

The Development of Interactive Multimedia PowerPoint Geometry Class III in Elementary School

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ABSTRACT

This study has the main purpose to develop a product in the form of interactive multimedia PowerPoint geometry for elementary school students Grade 3 so that the product development is valid and practical. This type of research is development research or research and development. There are three stages that are carried out in developing the model according to the development model, including the development or prototyping stage and the assessment stage. The next Data is done through quantitative and qualitative analysis techniques. Based on the results of interactive multimedia validation developed to obtain results with very valid categories. In addition, you will also get better results. In addition, you will also get the value of the questionnaire practicality by learners obtain results with a very practical category. Based on the description, the product development of this research is interactive geometry multimedia products for elementary school students Grade 3 stated to have met various criteria of validity and practice so that this product can be used by teachers and students in the classroom. In the modern learning process, so that in the learning process can increase the interest and interest of students in learning, even play a role in student psychology.

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1. INTRODUCTION

Today the digital world is growing very rapidly. The use of digital has become a major theme in human life, so many innovations that can help humans in doing their work, especially in the field of Education. According to (Wijaya et al., 2016), age 21 is referred to as the age of proficiency in education and knowledge (knowledge age), because the power of fulfilling the interests of life in various situations is increasingly skill-based. In the 21st century education is very important for

students to learn expertise, utilize innovative ICT media, and be able to survive using expertise for life (Zubaidah, 2017).

The development of increasingly sophisticated technology resulted in the advancement of the world of education that makes it easy for all parties in the learning process including for students. Technology can be used for the teaching and learning process so that students are easier to access teaching materials and understand teaching materials. One of the uses of such technology is to utilize technology for the creation of Learning media (Alim, 2018; Nurrita, 2018; Safitri, Alim, Noviana, Ibrahim, & Hermita, 2021). Next, (Jalinus & Alim, 2019; Wijaya, Li, Hermita, Putra, & Alim, 2021) mentioned that learning media is a tool used by teachers or teachers in delivering materials to help the learning process in the classroom so that students become passionate about learning.

The use of interesting, innovative and not boring media in learning can arouse students' interest in learning and stimulate students in conducting learning activities and have an effect on children's psychology (Alim, Fauzan, Made Arnawa, Sari, & Hermita, 2020; Hermita et al., 2020; Son, L. D., 2015). One of the technology-based media that can attract the attention of learners in the learning process is interactive multimedia. Interactive Multimedia is a combination of text, illustration, sound or moving images (video and animation) and plus a control tool that serves as an operational regulator according to the user's wishes (Kurniawati, 2018).

With the development of learning media, namely interactive multimedia used in the field of education, learning systems are conventionally replaced by the delivery of more modern knowledge. Thus, in the learning process using the right interactive multimedia will provoke the curiosity of learners and learning systems will be more interesting and memorable for learners (Rusdewanti, P. P., and Gafur., 2014). Another advantage of interactive multimedia is to be an alternative medium for the learning process in schools. With interactive multimedia, learners can have a new perception that initially considers difficult a lesson, then students become enthusiastic and motivated to more actively understand the material. Students also find it easy to memorize and understand the lesson (Alim, Fauzan, Arowana, & Musdi, 2020; Hermita et al., 2021; Muthulakshmi, P., & Veliappan, 2016). Similarly, the research conducted by (Riyadi, S., 2014) which produces data that the learning process becomes very effective with the interactive multimedia. Students' grades also increased compared to students' grades when studying conventionally. Interactive Multimedia can be developed using several applications, namely adobe flash, power point, genially, and others. Based on this idea, interactive multimedia is defined as a learning tool in the form of digital media with filler components that are interrelated to increase the interest and spirit of learning of learners. Interactive Multimedia can also improve students' learning outcomes in order to achieve learning goals.

One of the subjects that exist in schools that can use interactive multimedia is mathematics. Mathematics is a subject that holds a valuable contribution in human life. The role of mathematics itself is rational, careful, responsive, effective, and efficient. Therefore, students must master arithmetic or mathematics from an early age (Siagian, 2016). Mathematics is a type of subject that has an abstract nature so that teachers must adjust the level of development of the students with the math material taught in school (Waskito, 2014). The definition of the abstract is a state that is not real and only exists in the students' shadow about the mathematical object mentioned in the problem. The abstract nature of mathematics makes this subject difficult to understand.

