



DEVELOPMENT OF STUDENT WORKSHEETS REFERRING TO THE ADDIE MODEL

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ABSTRACT

The development of Student Worksheets (LKPD) with the help of mentimeter on flat shape material for class V SD Negeri 1 Banyuasin 1, has the aim of being able to produce LKPD on flat shape material with the help of mentimeter which is valid, practical and has potential effects for class V students of SD Negeri 1 Banyuasin1. The type of research used by researchers in developing this LKPD is research and development, development refers to the ADDIE model which consists of Analysis, Design, Development, Implementation, and Evaluation. The research subjects were elementary VA class students at SD Negeri 1 Banyuasin 1. Data collection techniques used in the research were interviews, questionnaires, tests and documentation. based on the results of research by validator experts from three fields, namely media, material, language, the developed LKPD media obtained a validity level of 91.51%, from media experts who were categorized as "Very Valid", 90.25% from material experts who were categorized as "Very Valid" , 92.38% of language experts were categorized as "Very Valid" so that the Mentimeter-assisted LKPD was categorized as very valid with revisions. Then the practicality test of the one to one student questionnaire test obtained a result of 92.69% categorized as "very practical", then the small group trial obtained a result of 93.6% categorized as "very practical" so that both obtained a result of 93.1 % "very practical". And the final test of the potential effect test obtained a result of 97.09% categorized as "very effective".

Keywords: *LKPD, Learning, tools*

1. INTRODUCTION

Learning is a teaching and learning process that can create a learning process that involves students and teachers in order to obtain knowledge, skills, behavior formation and understanding obtained from the process. A teacher is an educator who is responsible for students to teach, educate, direct and train. Teaching is the process of transferring knowledge from an educator to students. Educating is the process of forming attitudes and life values. Directing, namely providing guidance/instructing students in positive ways during the learning process. According to (Yudha & Sundari, 2021, p. 538), the benefits of using learning media are that it makes it easier to convey information, attracts students'

interest and gives them the opportunity to gain experience.

According to (Hasibuan & Fatmawati, Pulungan, S., A, 2021, pp. 179-188) states that well-designed and aesthetically attractive Student Worksheets (LKPD) function as tools that support teachers and students to learn independently during the learning process. Students who participate actively in the learning process have a greater understanding of the material being discussed, and it is easier for teachers to achieve the desired learning goals. The impact of technology extends to various aspects of life, including economics, culture, and education. Therefore, integrating learning media in an innovative way is seen as a necessary step to keep up with technological

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developments and increase students' enthusiasm for learning. LKPD innovations, which are usually in printed form, have begun to switch to digital form which can be used on computers and cellphones in line with technological advances. Mentimeter is one of the LKPD applications that can be used.

Based on the above, interactive learning media is needed in mathematics subjects so that students are interested and active in the learning process in class and do not feel bored and provide new insights in the introduction of technology in the learning process. So this research is an addition to learning media in the form of LKPD assisted by mentimeter which will be the result of development for learning flat shapes in class V of SD Negeri 1 Banyuasin 1. These problems can then be identified based on the background information provided above, namely as follows: (1) The use of learning resources is limited to textbooks, teachers and objects at school. (2) Less use of technology-assisted learning media in the learning process. (3) Students' lack of enthusiasm in learning because they are less interested in learning material about flat figures.

Problem Limitations Based on the identification above, the problems obtained are as follows (1) This research focuses on the development of LKPD assisted by Mentimeter on material for class V flat shapes at SD Negeri 1 Banyuasin 1. (2) The main material for this research is flat shapes for class V at SD Negeri 1 Banyuasin 1 focuses on comparing the characteristics of triangles and squares and rectangles. (3) The development model used is the ADDIE model where development is carried out through creation and testing (validity, practicality and potential effects). So the problem formulation in this research is as follows; How to develop a LKPD assisted by a meter that is valid, practical and has potential effects on flat building materials at SD Negeri 1 Banyuasin 1? And for the purpose of developing this research, it can be seen from the problems mentioned above as follows: Can you produce LKPD on flat shape material with

the help of a meter that is valid, practical and has potential effects for class V students at SD Negeri 1 Banyuasin1?

