



Peron Media "Koper Dakon" For Learning Mathematics In Basic Schools

Khoirun Nikmah¹, Sripit Widiastuti², Ida Putri Rarasati³

^{1,2,3} Elementary School Teacher Education, FKIP Balitar Islamic University, Blitar

E-mail: ipeecint@gmail.com, phywidia@gmail.com, idaputri277@gmail.com

Abstract Based on the results of observations and interviews, it can be seen that the lack of use of instructional media, the teacher only uses the lecture method. This study aims to determine the feasibility and response of students to the use of platform learning media. The technique used in the research was the Borg and Gall model Rnd method which was limited to the seventh stage, namely product revision. The results of the research showed that the percentage of the assessment of media experts, linguists and material experts were 82.2%, 86.6%, 98.7%, respectively. The average expert score is 89.16%, which means that the average expert score has reached the criteria set in the range of $80 \leq x \leq 100\%$ which is very feasible to use without repair. In the readability test the teacher obtained a percentage value of 81.5% and the student readability test obtained a percentage of 88% with very valid information. While the average percentage of student response assessments is 90%. The conclusion of this study can be stated that the media has received a positive response from students and is suitable for use in mathematics learning in elementary schools.

Keywords: Student Response, Learning Media, PERON, Mathematics

Abstrak Berdasarkan hasil observasi dan wawancara terlihat bahwa kurangnya penggunaan media pembelajaran, guru hanya menggunakan metode ceramah. Penelitian ini bertujuan untuk mengetahui kelayakan dan respon siswa terhadap penggunaan platform media pembelajaran. Teknik yang digunakan dalam penelitian adalah metode Borg and Gall model Rnd yang dibatasi pada tahap ketujuh yaitu revisi produk. Hasil penelitian menunjukkan persentase penilaian ahli media, ahli bahasa, dan ahli materi masing-masing sebesar 82,2%, 86,6%, 98,7%. Rata-rata skor ahli sebesar 89,16% yang berarti rata-rata skor ahli telah mencapai kriteria yang ditetapkan pada kisaran $80 \leq x \leq 100\%$ sangat layak digunakan tanpa perbaikan. Pada uji keterbacaan guru memperoleh nilai persentase sebesar 81,5% dan pada uji keterbacaan siswa memperoleh persentase sebesar 88% dengan keterangan sangat valid. Sedangkan rata-rata persentase penilaian respon siswa sebesar 90%. Kesimpulan penelitian ini dapat dinyatakan bahwa media telah mendapat respon positif dari siswa dan layak digunakan dalam pembelajaran matematika di sekolah dasar.

Kata Kunci: Respon Siswa, Media Pembelajaran, PERON, Matematika

PRELIMINARY

Based on observations and interviews at two elementary schools on December 20, 2018, some information was obtained in the teaching and learning process of the KPK and FPB materials, namely the lack of use of learning media. In addition, the teacher still delivers material with the lecture method so that the material being taught is not well understood by students and creates a feeling of boredom.

Munadi (2007) states that anything that can create a conducive learning environment so that it can make learning effective and efficient is the meaning of learning media. According to Kustandi and Sutjipto (2011) Learning Media is a tool that is used in an effort to improve the process for both learning and teaching.

Arifin (2009) states that the mathematics learning process helps students to think critically, creatively, be disciplined and have the attitude to work hard in solving a problem by applying mathematics material in everyday life.

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* Khoirun Nikmah, ipeecint@gmail.com

Educators must be able to find good methods for abstract mathematics learning. In fact, there are still educators who provide a basis for mathematics in accordance with what they already understand without thinking about differences in thinking between students and teachers. The technique still used by the teacher is the lecture method without using media or props in the teaching and learning process. According to Suparwoto (2007), the appropriate stimulus as a tool in the learning process is a medium that is easily captured by students.

Efforts made by researchers in overcoming the above problems are using PERON learning media. PERON "Dakon suitcase" is a means to convey information to students by means of interaction between students and educators in the form of dakon games. This game will train students' brain work and concentration in the learning process.

This study aims to discuss the feasibility of developing PERON learning media and to find out how students respond to the use of PERON learning media to learn mathematics for elementary students. This media also provides benefits to (1) teachers as input in making learning media according to student characteristics, (2) for students to provide a more interesting learning experience and can facilitate student learning and can make it easier for students to remember lessons that have been received, (3) for researchers as a reference for comparison or a more relevant research reference. This learning media is made by students to be more attractive and easier in understanding mathematics lessons in the chapters of KPK and FPB.

