information
1	score 1	Yes
2	score 0	No

(Source: Sugiyono, 2015: 139)

Acquisition of data from student questionnaire responses will be analyzed by the following formula (Sugiyono, 2015: 418):

$$\text{Percentage score} = x 100\% \frac{\text{JumlahSkorPenilaian}}{\text{SkorPenilaianmaksimal}}$$

Table 4 Response Results Achieved Qualification Level of Students.

No.	level of Achievement	Information
1	51% - 100%	Positive
2	0% - 50%	Negative

If the level pencapaian show less than 50% then the product is getting a negative response otherwise less effective for use in the learning process. Conversely, if the results of questionnaires and product trials show the percentage of more than 51% then the product received positive feedback from learners and may be eligible for use as a learning support volume bagun elementary school classrooms.

The population in this study is the SDN 1 Tegalrejo number of 20 learners and sampling in this study using a sample technique, namely saturated sampling technique when all members of the population made as a sample. The sample in this empirically that 20 learners fifth grade at SDN 1 Tegalrejo.

3. RESULTS AND DISCUSSION

Stage Design and Development at this stage of the manufacture of tools and materials Build Space Magic Pockets media. The tools to be prepared is a pair of scissors, glue gun, sewing needles, pins, bulpoin, pengaris and kuas. Bahan prepared is cardboard, wood paints, a flannel cloth, glue, glue the candle, zippers, thread, stickers and thinner. The steps in media preparation Pockets Magic Build Space is the first to make a pattern of each part of the bag, attach the pattern in flannel and cut according to the pattern, layered pattern of the bottom of the cardboard, unite all the patterns using a pin, kemudiian sewing flannel, after the sewing finished attach zippers or buttons on the top, then give the trimmings. Once the bag is completed, the next step is to make wake cubes and blocks.

Simulation procedures instructional media usage Pockets Magic Build Space is the First Step Open Pockets Magic Build Space, calling the students according absent, and learners are welcome took this wake-up cubes and blocks, each student takes one wake cube and 1 wake beam then gave an explanation of the what will be done learners with structures', ask learners to measure the length, width and height of waking up after the students finished measure the length, width and height wake the teacher asks students to determine the volume wake cubes and blocks, after all learners completed, the teacher asks students to redeem the wake that has been measured with other learners as much as 4 times the exchange.

Step two teacher divides the students into 4 groups, consisting of 5 learners, teachers explain the quiz or contest measure the length, width, height wake up and determine the volume wake, teacher distributes a wake up randomly to each group as much as 5 woke up, after all finished working groups, each group will biberi time to mempersentasikan the work of each group according to the serial number of the group. For groups that can determine the length, width, height and volume, as much as 5 builds will get 1 set of notebooks each member of the group and for the group to determine the length, width, height and volume, as many as 4 waking up will be awarded 1 piece bulpoin each -masing members of the group.

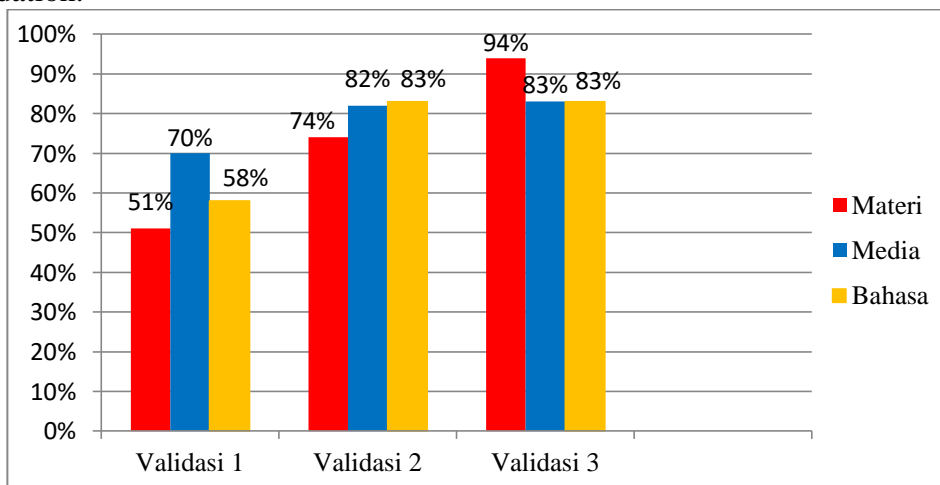
Based on the results of the feasibility validation Bngun Magic Pockets media space by subject matter experts, media specialists and linguists get the result with the following percentages:

Table 4 Average Validation Results

Validation	Results Validation Expert		
	expert Content	hostage in order Media	Linguist
1	51%	70%	58%
2	74%	82%	83%
3	94%	83%	83%

Based on the acquisition of the results of the validation of data in Table 4 with the acquisition of the validation results 1 from subject matter experts 51%, media experts, 70%, and linguists 58%, the validation phase 2 recovery validation result there is an increase of subject matter experts 74%, media experts 82% and linguists 83%. Validation Phase 3 also increased acquisition results of validation of materials experts 94%, media experts, 83%, and for the acquisition of the validation results linguists still 83% of the three results of this validation media Pockets Magic Build Space entry qualification is very

decent, do not need to be revised .. Here is a graph to determine the increase at each stage of validation.



Graph 1 Diagram rod validation

Presentation of the results of questionnaire responses of students during instructional simulations exist in table 6 below.

Table 2 Results of questionnaire responses of learners

respondents	Result Score	Suggestions, criticisms, and comments
1	13	I like
2	13	I like
3	13	I like
4	13	I like
5	13	I like
6	13	I like
7	13	I like
8	13	I like
9	13	I like
10	13	I like
11	13	I like
12	13	I like
13	13	I like
14	12	I like
15	13	I like
16	13	I like
17	13	I like
18	13	I like
19	12	I like
20	13	I like
Σ		258
Percentage		99%

From the results of the validation results of questionnaire responses of learners to Build Space Magic Pockets media obtained the number of results 258 to 260 the number of maximum yield, the percentage is the percentage score = $x \ 100\% = 99\%$. Based on the calculation results obtained by percentage 99% means the Magic Pockets media Build Space has received positive responses from students. Based on the results of learners' response questionnaire responses of learners to study the response of students to instructional media simulation Build Space Magic Pockets. The results of the student questionnaire responses on the graph 2. $\frac{258}{260}$

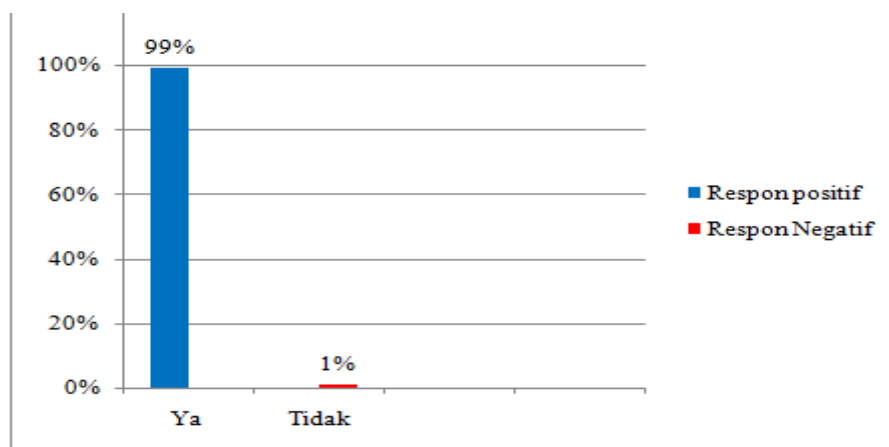


Figure 2 Bar chart learner response results.

Based on the results of the acquisition of bar charts 2 responses of learners to answer yes to get a percentage of 99% and 1% did not answer. From these results it can be concluded that the Magic Pockets media instructional simulation Build Space has received positive responses from students.

4. CONCLUSION

Based on the results of research and development that has been discussed in chapter IV, it can be concluded that the results of the validation to the subject matter experts, media specialists, and linguists media magic bag geometrical get validation results 1 from subject matter experts 51%, media experts, 70%, and linguists 58%. Validation phase 2 recovery validation result there is an increase of 74% subject matter experts, media specialists 82% and 83% linguists. Validation Phase 3 also increased acquisition results of validation of materials experts 94%, media experts, 83%, and for the acquisition of the validation results linguists still 83% of the three results of this validation media magic bag waking entrance hall in qualifying is very decent, do not need to be revised, Magic bag so that the media can be used to wake space grade elementary school mathematics.

5. SUGGESTIONS

Based on the results of research and discussion and conclusion, it can be diusupkan several suggestions from researchers as follows:

- a. To teachers to improve the quality of mathematics teaching material volume V SD wake classrooms using geometrical magic pocket media.
- b. Researchers who will come to this study only examined the use of geometrical magic pocket media for learning mathematics class V SD, is expected to further researchers to develop research by measuring the learning motivation and learning outcomes

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