The material chosen in this study is geometry because it is considered to be widely applied and close to the real life of the students. Geometry provides many basic skills and builds logical thinking skills in problem solving. Geometry involves points, angles, flat figures and space figures, symmetry, etc. According To (Wulandari S. Christine., 2017), geometry is a part of the subject of mathematics that is known by children from an early age, because almost all visual objects are in the form of geometry, so geometry is no longer Foreign to everyday life. In the real life of the learners, geometry material is found in the measurement of buildings, circles, wheel balance, construction of houses, roofs, floors, rectangles, the manufacture of other tools that require lines and circles (Baiduri, 2019).

One of the objects of geometry calculation is a flat figure-shaped object. This object has only a length dimension and a width dimension. That way, build data can be assessed area and perimeter (Wulandari S. Christine., 2017). There are several types of flat figures such as: square, rectangle, triangle, parallelogram, Rhombus, kite, circle, and trapezoid. In elementary school the study of the field of flat building is less attractive to students, because the scope of geometry which tends to be considered boring and complicated because it is related to the formulas and characteristics of each building which is sometimes almost the same (Nur'aeni, 2010). Based on the results of observations and interviews that have been conducted at SDN 002 Lubuk Baja Batam City, researchers found that the flat geometry material taught by teachers in the classroom only use the manual and taught on the board according to the procedure without any learning media.

Based on these circumstances, innovation and development in the manufacture of Technology-Based Learning media is needed by teachers. The Learning Media can attract the attention of students so that the spirit of learning math material that they perceive as abstract and boring material. In addition to abstract values, math material is also known to be difficult because it requires students to have high calculating skills. This is the role of learning media that makes it possible to design innovative and creative learning plans in the classroom. Learning Media must also be interactive with students so that students can communicate in conveying the difficulty in the subject anywhere and anytime. Based on this, the author made this study with the title "The Development of Interactive Multimedia PowerPoint Geometry Class III in Elementary School".

2. METHODS

This research was conducted at SDN 002 Lubuk Baja, Batam City. This school was chosen because of the computer laboratory that can support the use of interactive multimedia. This research will be carried out within 3 months starting from October 2021 to January 2022. This research uses the type of research R & D or research and development. Based on the description, The purpose of this study is to create a product by making improvements to the previous product that has been made. The process of making a new product must be with the stages of validity.

The development Model used in this study is plomp. This Model is used because it is flexible and makes it easier to design learning in multimedia development for Development Research. The 3 phases of development of the Plomp model, namely: preliminary research phase (Preliminary Research Phase), development or prototyping phase (Development or prototyping Phase) and assessment Phase (Puspasari, 2016). The phases can be described by McCenney in (Plomp, 2013) as shown below:

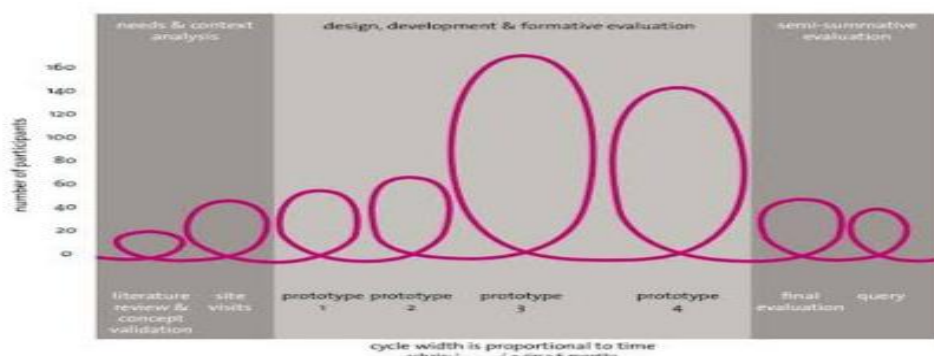


Figure 1. Plomp Development Phase

From the picture above can be described briefly about the development phase of plomp:

1. Preliminary Research Phase

The initial phase of this study is to analyze and collect data information needed in learning mathematics, identify learning media and learning resources in learning mathematics, especially flat

geometry material. There are several analyzes in this stage, namely: needs analysis, curriculum analysis, and learner analysis.

2. Development or Prototyping Phase

At this stage of research there are 4 prototypes, namely:

- Prototype 1, the researcher began to design a product to be developed.
- Prototype 2 is a researcher doing their own evaluation or can ask for help to a friend to check the writing/typing errors in the product development.
- Prototype 3, the researcher began to perform media validation stages to experts / experts until the product is declared suitable for use by users.
- Prototype 4 is after the product is declared feasible the next stage is to evaluate one to one to students.

