Development of Blog-Based Learning Media With Sarong Context on Lines and Angles Material

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Abstract
This study aims to produce learning media based on blogs with the context of covers on lines and angles material using the PMRI approach which was valid, practical and has a potential effect on the ability to understand mathematical concepts in class VII students of SMP LTI IGM Palembang. The research method used was the development research method using the Tessmer flow (1993) which consists of the preliminary stage (preparation and design stages) and the formative evaluation stage, namely self-evaluation, expert review, one-to-one, small group and field tests. Data collection was carried out using validation sheets, questionnaires, interviews and tests. From the results of the study it was concluded that the blog-based mathematics learning media developed was qualitatively valid in terms of comments and suggestions from the validator, besides that quantitatively the percentage of validity was 4.129 and practically both qualitatively and quantitatively by looking at the comments and suggestions it was stated that blog-based learning media was practically used and the result of the analysis of the practical average of the questionnaire calculation is 76.263. Then the results of a high potential effect on students' conceptual understanding abilities with an average of 82.033.
Keywords: Learning Media, Blog-Based, Lines and Angles, Sarong Context

Introduction

The growth of information and communication technologies is accelerating in the modern day. the extensive usage of mobile phones, with their many sophisticated features and rapid development. ability to meet people's requirements for access to information (Sumartono et al., 2020). In this instance, kids can learn by visiting numerous websites that are accessible via Google's browsers, Chrome, and other applications. Customers can obtain the most recent information from a good website at any time and from any location (Halilurahman et al., 2021). The website contains the blog. Teachers and students can use blogs, one of the internet's application services, as an endless source of educational material (Sartono, 2016). Blogging can help schools make up for the lack of instructional time. As long as there is an internet connection, it is also simple to access this blog's educational materials at home (Sulasmianti, 2018).

The inability of students to answer mathematical questions that emphasize comprehension and mastery of a particular concept is one of the issues with learning mathematics in junior high schools (Augustine et al., 2020). The lack of students' conceptual abilities in understanding the questions makes it difficult for students to answer questions easily. Therefore, the need for interesting learning media to help students master and

understand the concept of the material being studied. To improve conceptual understanding, proof of mathematical concepts is required. Therefore, mathematical education should emphasize interactive learning activities between learning components (teacher learning media), assist students in completing tasks, and integrate concepts and principles of formal mathematics (Herawaty & Widada, 2018). This effort will be achieved if the teaching is conducted using situations that are phenomena that contain real mathematical concepts of student life (Arifin et al., 2010a). So that the students are familiar with the material presented and make better understand the concepts of mathematical material given.

In accordance with Senjaya et al., (2017) based on the results of observations and interviews showed that students who had difficulty learning mathematics on the material lines and angles belonged to low. According to the results of observations and interviews of researchers at the LTI IGM Middle School, there are difficulties among the students in the matter of lines and particular angles of sub-material relationships between two angles. On the basis of the problems obtained, the researchers delineated the limitations of the indicators used in the research, ranging from identifying the meaning of lines, lines, rays, to solving problems related to the relationship between two angles.

From the results of observations and interviews, the students found the difficulty because there are still many students who have not understood the basic concepts of line and angle matter. One of the causes is the lack of learning media in schools and still using lecture methods that make the attentions of students easily distracted and bored to learn. So some students feel full of learning. With the learning media used in schools still limited, such as pupil worksheets, math package books, and Powerpoints. So did previous relevant research Novianti, (2018) There is a common problem with the lack of learning media, i.e. using only PowerPoint Powerpoint that is still used 80% of the words, the background display used is too dark so students are less focused in paying attention, and the school has never used web-based learning media. Therefore, efforts need to be made to solve the problem, that is, by developing web based interactive learning media on line and angle material.

So the researchers took the initiative to create a new learning media based on blogging mixed with context hanger that makes students look more interested in terms of appearance and content with more interactive two-way learning. As well as can give curiosity to the student to learn further because it is aligned with the culture of the songket gloves with the material of lines and angles that have never been found on the previous disclosure media. It can create a new impression for the learner to get to know more deeply

about the context of the glove used on the line and angle material. The blog-based learning media that the research will make can also be used independently both in the learning process in the classroom and at home. So the role of the pupil is more active in the learning process is more effective in his learning. While the teacher is only an accompanying tutor in the learning process.

The material of lines and angles can be applied to everyday life, that is to say, exists in one of the traditions that have so far been created as a way to continue living and improve economics is by preserving the fabric of traditional gloves Halilurahman et al., (2021) One of the clothing used by the Malay Muslim community is the sarong. He is regarded as a member of both Malay and Islamic society because he dresses in traditional Malay attire and uses a songket sarong (Wati et al., 2022). These values can be linked to learning mathematics so that it can assist students in achieving the application, understanding, and knowledge of Islamic values (Nizar et al., 2022). The patterns on songket sarongs can be harmonized with lines and angles. So that it can provide new knowledge about clothing culture and provide an attraction for students to learn more about the learning media provided. In this way, students can estimate and imagine the real application of the material lines and angles that are realized on sarongs using the Indonesian Realistic Mathematics Education (PMRI) approach. So in this study, the researcher chose the title "Development of Blog-Based Learning Media With Sarong Context on Lines and Angles Material." Anyhow, the main focus of this study is how to assess the validity, practicability, and potential impact of blog-based educational media with context specific instruction on gist and angle material. From these problems, several research objectives were obtained, namely to produce blog-based learning media with a cover context on line and angle material that is valid, practical and has a potential effect on conceptual understanding abilities.