2. LITERATURE REVIEW

Student Worksheets (LKPD) are used in the classroom as learning aids to help students solve difficulties. LKPD takes the form of suggested experiments or demonstrations, as well as training guides for developing cognitive components. LKPD is a learning resource that contains various tasks that must be carried out by students actively. . Thus, student worksheets (LKPD) are learning tools that contain explanations of subject matter, practice questions, and task instructions that students must carry out actively to fulfill the required basic skills (Triana N, 2021, p 15). This Student Worksheet (LKPD) contains practice questions, solutions and a synopsis of the lesson material. LKPD is developed based on students' needs to improve effective teaching and learning processes. Apart from that, LKPD functions as a teacher assessment method based on the basic skills that students need to have. LKPD helps teachers explain learning material and ask practical questions to students. With the existence of LKPD, the teaching and learning process between teachers and students in the classroom becomes interactive and effective.

According to (Asmaranti, 2019, pp. 639-646) said that the elements of LKPD must include LKPD development. LKPD consists of 6 main elements, as follows; (1) Title (2) Study instructions (3) Basic Competencies (4) Supporting information (5) Tasks or work steps (7) Assessment. Triana N., 2021, p. 16) states that LKPD has several purposes, including as teaching material to encourage students to participate more actively in learning, as a summary of material that is simpler for students to understand, and providing practice questions to help students become more proficient in answering questions. themselves and facilitate the application of the learning process to students. Functioning as a

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study guide, LKPD also functions as teaching material that encourages students to participate more actively in learning. LKPD provides easy-to-understand summaries of material and contains practice questions to help students apply what they have learned to real-world situations. Steps for Making LKPD According to (Silvia & Mulyani, 2019, p. 40) the following are the steps for making LKPD: Curriculum Analysis, Compiling LKPD Needs Map, Determining LKPD Title, Writing LKPD

Nuzula & Putranto (2023, pp. 80-81) state that learning media is a tool that facilitates the delivery of information and increases the efficiency of the learning process. Learning media is one of the tools used by teachers to assist teachers in conveying material to students so that interaction occurs between teachers and students during the learning process that occurs in the classroom. According to (Said & Susanto, A, 2023, pp. 85-98), the use of media in the classroom is very important and makes learning easier for students. Students will find it difficult to understand the lessons given if there is no accompanying media, especially if the lesson is difficult to explain.

Mathematics is a very important and vital discipline at all levels of school, so it needs to receive proper attention in the learning process, including understanding, studying and mastering concepts as a whole (Daimah & Suparni, 2023 p.) Mathematics is knowledge gained from students' experiences in logical thinking, reasoning when studying mathematics with the properties of collections of objects (Susanti, 2020, p. 438) In general, mathematics is a field of study that analyzes thought patterns, structures, changes, and space. The aim of teaching mathematics is to develop students' thinking. Mathematics is also a deductive science that is different from other sciences in its fluidity of truth. Therefore, mathematics plays an important role in developing students' abilities. According to (Pramesti, 2020, p.17) the objectives of elementary school mathematics learning are as follows: (1) Providing students with an

understanding of mathematical concepts (2) Explaining the relationship between concepts in applying mathematics in a reasoning, accurate, flexible and precise manner. (3) Using structured thinking to analyze the relationship between mathematical concepts and others. (4) Collect or explain evidence of ideas for mathematical statements.

According to (Sinthiya & Sobri, 2021, p. 20) a flat shape is a flat shape that is bounded by straight or curved lines. A flat shape is a shape that has a flat plane bounded by straight and curved lines and geometric shapes. A triangle is a flat shape with a total angle of 180° and is constructed by joining three corner points. According to (Ahmad & Yullys Helsa, 2020, p. 65) A triangle is a flat shape bounded by three sides and has three corner points.