3. Assessment Phase

Researchers will evaluate a small group consisting of 6 students and 2 accompanying teachers to see the practicality of the products that have been made. Researchers used research subjects in the form of 9 students in school at Grade 3 level. 3 people from 9 students will be the subject of research at the stage of one to one evaluation. The 6 students from the students will be the subject of research at the small group stage.

Researchers also choose the subject of research in the form of 2 teachers at the research location to be studied. The Data will be taken by collecting primary data obtained from the interview process and providing questionnaires directly to the subject of research. The type of data used is quantitative data containing numbers from the source to be validated. The Data will be analyzed through a questionnaire Practicality teachers and foster Practicality learners. As for the data collection techniques, researchers choose observation techniques, interviews, and questionnaires. The Data will be processed through descriptive qualitative analysis techniques. Descriptive quantitative analysis is a way of data processing involving numbers that have been obtained from various questionnaires, such as product validation questionnaires and product trial questionnaires. After that, the researcher will manage the data obtained from the interview and the advice given by 3 validators during the validation test of the developed product.

To determine the criteria in decision making include validation and product practicality obtained from questionnaires given to teachers, validators, and students/learners. Here is the formula for obtaining a validity score.

$$\text{Validity/practicality score} = \frac{\text{jumlahskoryangdiperoleh}}{\text{jumlahskormaksimum}} \times 100\%$$

After obtaining the percentage, the researchers will Group the results according to the group criteria that have been prepared in Table 1 below.

Table 1. Percentage of validity and practicality criteria

Average Interval Score (%)	Category
81,25 < x ≤ 100	Very Valid / Practical
62,5 < x ≤ 81,25	Valid / Practical
43,75 < x ≤ 62,5	Less Valid / Practical
25 < x ≤ 43,75	

Sumber: (Sugiyono, 2019)

3. FINDINGS AND DISCUSSION

Preliminary Research Phase

1. Needs Analysis

After conducting interviews to 3rd grade teachers at the research site, researchers get data that teachers in the learning process are still using conventional methods and still do a lot of lectures to students without the help of learning media that pleases students. Teachers still provide a lot of

material at the beginning of learning which is then followed by giving evaluation questions in accordance with the material. This learning concept is considered still conventional and not modern by including advanced technology.

In the subject of mathematics, many students have difficulty understanding the geometry of the material because it distinguishes each flat figure and its formula. Learners still often incorrectly match a flat wake formula with the type of flat wake available. Learners are also still not fluent in multiplication and division to solve flat geometry problems. Teachers teach students in learning geometry flat build using props such as objects in the form of quadrilaterals, triangles, and circles. Teachers also use the blackboard to draw flat figures and write down formulas so that learners can understand easily.

In geometry subject matter teachers very rarely use Learning media. Teachers still use textbooks as the main guideline coupled with a blackboard to draw the flat figure. Teachers have not made use of computers and other technologies because computer facilities are still few in schools. In addition, the internet network is also often inadequate. However, even so in schools have facilities such as computer laboratories, projectors, speakers, and props such as human skeletons.

Teachers are very happy if this interactive multimedia product is developed, because this product is an alternative in the teaching and learning process in schools. Learning Media can foster the spirit of learning and motivation of students so that students better understand the material. Students are more enthusiastic in learning and more actively follow the learning in the classroom so that the material delivered in the media can be understood by students.

2. Curriculum Analysis

Curriculum analysis is a foundation used to formulate learning outcomes in the classroom. After conducting the interview, the researcher obtained information that the research location school uses K13 curriculum or 2013 curriculum. In the development of interactive multimedia developed to discuss flat geometry material that adapts to the curriculum 2013 (K13) by combining the learning achievements in the Driving School Curriculum (KSP) which can be seen in the table below:

Table 2. Curriculum Analysis Results

Indicators Before	Indicators After
1. Identify various simple flat figures according to their properties and elements.	1. Learners are expected to be able to mention the type of flat wake.
2. Can distinguish and calculate any formula of a simple flat figure	2. Students are expected to be able to mention the elements and properties of the flat wake.
	3. Learners are expected to calculate the area and perimeter of a flat figure in a simple manner.
	4. Learners are expected to be able to mention the flat wake based on the objects around it.