Research Method

In this research using Research and Development (R&D) research methods using Tessmer (1993), there are four recognized types of classical formative evaluation, with the following characteristics: expert review, one-to-one, small group, and field test. The research was carried out at SMP LTI IGM Palembang. The researcher was carried out at the beginning of the second semester, the 2022-2023 academic year. Data collection techniques namely observation, interviews, questionnaires, and tests. This development research consists of two stages, namely the preliminary stage and the prototyping stage using the formative

evaluation flow. The Preliminary Stage is the initial stage carried out in development research which includes 2 stages, namely the preparation and design stages. There are several analyzes carried out in the preparatory stage, namely curriculum analysis, material analysis, and student analysis. At the design stage there are several things that the researcher does, namely making flowcharts for the flow of the blog, making storyboards for displaying pages on the blog, collecting references, designing materials according to PMRI, making Geogebra animations to support learning, making google forms, designing blogs, and making videos. how to use blogs.

Then the prototyping stage consists of 4 stages, namely self evaluation, expert review, one-to-one, small group, and field test. In the first stage, self-evaluation is carried out with the supervisor to independently revise the media design that has been created, from the initial product to prototype I. The expert review stage and the one-to-one stage are carried out simultaneously in the product revision process. At the expert review stage there are 4 validators, one expert in the field of blog media, two experts in the field of material, and one expert in the field of context. This stage will test blog-based media by providing research questionnaire instruments and also conducting interviews so that we can find out whether or not the instruments that have been developed are valid and appropriate to use. Analysis of the validation questionnaire test sheet was carried out descriptively from the suggestions and comments of experts in the form of input for reference as a basis for revision at the expert review stage. The validity test given to experts is in the form of a Likert scale. In calculating the validity of the total combined validation, it is stated as follows (Febrianto & Puspitaningsih, 2020):

$$V_{tot} = \frac{\sum(V_1 + V_2 + V_3 + V_4 \ldots + V_n)}{n}$$

Information:

V_{tot} = Combined total validation percentage

$\sum V$ = Number of Values

n = Number of response groups

Next, to determine the validation criteria, the results obtained from the validator are converted into qualitative data using the benchmark assessment approach (PAP) on a scale of 1-5. Table 1 assesses media validity at the expert review stage as follows:

Table 1. Media Validity Assessment

No.	Score	Ranting Category
1.	$4{,}2 < V \leq 5$	Very Valid
2.	$3{,}4 < V \leq 4{,}2$	Valid
3.	$2{,}6 < V \leq 3{,}4$	Valid Sufficient
4.	$1{,}8 < V \leq 2{,}6$	Invalid
5.	$0 \leq V \leq 1{,}8$	Totally Invalid

Source: (Modification Widoyoko, 2009)

Information:
V = Average score

Then at the one-to-one stage the learning media was tested on 3 students who had a combination of abilities, namely high, medium and low. Students are also given a questionnaire and several direct interview questions to ensure practicality in using the media that has been developed. After completing the expert review and one-to-one stages, the researcher revised the prototype I to prototype II.

Researchers conducted prototype II trials at the next stage, namely the small group stage with subjects totaling 9 students, namely in 1 group consisting of 3 people who have combined abilities. Students can try blog-based learning media in the context of sarongs with their group friends. During the trial, students can freely ask questions and discuss with their group friends. Researchers also gave questionnaires and several direct interview questions to students to see how practical blog-based media is in the context of lines and angles in the learning process. In questionnaires and direct interviews, researchers received constructive input and suggestions for revising the learning media being developed. From prototype II instrument to prototype III.

In the analysis, student questionnaires are used to measure the practicality of blog-based learning media. The process stages are carried out one-to-one, small group, and field tests. From these three stages, comments and the results of questionnaire answers are considered so that practicality in using the learning media is obtained. In this research, the percentage of students' answers to each question/statement item in the questionnaire, the following formula is used (Matondang, 2022).

$$value = \frac{Raw\ Score}{Ideal\ Maximum\ Score} \times 100$$

Keterangan:

Raw Score = Score of correct answer processing results

Ideal Maximum Score = The maximum score of all correct answers

The learning media meets the practicality criteria if the learning implementation (P) is > 70. The following is a table of practicality criteria that can be used as a reference in this research:

Table 2. Media Practicality Criteria

No.	Score	Practivality Category
1.	$0 \leq P \leq 40$	Impractical
2.	$40 < P \leq 55$	Less Practical
3.	$55 < P \leq 70$	Pretty Practical
4.	$70 < P \leq 85$	Practical
5.	$85 < P \leq 100$	Very Practical

Source: (Modification Saniriati et al., 2021)