Mentimeteris presentation software designed to make it easier for teachers to deliver interactive, interesting and fun material. According to (Syamsi Setiadi & M. Kamal, A. Marzuq, 2023, pp. 192-199) stated that mentimeter is a type of software in the form of presentations that can be used in the learning process, training, lectures and is easy to use. According to (Andrini & Pratama, 2021, pp. 287-294) Mentimeter is a tool that supports the learning process in the classroom for teachers and students so that direct interaction occurs. mentimeter is software that can be used to create student worksheets (LKPD) online as an interactive, interesting, fun and effective learning medium so as to provide students with direct experience in participating in learning.

3. METHODS

A research approach or strategy that has the capacity to improve practice is research and development. Research and development, or R&D as it is often known in English, is the research process used to produce certain goods and assess their efficacy, according to Sugiyono (2022, p. 297).

The mentor-assisted LKPD development procedure uses the ADDIE

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Analysis, Design, Development, Implementation, and Evaluation model.

1. Analysis stage

This stage is carried out by the developer to find out the problems that exist at the research site. In this analysis stage the researcher analyzes several things, namely:

- a) Analysis of teacher and student needs
- b) Curriculum analysis

2. Design Stage

One of the stages that follows the analysis stage is the design stage. implementing the design at this stage, such as deciding how to use the LKPD with the help of a meter.

3. Development Stage

This stage of this research is a LKPD assisted by a meter, which was produced by the researcher. Three groups of people-material experts, media experts, and language experts-will validate the media that has been created by researchers.

4. Implementation Stage

This stage is carried out by products that have been created for learning and can then be used by researchers to assess how these products influence the standards of interesting, effective and efficient instruction.

- a) Testing prototype II one to one

Once it has been updated and approved by subject matter experts. This prototype is currently being developed at SD Negeri 1 Banyuasin 1. and tested with 10 students in implementing flat shape learning in class

- b) Small group trial

The researcher gave questionnaires to twenty students who would also be tested. These students filled out student response questionnaires regarding student worksheets (LKPD) that had been created by researchers to determine their validity, implementation and possible effects.

- c) Large group trials

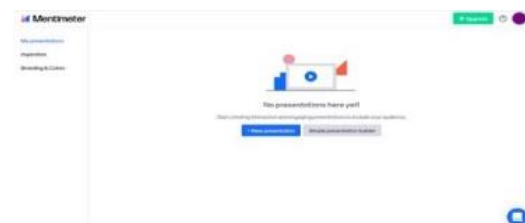
This stage was carried out by the researcher to try out tests on students where the students had used and studied the plane material that had been provided by the researcher. The test questions provided by the researcher were 10 multiple choice questions which were used to see the potential effects of the student's worksheets.

5. Evaluation Stage

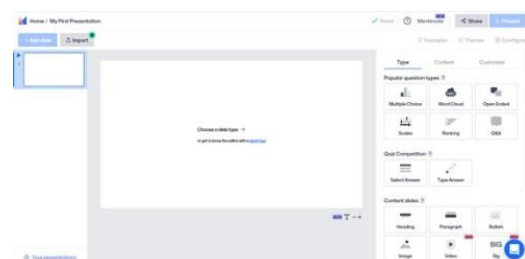
The final stage in the development process, the researcher evaluates the activities that have been carried out to ensure the quality and suitability of the product that has been developed by the researcher.



First sign in on Mentimete, after appearing sing up to register an account. After clicking, the contents appea.



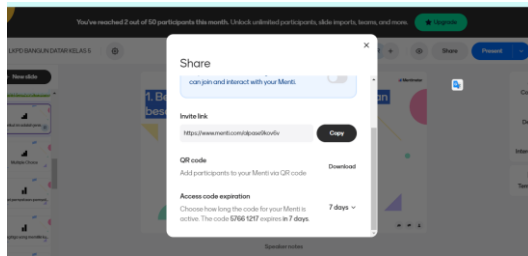
Then click New Percentation



First, to enter the LKPD and create it, select the filter you want.