2. Learner Analysis

The purpose of student analysis is to determine the characteristics of students so that teachers can have careful consideration in making interactive multimedia design. Interactive multimedia design must be in accordance with the scope of age, color, animation learning style, and other elements that become the point of view of the learners. Educated interviewees have an age range of 8 to 9 years. In this math subject, many learners do not like mathematics because they find it difficult to imagine, process numbers, and memorize the formulas in the story. One of the difficult materials in mathematics is the geometry material that will be used as the object of this study. In geometry

material, students must be able to memorize various formulas along with the nature of the flat figure in accordance with its characteristics.

Interactive Multimedia is designed to make it easier for students to learn flat geometry material. In addition, learners also feel happy to learn the material geometry flat wake. The results of interviews that researchers get that students prefer learning using media that contains animation that can move, bright colors so that students are motivated in learning. Students are very happy when given an offer of learning solutions using interactive multimedia using a computer even though students have never used a computer in school learning.

Development or Prototyping Phase

1. Initial product design and manufacturing (Prototype 1)

The initial product design and development process is an advanced process from the preliminary research stage. At this stage, the research has determined the material and form of presentation that will be displayed in interactive multimedia products. Researchers will utilize PowerPoint Office 2019 software with a total of 193 pages. The letters that the researchers chose in this interactive multimedia product are as diverse as Bahnschrift SemiBold SemiCondensed, Abadi Extra Light, MV Boli, Forte, Calisto MT, Calibri (Body), Bahnschrift Light, Bahnschrift SemiBold, Comic Sans MS, Bahnschrift SemiBold Condensed, Monly Extended, and Bahnschrift light SemiCondensed, and using size variations of 14-24 and 1-1.5 spaces. The components contained in this interactive multimedia product are the main display, user instructions, menus, learning achievements, materials, quizzes, and games. Here are the details of the interactive multimedia product components.

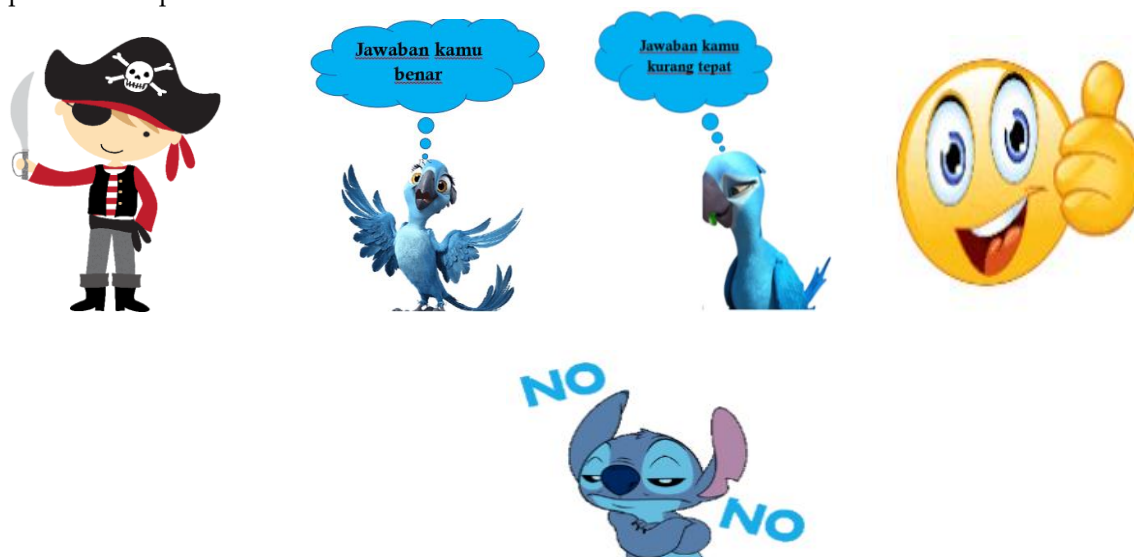


Figure 2 Character

a. Main View

This multimedia product uses the main look of a pirate nuance with dominant colors of black and navy blue. In the media main view, there is a "power" navigation button that serves as a guide to the next slide. In addition to the power display, there is also an "X" navigation button that plays a role in completing learning or exiting the previous display. Here is the main view of the media.