Information:
P = Practical

Table 2. The validity assessment criteria can be used to see how valid the media that has been developed is. The researcher conducted a prototype III trial at the field test stage with the subject of 1 class consisting of 15 students. At that stage, students were given blog-based learning along with answering evaluation questions that would be used to measure the potential effect on students' conceptual understanding abilities. After understanding the learning, students are welcome to answer 5 essay questions about the material lines and angles, from these questions students answer independently and according to the understanding abilities that students have. In looking at the potential effect on the ability to understand mathematical concepts, table 3 can be used as follows:

Table 3. Interpretation of Concept Understanding Ability Values

No.	Mark	Criteria
1.	0 - 20	Very Low
2.	21 - 40	Low
3.	41- 60	Sufficient
4.	61- 80	High
5.	81 - 100	Very High

Source: (Kartika, 2018)

In table 3. to find out the interpretation of the ability to understand concepts in learning using a realistic mathematics education approach, a formula can be used (Matondang, 2022). Then to see the potential effect on students' mathematical understanding abilities, you can use tables 4.

Table 4. Potential Effect Criteria

No.	Mark	Criteria
1.	86 - 100	Very High
2.	71 - 85	High
3.	56 - 70	Average
4.	41 - 55	Low
5.	0 - 40	Very Low

Source: (Ulfah et al., 2022)

From table 4 the potential effect criteria can determine the level of potential effect obtained during the test questions by using test analysis to see students' conceptual understanding abilities. So that it can be a benchmark criterion for how high the potential effect is on students' understanding of mathematical concepts. Then also fill out a questionnaire to see the practicality of using media at the field test stage and provide feedback and suggestions. Furthermore, from the input of students, it becomes a reference for researchers to perfect the development of blog-based learning media with the context of the sarong being developed.

Results and Discussion

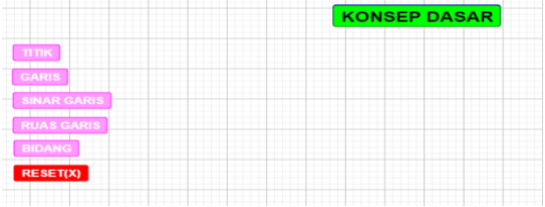
This research produced a blog-based learning media with a sarong context on lines and angles material for Class VII Middle School which is valid, practical and has potential effects. In obtaining these results, several stages were carried out in accordance with the flow of Tessmer (1993). At the self-evaluation stage, the researcher revised the blog-based media with the supervisor from the results of several comments and suggestions from the supervisor as follows:

Table 5. Comments and Suggestions for the Self Evaluation Stage

No.	Comments and suggestions
1.	Improve the appearance of geogebra from pink instead of a more neutral color.
2.	Each problem for the initial statement about the sarong and the question should only be made up of two pamphlets so that the writing is not too close together and too small.
3.	Give instructions for each step in geogebra, especially in the geogebra animation section to paint corners.
4.	The Google form added questions about student responses in working on the problems given.

Based on the results of the supervisor's comments and suggestions at the self-evaluation stage, the researcher revised the blog that had been made. One of the improvements in the appearance of blog learning media products is as shown in table 6 below:

Table 6. Self Evaluation Stage Revision Decision

Decision on the Revision of the Self-Evaluation Stage	
Preliminary Design Before Revision	**Final Design After Revision**
The geogebra display of pink is replaced by a more neutral color. 	Revision decision: All buttons on geogebra have been fixed from pink to green. 

Furthermore, at the expert review stage, the researcher validated the prototype I learning media product to the validator. Validation was carried out in three expert fields, namely media experts, material experts, and context experts. The results of the expert review stage are to see the validity of the learning media developed. The average validity of learning media is 4.129 with a valid category. So it can be concluded as a whole from the results of the validation sheet analysis that it is feasible to use. The comments and suggestions given by the validator are in table 7 as follows:

Table 7. Comments and Suggestions for the Expert Review Stage

Validator	Comments and Suggestions	
Validator 1 (Media Expert)	1.	The selection button on the sheath was removed
	2.	Classical sarongs and dominant songket lines and angles can be taken from the Sumsel songket sarong
	3.	Look for an application that can embed other than google forms
	4.	Directed students to follow the steps of the activity to distinguish line segments and lines
	5.	Instructions with a smartphone using pictures/videos
	6.	Point c when moved below looks to cut planes that shouldn't cut planes
	7.	Make questions on the steps to be detailed and clear
	8.	Give the point a name on geogebra. Geogebra also when the button is clicked the corner or picture immediately appears
	9.	Correct the order of sentences so that they are easy to understand
	10.	Add a description to the image that corresponds to the sentence/word in the content of the material
	11.	The homepage is displayed immediately upon login.
	12.	The learning goals are modified in accordance with PMRI guidelines.
	13.	The learning objectives have been adjusted in compliance with PMRI recommendations. map
Validator 2 (Lecturer Material Expert)	1.	The verandah is just the initial pamphlet. Add an animation of movement or any animation to make it a little more beautiful.
	2.	In this extended introduction about the sarong introduction, there is a history of the sheath.
	3.	Not too many indicators, no need to be long.
	4.	Give instructions for use people can know there is a veranda.
	5.	In problem 1, the sheath motif should be replaced with another sarong motif that is more representative of the point.
	6.	Number 3 on problem 1, the question can't be direct like that. It is better to give word prompts first so that students can think using guided.
	7.	The motif of the sheath shouldn't suddenly have a line like this, how come this is a formal form, not informal anymore. If you are given question number 2 problem 3, you should first provoke it with a simple statement that does not use mathematical terms.
	8.	Number 3 in problem 3 is already in a very formal form, PMRI is slowly introducing PE:EQ = 5:3. The material should be delivered slowly from an informal form first.
	9.	Problem 2 number 1. What shape is the line? It's best to change the question.
	10.	The question is not straight to the parallel line, provoked first the words.
	11.	The intersecting lines are the same, how many points do they intersect and where do the two lines meet?
	12.	All contexts are corrected beforehand, for everything to be slow, the delivery of the material must be provoked first by the student.