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The edited form of the LKPD can be used for the cover, foreword, table of contents, basic competencies and learning objectives. Material about the characteristics of flat shapes.—0567890q21



After completing the LKPD, then click share in the top right corner to copy the link/code, so students can open the LKPD.

The data collection techniques used are interviews, questionnaires, tests and documentation. The prototype validation technique is to find out whether the product being developed - in this case the LKPD with the help of a meter on flat material - is suitable for use or not, then a prototype validation technique is carried out using the media expert test method, material expert test, and language expert test, the validator itself from lecturers at PGRI University Palembang and class teachers.

Data analysis technique

a) Validity analysis

This test is intended to evaluate the validity and feasibility of using the material created in this research. Results regarding the validity of the LKPD were obtained from media experts who act as validators. The following formula is used to determine the validity of the LKPD:

$$\text{Percentage} = \frac{\text{Jumlah total skor}}{\text{Jumlah skor maksimum}} \times 100\%$$

Information :

Percentage(%) : Percentage

Total score : Total score of respondents

Maximum number of scores: The ideal number of scores

100% : Constant

Table 3.2 LKPD Validation Scores

Score Intervals	Criteria
81% - 100%	Very Valid
61% - 80%	Valid
41% - 60%	Fairly Valid
21% - 40%	Less Valid
0% - 20%	Invalid

b) Practicality data analysis

Practicality data was analyzed to assess the usefulness of LKPD based on student and instructor reaction questionnaires

$$\text{Percentage} = \frac{\text{Jumlah total skor}}{\text{Jumlah skor maksimum}} \times 100\%$$

Information :

Percentage(%) : Percentage

Total score : Total score of respondents

Maximum total score : Total ideal score

100% : Constant

Table 3.2 LKPD Product Practicality Rating

Score Intervals	Criteria
81% - 100%	Very Practical
61% - 80%	Practical
41% - 60%	Quite Practical
21% - 40%	Less Practical
0% - 20%	Impractical

c) Analysis of potential effects

The test at the end of this research aims to find out whether there is a potential impact for students after using the resulting LKPD.

Information :

D = Effectiveness Value

B = Score obtained

C = Maximum Score

Table 3.3 Interpretation of Potential Effect Scoring

Score Intervals	Criteria
0% - 20%	Very Ineffective
21% - 40%	Ineffective
41% - 60%	Less effective
61% - 80%	Effective
81% - 100%	Very effective

4. RESULT AND DISCUSSION

This research is included in the research and development (R&D) category because it uses the ADDIE development model which has many stages, namely analysis, design, development, implementation and evaluation. The LKPD developed in this research is LKPD with the ADDIE model. The following link will take you to the LKPD: Researchers used the ADDIE model in developing LKPD media assisted by mentimeter on class V flat shape material at SD Negeri 1 Banyuasin 1.

a) Analysis Stage

Researchers are in the process of developing LKPD and conducting analysis,

namely by observing learning process activities. To ascertain the factors for making LKPD and ensure that the resulting media can help schools, teachers and students in overcoming problems in learning media, interviews were conducted with class V teachers. The results of class teacher interviews conducted by researchers at SD Negeri 1 Banyuasin 1 show that electronic LKPD media which use a meter approach or physical form have not been implemented in the classroom. For the curriculum applied, the two curricula for classes 1, 2 and 5 use the independent curriculum and for classes 3, 4 and 6 use the 2013 curriculum. In the independent curriculum, competency-based learning, flexible learning and the character of Pancasila.

b) Design Stage

This stage is used to help researchers create designs or designs for products that will be built using Canva as a reference for developing LKPD. At this stage, the researcher carried out the following steps, namely:

- 1) Reference collection
- 2) Choose a typeface that is easy for students to read.
- 3) Creation of storyboards and designs.