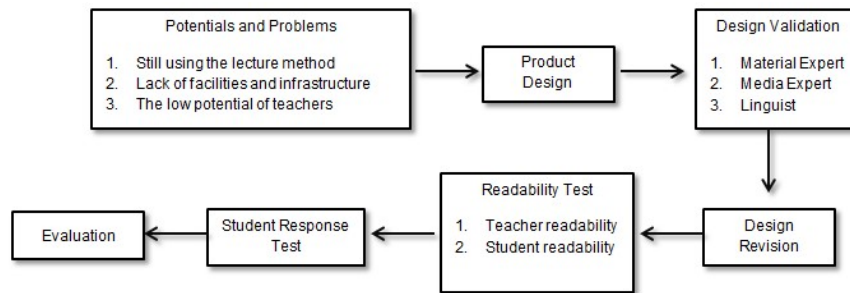
The final result of the Mutilda Kurniati Research (2017) is in the form of learning media that is only used as a teacher's guide. For this reason, the researcher decided to perfect the conventional media of the dakon box that previously could only be used on KPK material, modified so that it could be used for FPB learning.

Another study conducted by M Akhyar Al Amin (2015) developed media getting a good percentage of responses for students, it's just that previous researchers in operating limited prime numbers up to the number 48, for that the researcher decided to perfect the learning media that previously limited prime numbers only up to 48. to the number 48 into a larger prime number with the aim of large numbers of operations being carried out.

RESEARCH METHODS

The type of research used is Research and Development (R & D), because the purpose of this research is to develop PERON learning media to learn elementary mathematics. The design that the researchers used was Borg and Gall (in Sugiyono, 2016) which were tailored to the needs of researchers in the field. In Sugiyono (2016) there are 10 steps that must be

followed, but researchers only use 7 steps of research procedures due to limited time, energy, and costs. The following is the framework used in the research:



Researchers used qualitative and quantitative approaches in research to find preliminary observational data and interview instruments for fourth grade students, teachers and school principals. UPT SD Negeri 02 Garum as a place of research with a population of 15 grade four students. While the quantitative approach is used to find data in the form of a validation questionnaire (Likert scale) to the three experts (material, media, language) and a response questionnaire (Guttman scale) the application of instructional simulation trials of PERON learning media to fourth grade students. The scale table and effectiveness criteria are as follows.

1) The validation questionnaire uses a Likert scale

Table 2.1 Likert Scale

LIKERT SCALE				
1	2	3	4	5
Not	Less	Enough	Good	Very good

Table 2.2 benchmarks for achieving value (effectiveness)

No.	Achievement Level	Qualification	Information
1	$80 \leq x \leq 100\%$	Very good	Very feasible, no need to revise
2	$60 \leq x \leq 80\%$	Good	Well worth it, no need to revise
3	$40 \leq x \leq 60\%$	Pretty good	Not feasible, needs revision
4	$20 \leq x \leq 40\%$	Not good	Not feasible, needs to be revised
5	$< 20\%$	Not very good	Not very feasible, needs to be revised

2) The student response questionnaire uses the Guttman Scale

Table 2.3 Guttman Scale

SCORING SCALE	
0	1
NOT	YES

Table 2.4 criteria for student response decision making

No.	Achievement Level	Qualification	Information
1	$80 \leq x \leq 100\%$	Very good	Very feasible, no need to revise
2	$60 \leq x \leq 80\%$	Good	Well worth it, no need to revise
3	$40 \leq x \leq 60\%$	Pretty good	Not feasible, needs revision
4	$20 \leq x \leq 40\%$	Not good	Not feasible, needs to be revised
5	$<20\%$	Not very good	Not very feasible, needs to be revised

RESULTS AND DISCUSSION

The media to be developed first is planned and designed in accordance with the data from the initial observations that have been collected. Besides, it is adjusted to the characteristics of the material in learning. The next stage is the final stage of improving the media for learning mathematics for elementary students. This learning media is applied to mathematics lessons on the subject matter of KPK and FPB. The following is a display of the development of PERON learning media for elementary school students' mathematics learning.



Image of PERON Learning Media

PERON learning media (Koper Dakon) is a means of interaction between teachers and students to convey information with dakon games. This game will train students' brain work and concentration in the learning process. Media of this Dakon suitcase can be used for fourth grade elementary school students in mathematics in the KPK and FPB chapters.