	13.	For Geogebra it's good, geogebra is only explanatory material or additional material, the most important thing is on problems made in the form of PMRI.
	14.	The photo is too blurry, so it makes the white line referred to in the problem not very clear
	15.	In this sentence, the first contains cannot be considered as thread 1, because the drawing thread is not like that.
	16.	"Then what do you think the shape of the two line rays forms like an angle?" this sentence is difficult to understand. Replace with a simpler sentence.
	17.	Your activities should lead students to understand, not asking students.
	18.	Which angle is on the right and which angle is on the left, because there are many angles in the picture, it may be clarified in the picture.
	19.	You can't judge the size of an angle just by paying attention, but you have to ask students to prove it
	20.	Can you bring the picture closer to the question
	21.	Too much material is given, my suggestion is to reduce the specific material to 2 or 3 materials depending on which material you want so that you can focus on explaining it using the appropriate PMRI concept. Try to consult with the supervisor for the material.
	22.	Fix the name from the image, there is a problem 1 image fixed
	23.	Create a submenu to make the blog look better. When you click on the submenu, an advanced menu appears, making the blog look more engaging.
	24.	Change the opening sentence to a succinct statement about the blog.
Validator 3 (teacher material expert)	1.	In choosing a sarong motif, it is better to take a motif that is more clearly related to the material in question
	2.	Need to continue to provide assistance to students
	3.	The scoring grid and rubric are good. It's just because in the matter of evaluation the time is adjusted to the schedule of class hours here.
Validator 4 (context expert)	1.	So that students understand / work on problems coherently. Every material in the blog is designed with special settings. For example, students cannot click on the next material if they do not work on the previous problem. The material is then locked in advance.
	2.	In the blog view, list the class that will study the material
	3.	The appearance of the sarong image on each problem is further clarified and enlarged
	4.	Add a conclusion link from each material such as the notion of parallel lines and intersecting lines and so on. The conclusion link can be clicked/viewed if the student has completed all the problems of the material.
	5.	On problem 7: Can the motif of the Goyor woven sarong form a scalloped corner? If you can form a slanted corner. Add the characteristics of the angular corners to the sheath image.
	6.	Predict question number 3 in problem 8. The sentence should be based on information 2 because information 1 asks about opposite angles not straight angles
	7.	In evaluation questions, use questions related to problems in everyday life so that competencies and indicators of achievement of competencies are made.
	8.	Pay attention to the pattern of the sarong according to the material because there are several motifs of the sarong that cannot be applied to this material.
	9.	Choose carefully in choosing the motif of the sarong
	10.	It is necessary to clarify the image display of each sarong because how many there are.

This stage was carried out by the researcher together with the expert review stage. Subjects at the one-to-one stage are 3 students who have high, medium and low abilities. The results of the questionnaire analysis can be concluded that the average for each aspect considered is calculated, namely the average is 81.34 in the practical category. Apart from

the results of the questionnaire, students also provide comments and suggestions as shown in table 8 below:

Table 8. One-to-one Stage Comments and Suggestions

Initial Name of Student	Comments and Suggestions
AAR	The pictures are attractive and easy to understand
FMH	Small explanatory text
NAB	The color is lacking sis (blog color, and blurry sheath)

Researchers also conducted interviews directly with students to ask about comfort, understanding, and practicality in using the media along with transcripts of interviews between researchers and students.

Researcher : "Are you able to use blog-based media buttons well?"

AAR : "You can sis, the buttons work properly and are easy to use"

Researcher : "Are there any difficulties in understanding the questions?"

FMH : "No sis, the questions can be understood."

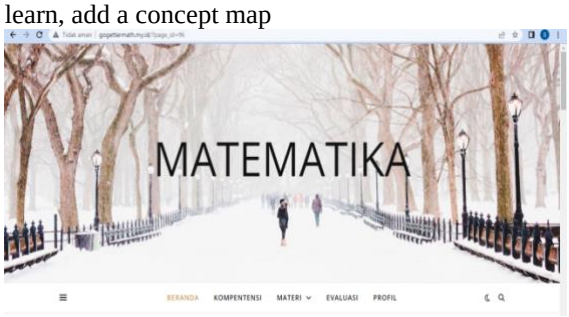
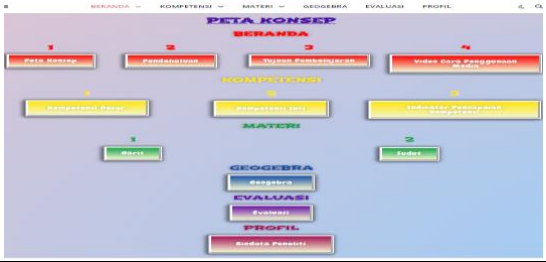
Researcher : "What about the appearance of the blog, is it clear and attractive?"