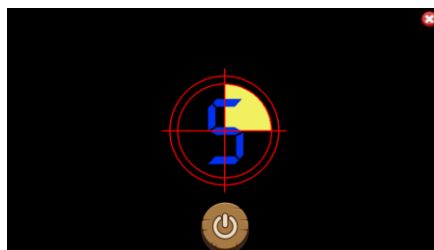


Figure 3. Main View

b. User Manual Display

There is a description section of each navigation button that serves to be a guide for users of multimedia products. This hint display will appear after the power button is activated. Here are the instructions for use of this multimedia product.



Figure 4. User Manual Display

c. Main view

After the user clicks the Menu Display button contained in the user manual slide, the user will enter the menu slide. On this slide there is a title and two sub menus, namely sub menu material "let'S learn "which contains the subject matter to be learned and in it there is a quiz containing interactive evaluation questions, as well as sub menu" let'S play" which contains games or simple games to improve the understanding of learners. In this slide there is also a navigation button " X " or exit button and inserted also pirate characters. For a clearer picture of the menu display on this interactive multimedia product can be seen in the picture below:



Figure 5. Menu View

d. Learning Achievement Display

This Sub menu contains learning achievements in mathematics subjects. Learning outcomes are made by following KD and indicators. In this sub menu there are buttons exit, home, next, and pirate characters. Display learning achievements can be seen in the picture below:



Figure 6. Learning Achievement Display

e. Material Display

The material shown from the geometry of the flat figure is about the definition of the flat figure, type, shape properties, and the formula of the flat figure presented in the problem. The language used in the subject matter should be simple so that learners can easily understand the material. There are also some commands on the question that ask students to follow it so that there is no error in the use of interactive media. There is also a navigation button as previously presented as a guide for learners in utilizing interactive media. Here is a look at the material presented above.



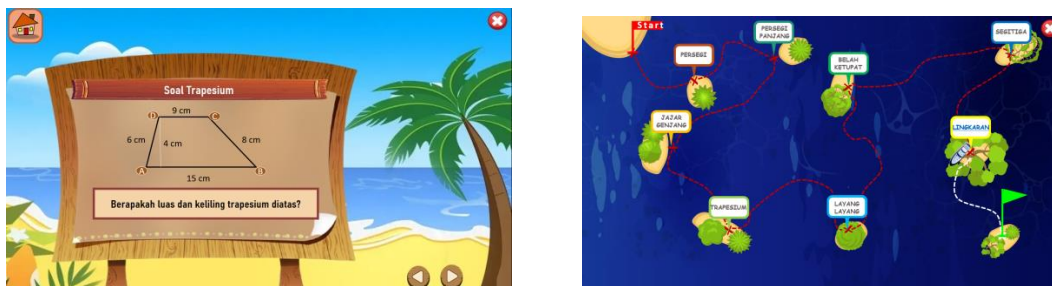


Figure 7. Material Display

f. Quiz View

Questions that will be given to learners appear as a display quiz that must be done by the user. That's 10 Questions. Users will see the initial display in the form of a navigation button "start" to start filling in the questions given by the teacher on the interactive multimedia product. As for other navigation buttons such as the next if the answer is correct exit button, home button, menu display at the end of the quiz and inserted pirate characters. The teacher will adjust the questions given in the interactive multimedia with the material that has been learned by students in the classroom. Guru has also created a review view or feedback to users so that users can ask questions directly. Feedback display also serves as a place to answer questions with right answers or wrong answers. If the answer is correct, the correct animation will appear and so will the wrong animation that will appear if the answer is wrong. Here is a look of the specialty on interactive multimedia products.



Figure 8. Quiz View

g. Game Display

The Game will be displayed in a simple so that the users (learners) are not confused to apply it. The main purpose of this game is to find out the level of knowledge of learners to the material geometry flat figure. In the initial display of the game sub menu there is a navigation button "start" which is used to start the game on this interactive multimedia. The user is asked to help the pirate character solve the questions presented in accordance with how to play that has been described in the slide. There are 4 questions that will be answered by the user. In this sub game there are navigation buttons such as home, next, and exit buttons. Below can be seen some sub menu Game view:



Figure 9. Game Display

2. Formative Evaluation

a. Self-Evaluation Results

After the interactive multimedia product has been designed, then self-evaluation is carried out. Prototype 2 is also known as self-evaluation. In Self evaluation, researchers ask for help from fellow researchers to assess the design and correct the author's mistakes in the product to be developed.

b. Expert/Expert Assessment

This expert assessment stage is a stage to get responses from experts / experts as material for prototype 2 revision before use and produce prototype 3. After the interactive multimedia product developed by the researcher in prototype 2, then the product validation was carried out. The usefulness of product validation is to see interactive multimedia products that have been developed feasible or not to be used. Product validation is carried out by three experts, namely one material expert, one media expert, and one linguist. Here are the validation results obtained from assessment instruments collected from validators.