The percentage results obtained from filling out the 1st and 2nd questionnaires by the PERON instructional media material experts were 76% with the information "feasible". The percentage results obtained from filling out the 1st and 2nd questionnaires by media experts on the PERON learning media were 80% with the information "very feasible". The percentage

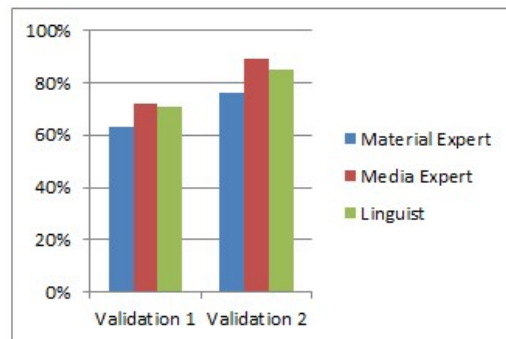
results obtained from filling out the 1st and 2nd linguist questionnaires on the PERON learning media were 78% with the description "proper".

Based on the results of validation by three expert fields, it is known that the PERON learning media developed by the researcher is categorized as good with an average percentage of 89.167% with the information "very layal" to be used in learning in grade IV of elementary school.

Table 3.1 Results of the validation of the Three Experts

Validation	Media Validation	Material Validation	Language Validation
1	71%	63%	71%
2	89%	89%	85%
Percentage / Average	80%	76%	78%

The results of the research from the three experts are in accordance with Arikunto's (2010) theory that the PERON media shows a percentage of more than 61%, so the product can be declared "feasible" or can be used as a learning medium.



The graphic image of the validation of the PERON learning media

Furthermore, the student readability test was carried out using 5 students at the fourth grade level of elementary schools and the readability test for 5 grade IV elementary school teachers. The legibility test was carried out by giving questionnaires to students and teachers. The subjects of this readability test were students at grade 4 level and grade 4 elementary school teachers. The subjects used were 5 students and 5 teachers. The results of the student readability assessment regarding the PERON learning media got a percentage score of 88% with the information "very feasible". So from the student readability test of the PERON learning media is very good.

Based on the results of the teacher's readability assessment of the learning media, PERON got a score of 81.5% with the information "very feasible". So, from the test the readability of the teacher to the learning media PERON was very good.

Table 3.2 the results of the teacher readability questionnaire

Responder	Score	Criticism and suggestions
Teacher 1	40	Learning media are less effective because the preparation requires a lot of time
Teacher 2	42	-
Teacher 3	40	The use of media only involves a few children, so it is not conducive
Teacher 4	41	-
Teacher 5	40	-

Based on student instructional simulations carried out using 15 students from grade IV to see how students respond to the PERON media. The researcher gave a questionnaire for student responses once the trial was complete. The results of the questionnaire can be seen in the table below.

Table 4 Student Response Questionnaire Results

Student's name	Total score	Suggestions / Comments
Alvino	15	Very interesting
Devina	15	I like learning with media
Devita	15	Not boring
Dicky	13	Not boring
Ferdiansyah	15	-
Habib	13	Very interesting and fun
Galih	13	Make it easy to learn
Rendi	15	Very interesting
Risky	15	Not boring
Miftahul	15	Not boring
Sidiq	14	-
Siexsel	13	It's easier to count
Vera	15	Very interesting
Sekar	15	Not boring
Faiz	15	Not boring

Based on the results of the assessment of student responses regarding the learning media PERON got a percentage score of 90% with the information "very feasible". So from the results of student responses to the learning media PERON is very good in accordance with the criteria of students.

CONCLUSION

Based on research on the development of learning media products for PERON in mathematics subject matter KPK and FPB, in grade IV Elementary Schools have been through

a feasibility test by material expert validators, linguists and media experts. The percentage obtained from the material expert validator was 89%, the linguist validator was 85%, and the media expert validator was 89%. Based on the results of the validator, it can be concluded that the PERON learning media is categorized as very feasible by the experts.

Based on the data analysis of the student readability questionnaire on the PERON media, it obtained a percentage value of 88% with very valid information and received good responses from students. Meanwhile, the teacher readability questionnaire data for the PERON media obtained a presenatase value of 81.5% with very valid information and received a good response from the teacher.

The results of the percentage of student responses to instructional simulations on the PERON media when trying to get a percentage of student responses of 90%, thus the media platform can foster student interest and response to follow learning using good media.

SUGGESTION

Suggestions are given for the development of PERON learning media for mathematics learning, namely:

- a) Hopefully the resulting PERON learning media can be developed and used properly by teachers.
- b) The development of PERON learning media for elementary students' mathematics learning can be continued until the trial phase in a wider scope.
- c) It is made more interesting that the question cards and questions given are clarified again so that students can answer questions easily.

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