NAB : "It's interesting and easy to understand sis, it's just that the image of the sheath when zoomed in is blurry."

Based on the comments and suggestions in tables 7 and 8 as well as the results of interviews from product trials at the expert review and one-to-one stages, input was made to revise from prototype I to prototype II. In table 9, some of the revised results are presented:

Table 9. Expert Review and One-to-one Revision Decisions

Decision Revision Phase Self Evaluation	
Preliminary Design Before Revision	**Final Design After Revision**
1. In problem 1, the sheath motif should be replaced with another sarong motif that is more representative of the point. 	1. Revision decision: The scabbard motif has been replaced with another scabbard motif that is more representative of the point. 

2. On the home page there are directions for what to learn, add a concept map 	2. Revision decision: The concept map has been added to the home menu, which is in the first sub-menu of the home menu. 
3. In choosing a sarong motif, it is better to take a motif that is more clearly related to the material in question 4. It is necessary to clarify the image display of each sarong because there are some unclear motifs of the sarong. 	Revision decision: 3. The motif of the sarong has been replaced with the motif of the Palembang songket woven sarong. 4. Improvements in the appearance of the image have been clarified with neater and less confusing motifs, there is also an explanation of shellfish on the sheath. 

After the revision from prototype I to prototype II, which has seen some revised results in table 9, another trial was carried out at the small group stage, to see the practicality of this learning media. At this stage, testing the product resulting from prototype II to 9 class VII students of SMP LTI IGM Palembang. The results of comments and suggestions from students at the small group stage are presented in the following table:

Table 10. Small Group Questionnaire Comments and Suggestions.

Group	Name Initials	Comments and Suggestions
Group 1	KUS (high ability)	It's very exciting, if you can make learning media like this often, yes, because it's better and easier to understand.
	QHP (medium ability)	Well very easy to understand
	AN (Low Proficiency)	Easy to understand questions, good. The questions can be made even more interesting. Questions to adapt to junior high school students.
Group 2	AR (high ability)	My comments and suggestions are not to do too much online learning, because it can make learning not enter much into the students' brains
	HFA (medium ability)	We can find out what is meant by lines and angles along with examples. My suggestion is to be better at using the learning media.
	RAH (Low Proficiency)	My advice is not to give lessons online too often. Thank You.
Group 3	AFH (high ability)	Comments and suggestions: very good, the learning method is interesting and fun.

	KZA (medium ability)	I hope that in the future, please, when making learning materials, use words that are simpler and easier to understand and not to be long-winded.
	DA (Low Proficiency)	I am very impressed with today's technological advances, instead of us having to click on the answer or type. Hopefully I can get into Raden Fatah University Palembang.

Apart from the comments and suggestions table above, the results of the questionnaire analysis are explained in practicality categorization at this small group stage. So the overall average of the aspects assessed is 76.25 with practical criteria. In addition, the results of unstructured interviews stated that the learning media was easy to understand, very exciting and interesting to learn, the blog-based learning media was good and easy to use, along with the interview transcript:

Researcher : "What do you think about this blog-based learning media, is it easy to understand?"

AN : "Easy to understand sis."

Researcher : "How do you feel when you use this blog-based media?

AFH : “Feeling excited about the lesson”

Researcher : "Is the learning media interesting to use?"

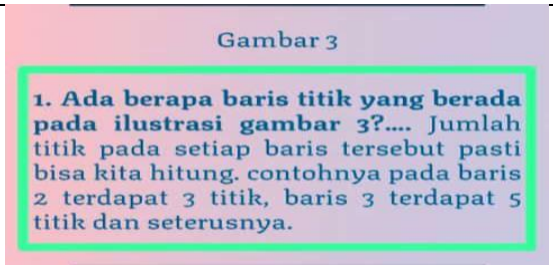
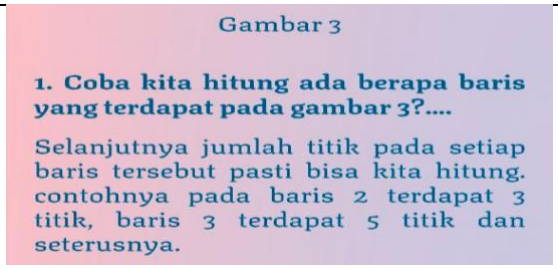
KUS : "This lesson is very fun and interesting to use sis."