Table 3. Product Validation Data

No.	Assessed aspects	Validator Assessment			Average	Category
		1	2	3		
1.	Material	81,25%	93,75%	93,75%	89,58%	Very Valid
2.	Learning	85,71%	92,85%	89,28%	89,28%	Very Valid
3.	Program	91,67%	100%	100%	97,23%	Very Valid
4.	Display	82,14%	85,71%	92,85%	86,90%	Very Valid
Overall Average					90,75%	Very Valid

The table above is a validation data against prototype 2, which obtained an average score for each aspect of the assessment, namely the material aspect obtained a score of 89.58% with a very valid category, the learning aspect obtained a score of 89.28% with a very valid category, the program

aspect obtained a score of 97.23% with a very valid category, and the display aspect obtained a score of 86.90% with a very valid category. Overall interactive multimedia products developed obtained an average score of 90.75% with a very valid category. After the validation stage by an expert or expert has been completed the next stage is product testing.

a. One to One Evaluation

After validation of interactive multimedia products by experts/experts who state that the product is valid, then one to one evaluation is carried out with the aim to see the ease of use of learners to interactive multimedia products that have been developed. At the stage of one to one evaluation researchers need 3 students Class III Sdn 002 Lubuk Baja, Batam city randomly. This activity was carried out on January 24, 2022. This activity was conducted to test interactive multimedia products that have been developed, which at this stage is observed directly by researchers. At this stage also conducted interviews to each student about the interactive multimedia products developed.

The learning process begins with opening classes and introducing interactive multimedia products that have been developed. Because the school has been facilitated by computers, the researchers only move interactive multimedia files in the flash into the school computer. Then students use multimedia individually. After the students finished using the interactive multimedia products, the next step is the researchers conduct interviews about the products that have been used. At the stage of one to one evaluation of prototype 3 get the results that interactive multimedia geometry has an attractive appearance so that learners do not feel bored in learning, and learners are very enthusiastic in answering quizzes and games that exist in interactive multimedia products developed. Based on these details, interactive multimedia products are considered valid and acceptable in students in an effort to increase the motivation of students in learning mathematics.

b. Small Group Trials

After passing the one to one evaluation stage, the next stage is the researcher conducting a small group trial (small group). This stage was conducted by 6 students of Class III SDN 002 Lubuk Baja, Batam city randomly selected. Learning activities are started by opening classes and introducing products to students, and students begin to try interactive multimedia products simultaneously using computer facilities in the school. This activity was carried out on January 31, 2022. At this stage, a limited trial was conducted to obtain information about the practicality of interactive multimedia products developed by filling out a practicality questionnaire. In addition to learners, teachers are also included in assessing the practicality of interactive multimedia geometry that has been developed

Assessment Phase Results

Assessment phase is done to determine the level of validity and practicality of interactive multimedia products that have been developed. To determine the validity of interactive multimedia is done by product validation by validator and to determine the practicality of the product is tested. As for the trials carried out such as one to one evaluation and small group trials (small group). The one to one evaluation trial was conducted to see the ease of use of students and the practicality of interactive multimedia products that have been developed. While the small group trial was conducted because of the covid 19 outbreak situation that did not allow for normal learning, therefore the researchers only took 6 Class III students of Sdn 002 Lubuk Baja, Batam city randomly selected.

Researchers disseminate questionnaires to teachers and students to get an assessment of the practicality of multimedia products. Through a questionnaire of teacher practicality, it can be known that interactive multimedia products developed as learning media are declared practical to be used in learning with an attractive appearance so that learners are motivated to learn. The results of the analysis obtained can be seen from the questionnaire practicality of teachers and students in the table below:

Table 4. Result of Practicality Analysis by Teacher

No.	Aspek Yang Dinilai	Percentage Score	Category
1.	Attraction	93,75%	Very Practical
2.	Ease of use	92,50%	Very Practical
3.	Benefits	79,16%	Very Practical
Overall Average		88,47%	Very practical

Table 5. Result of Practicality Analysis by Students

No.	Aspek Yang Dinilai	Percentage Score	Category
1.	Attraction	95,83%	Very Practical
2.	Ease of use	95,83%	Very Practical
3.	Benefits	95,14%	Very Practical
Overall Average		95,60%	Very practical

The results of the data from the questionnaire obtained the overall percentage of the average score for teachers is 88.47% categorized as very practical and the overall percentage of the average score for students is 95.60% categorized as very practical. Based on the exposure of these data and activities that have been done by researchers that interactive multimedia products can be used for the learning process of learners.