In designing the LKPD, it consists of a cover, foreword, table of contents, learning outcomes, learning objectives, content/material, practice questions and bibliography.

c) Development Stage

Researchers have produced prototypes at this level of development, leveraging Canva to produce visually appealing designs. The prototype is then verified by Media, Material, and Language, three experienced validators. At this stage, the following things were done: after the validation stage, the researcher carried out the product research stage according to expert advice regarding changes to prototype 1, as shown in the table below.

Before revision	After Revision	Information
		Revised, adding 4 logos and adding names of creators and mentors.
		No revisions.
		Added page no.
		Writing improvements
		Adding one column before entering the material, where the addition of images must be suitable for elementary school students.
		Writing and image improvements.
		Writing and image improvements.

		Writing and image improvements.
		Writing and image improvements.

The following table displays the results of calculating the average validation of linguist experts, media experts and material experts.

Table 4.2 Final Validation Results

No	Aspect	Average	Category
1	Material	90.25%	Very Valid
2	Media	91.51%	Very Valid
3	Language	92.38%	Very Valid
Average		91.38%	Very Valid

The data above shows that the average final validation score for language, media and material experts is 91.38%, included in the "Very Valid" category. Thus, it can be concluded that the student worksheet (LKPD) in class V of SD Negeri 1 Banyuasin with the help of a measuring tool on plane figures is very valid and suitable for use in assessment.

d) Implementation Stage

The product is deemed suitable for use in class V of SD Negeri 1 Banyuasin 1 after undergoing validation. Researchers conducted individual trials (one-on-one), small group trials (small group), and large group trials to carry out research

1. One to One Trial

From the results of the one to one individual tests that have been carried out, positive responses to the Student Worksheets (LKPD) that have been made have been received by researchers based on the results of the individual trials that have been carried out. Ten students in

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class V of SD Negeri Banyuasin 1 filled out a response questionnaire, and the results showed that they got a score of 92.6%, fulfilling the "Very Practical" category. It can be concluded that ten students think that the LKPD aided by a flat shape meter is suitable for use in class V at SD Negeri Banyuasin 1.

2. Small group test (Small group)

20 class V students of SD Negeri 1 Banyuasin 1 filled out the response questionnaire, and the results showed that they got a score of 1,872% or 93.6% in the "Very Practical" category. This shows that the LKPD aided by the meterimeter props on plane material is suitable for use in class V at SD Negeri Banyuasin 1.

Table 4.2 Results of calculating the average participant response questionnaire

No	Questionnaire	Average	Category
1.	One to one	92.6%	Very Practical
2.	Small group (small group)	93.6%	Very Practical
Amount		186.2%	
Percentage		93.1%	Very Practical

Based on what has been shown in the table above, the results of students' practicality testing of LKPD assisted by flat building meters in class V of SD Negeri 1 Banyuasin 1 which were developed were 93.1% in the very practical category.

3. Large Group Trials

The results of the student learning tests mentioned above show that, out of 31 students, the average score was 97.09%, falling into the "Very Effective" category. The exam consists of ten multiple choice questions.



e) Evaluation Stage

The goal of this evaluation is to implement revisions recommended by previous examiners. This is done after several stages of revision carried out in accordance with the examiner's recommendations. Next is the testing stage, where student response questionnaires are distributed in one-on-one trials, small group trials, and large group trials. This aims to conduct data analysis research to determine the validity, practicality and potential effects of LKPD products. The product is deemed feasible and practical after going through several stages of testing with educators and lecturers as validators, followed by practicality testing on students and testing the potential impact on students through multiple choice exams.

5. CONCLUSION

Based on the results of his research, the researcher created material for flat shapes in meters for class V of SD Negeri 1 Banyuasin 1 and helped make LKPD. This allows researchers to create learning media that are valid, useful, and potentially effective. From the results of the validation questionnaire which has an average validity value of 91.383% "Very Valid", and from the results of the student response questionnaire which has an average practicality value of 91.3% "Very Practical", as well as from the results of the test questions, The LKPD developed is quite effective with an average potential effect value of 97.09%.

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