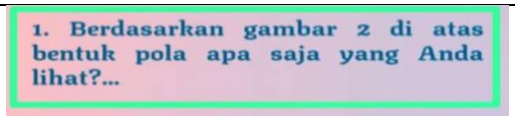
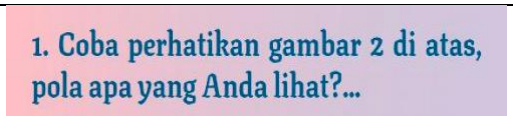
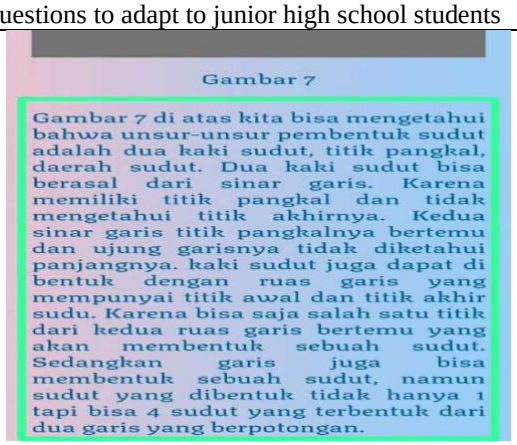
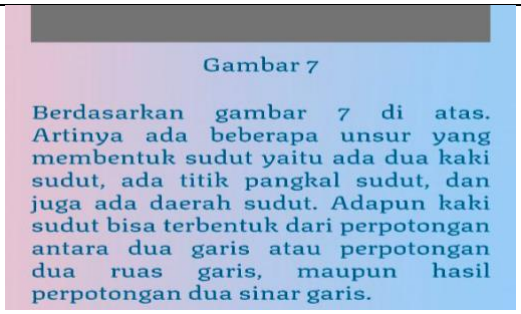
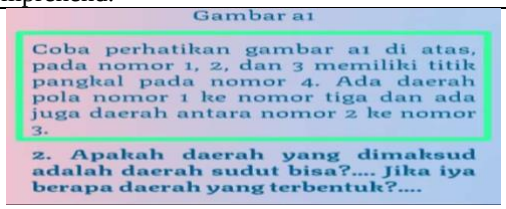
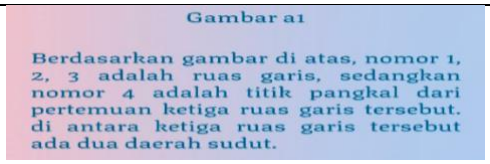
Researcher : "What do you feel about this blog-based media, is it easy to use in learning lines and angles?"

DA : "I feel happy using it, and it's easy to use, just press the button and just type the answer"

Based on comments and suggestions from students as a reference for revision of prototype II media. The results of these revisions will produce a new media product called prototype III. The following is shown in table 11. The results of the revision of the small group stage.

Table. 11. Small Group Phase Revision Results

Before Revision	After Revision
	
The questions can be made even more interesting. Questions to adapt to junior high school students	The revision of question number 1 has been corrected and made interesting, so that students are more directed to count lines. Because previously

	students still did not understand what the line or point counted.
 The questions can be made even more interesting. Questions to adapt to junior high school students	 The revision of the questions has been made more attractive to students.
 to use terms that are clearer and easier to comprehend.	 The revision of the questions has used words that are simpler and easier to understand and don't beat around the bush.
 Use simpler words.	 Revision uses simpler words.

The field test stage is the last stage carried out in the prototyping stage. This stage is carried out in 1 full class. In 1 class consisting of 18 students, there are 15 students who can take part in learning while 3 other people do not go to school because of illness. So the research subjects consisted of 15 students. At this stage the field test was carried out to test the practicality of the media and the potential effect on the ability to understand the concepts contained in blog-based learning media. The results of student comments and suggestions for learning media at the field test stage are listed in table 12 below:

Table 12. Comments and suggestions for the Field Test Stage

Name	Comments and Suggestions in the Questionnaire
S1	His suggestion is that because there are a lot of tasks, there is not enough time.
S2	Simply understand
S3	I have a better understanding of the material presented
S4	The lessons given are easy to understand
S5	There are too many questions and it confuses a lot of typos in the questions.
S6	Hopefully in the future it will be further researched so that there are no typo words
S7	Writing with typos is confusing for junior high school students to understand, hopefully in the future it will be easy to understand
S8	Enough Understood
S9	-
S10	The color of the blog is good, it's also easy to open and learn

S11	-
S12	The learning method is good, but the questions are also written on a form sheet to make it easier.
S13	In my opinion learning through blogs is very fun and easy, but if there are network problems it will definitely be difficult to work on and the collection method is a bit complicated.
S14	Very good and hopefully the learning method uses this blog method. Can be used by other teachers.
S15	Yes, you have to study hard.

Apart from the comments and suggestions given by the students, the researchers also analyzed the results of the practicality questionnaire that had been filled out by the students, namely the overall average result of the field test stage questionnaire was 71.2 in the practical category quantitatively. Then the researcher also conducted interviews with several students regarding the use of blog-based learning media. The following is a transcript of the results of interviews conducted by researchers with students:

Researcher : "How do you feel when you use this blog-based learning media?"

S14 : "I feel interested in using this media blog because this blog is very good."

Researcher : "How do you feel about this media blog?"

S13 : "It's very fun and easy sis"

Researcher : "How does the media blog look like, according to you?"

S10 : "The color of the blog is good, easy to open the blog."

Researcher : "If you study independently at home, can you run and study this media blog?"

S4 : "You can sis, because the language in this blog media is easy to understand and easy to understand."