Discussion

There are three phases of development in this interactive multimedia product, namely the preliminary research phase (preliminary research phase), development/prototype (development or prototyping phase), and assessment phase (assessment phase). The development process is carried out in stages so that interactive multimedia products produce valid and practical products used by users.

Previous research by (Dewi, S. R., & Haryanto, 2019) has the title "development of interactive multimedia summation on integers for fourth grade elementary school students". This study applies a 4D development model consisting of stages of analysis, design, development, and evaluation by utilizing adobe flash software. The test results showed a very good value on material feasibility testing as well as good value for media feasibility testing and user eligibility. Other research conducted by (Dwiqui, G. C. S., Sudatha, I. G. W., & Sukmana, 2020) with the title "Multimedia development of interactive learning of science subjects for elementary school students of Class V using ADDIE model (analyze, design, development, implementation, evaluation)" shows the test results after utilizing adobe flash software and other software. The assessment was obtained from the validators, namely experts and the results of trials directly to the object of research. The result is that multimedia products are feasible to apply in the classroom to learners. From the two studies above, the use of interactive multimedia is very feasible and practical to be used in classroom learning.

The difference in products developed by researchers with previous researchers is the way of making products. Researchers previously used the adobe flash application which has a higher difficulty level and researchers used the powerpoint 2019 application which has a lower difficulty level in the manufacturing process. And the next difference is in the development model used. Previous researchers used a development model consisting of 4 stages and 5 stages. While the researchers only used 3 stages, namely using the plomp model. The value of the novelty of the product developed compared to previous researchers lies in the music contained in the media, where the presence of music makes students interested and reduces boredom in learning (Kalsum, Suryana, & Nopitasari, 2020). The value of the next novelty is in the display of products developed in the form of a map so that students must complete one by one material in order to go to the next material. The point is to better understand each material presented.

The results of the research that has been carried out, the product developed into the category is very valid and very practical to be used in learning mathematics geometry class III. Some of the things that researchers get from the results of observations and interviews related to the learning of mathematics geometry this material learners think that mathematics geometry is very difficult to understand and boring. And also in learning based on observations and interviews the average teacher using conventional methods, so as to make learning seem monotonous, rigid, and learning is one-way (Judge, A. R., & Windayana, 2016). In this modern age, there are a lot of innovations in learning, including learning mathematics. Researchers also found a lack of enthusiasm and motivation peserta learners in learning mathematics so that it has an impact on the enthusiasm of learners in understanding the material of mathematics. Therefore, the need for innovations such as interactive multimedia that can be used to improve student learning outcomes in learning mathematics geometry material.

When researchers carry out product trials, many things are found such as, students are very enthusiastic and happy when learning to use computer technology, because students have never learned to use computer technology. The advantages and disadvantages of the products developed are the advantages of the product can be used anytime and anywhere, can be used using mobile phones, using music that can give encouragement to users. The shortcomings of this product is that when users open files through mobile phones sometimes the sound of music in the media does not appear.

From the above explanation it can be concluded that interactive multimedia is one of the valid and practical learning innovations to be used in elementary school so that students play an active role in a learning so that students can achieve learning goals. According To (Sutarno. 2011) Interactive multimedia has advantages and disadvantages. The advantages of interactive multimedia is that the learning process becomes more interesting, the learning process becomes more interactive, the learning process becomes more effective, the learning process can be done anywhere and anytime and can improve the reasoning ability of learners. Lack of interactive multimedia is the process of making takes a long time and the child is individual so that the lack of cooperation.

4. CONCLUSION

Based on the research data and discussion that has been submitted above, the researcher concluded that the interactive multimedia product with the material geometry wake up this space has met various criteria so that it can be declared valid and practical. The use of PowerPoint 2019 software is considered suitable for display to learners. This conclusion is seen from the score obtained is 90.75% which is very valid category. The average score taken from the teacher questionnaire was 88.47% with a very practical category and from the student questionnaire was 95.60% with a very practical category.

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