Based on the interviews conducted by researchers with students, it can be concluded that this blog-based media is practical to use, and can also be used independently by students. So that students can continue their studies and repeat lessons independently at home. Then next, the researcher analyzed the field test stage evaluation questions with the ability to understand the concepts contained in table 13 below:

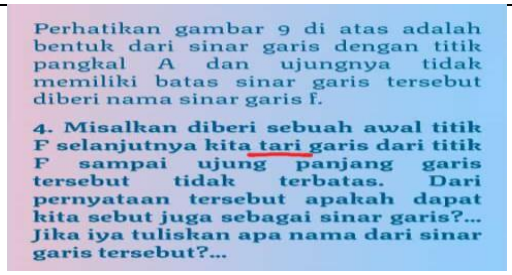
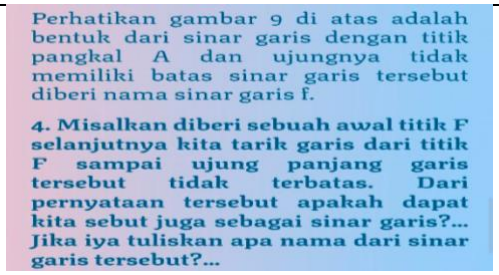
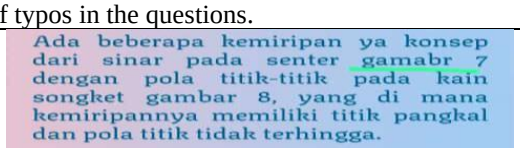
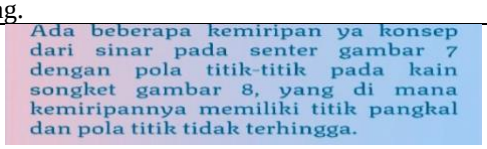
Table 13. Results of Analysis of Field Test Phase Evaluation Questions

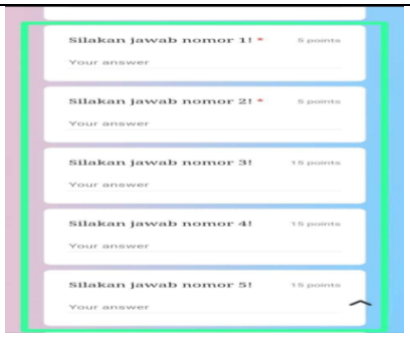
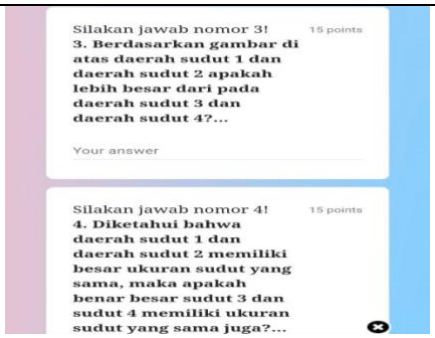
Initial Name of Student	Amount	Concept Understanding Ability Criteria
S1	79,5	Good
S2	43,5	Enough
S3	44	Enough
S4	88	Very Good
S5	100	Very Good
S6	87	Very Good
S7	62	Enough
S8	79,5	Good
S9	89,5	Very Good
S10	79	Good
S11	96	Very Good
S12	100	Very Good

S13	83,5	Very Good
S14	100	Very Good
S15	99	Very Good
Potential Effects	82,033333	Very Good

Table 13 above shows that the average value of students' conceptual understanding ability criteria is very good. Evaluation questions are also used to find out the potential effect which is measured using the ability to understand students' concepts, namely 82.033 of the average number of all student answers divided by the number of students. It can be concluded from the results of the analysis of the potential effect test items obtained in the high category on the ability to understand students' mathematical concepts. The following is a revision table of 14 improvements to comments and suggestions from students.

Table 14. Field Test Phase Revision Results

Before Revision	After Revision
 There are too many questions and it confuses a lot of typos in the questions.	 Correction of typo words, dance writing changed to drag.
 Hopefully in the future it will be further researched so that there are no typo words.	 Correction of typo words, picture writing is replaced with pictures.
 Writing with typos is confusing for junior high school students to understand, hopefully in the future it will be easy to understand.	 Revision fixes writing typo image numbers, from image 5 to image 4.

	
The learning method is good, but the questions are also written on a form sheet to make it easier.	Revisions to the Google form answer sheet section are available for questions per problem so that students don't scroll up and down too often.

As for the discussion regarding the analysis of indicators of the ability to understand students' mathematical concepts in terms of answers to evaluation questions, the first indicator is shown in Figure 1. following:

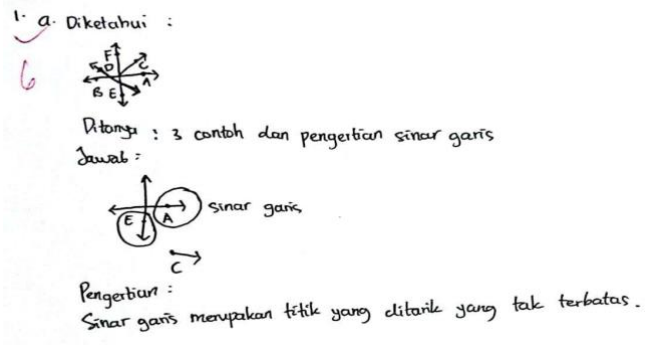


Figure 1. Answers to Evaluation Question Number 1.a

Based on Figure 1. The answer to the question above answered by S6 is an evaluation question number 1.a with indicators restating a concept. In accordance with S6's answer, where the ability of students to re-express what has been learned previously, namely about the understanding of rays, the concept he has explained is correct and there are 3 examples of rays which have also been correctly given. This means that S6 already has the ability to understand the concept of the first indicator, by providing answers in a structured manner starting from being known to be asked until being able to identify sample lines and conclude the meaning of the rays of the line properly and correctly. Next, the researcher reviewed question number 3.a, still with the same indicator, namely restating a concept. It can be seen in Figure 2. The following are the participants' answers to Indicator 2:

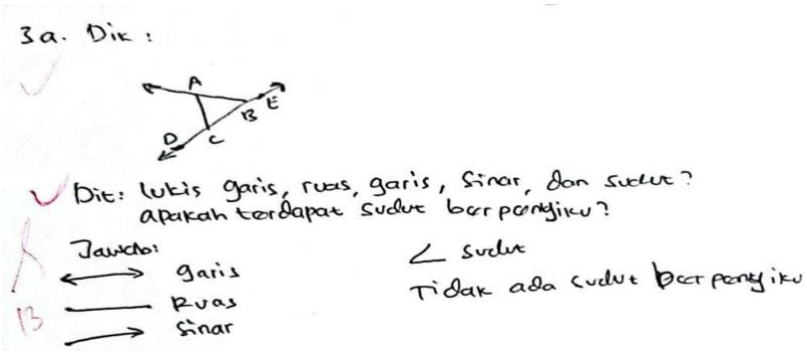


Figure 2. Answers to Evaluation Question Number 3.a

Figure 2. The questions above answered by S14 are questions with the 2nd indicator, namely giving examples and not examples of a concept. In this regard, S14 has provided good and correct examples of lines, line segments, rays, and angles. This means that S14 has begun to be able to give examples that are correct and not mistaken with non-examples of lines, line segments, rays, and angles and identify that there are no angular angles in the given image. The fifth indicator, which was discussed last by the researcher, is shown in Figure 3 as follows:

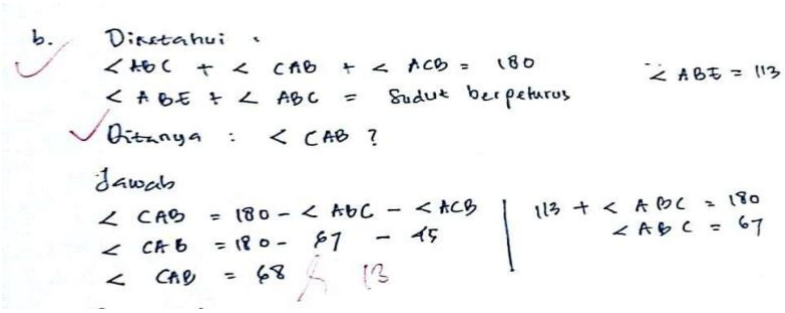


Figure 3. Answers to Evaluation Question Number 3.b

Figure 3. is the answer to question 3.b which was answered by S11 discussing the 5th indicator, namely applying concepts or algorithms to problem solving. Problem 3.b has entered the formula algorithm from a straight angle where S11 already understands and applies the algorithm well to solving the given problem. Likewise, students must know in advance the straight angle formula algorithm, then students are able to use a concept to solve and solve a problem.

From the results of working on evaluation questions carried out by students at the field test stage, the researcher obtained the result that most students did not write down their understanding of the problem first in the question statement. This is in line with the research conducted by Hermawati et al., (2021) which stated that the results of their research turned out to be more dominant in students not answering what was known and asked from the questions. So that you can see the understanding of the concept of the problem given in the

question based on the results of the description of the work starting from writing what is known/asked, the steps for solving it to drawing conclusions. The more complete students are able to explain the results of their answers. So it can be seen that students' understanding of concepts is getting better. This means that there are still some students in this study who have a fairly good understanding of the concept.

From the results of the research carried out, the results obtained by the bottom line for the results of the media expert questionnaire analysis obtained an overall average of 4.35 for material experts, an average of 4.76 on a scale of 1-5, for context experts the overall score is 3.125, meaning at the expert stage review the average number of ratings is 4.129, meaning that it is not much different from the study Novianti (2018) and research Arifin et al., (2010) Regarding the results of this study, it is reported that the average validity of the media is classified as valid (with an average of 3.11) and blog support is classified as valid (with an average of 3.14), which is also in line with research Novianti (2018) In fact, it has a validity of 3.56 from media experts and 3.29 for material experts with a scale of 4. So it can be concluded that the development of blog-based learning media at the validity stage has been declared feasible and valid for current research as well as previous research.

In the current research, the clothing culture of Malay Muslims is aligned with the sarong context. The context of the sarong used was used in the research to take several patterns according to the line and angle material. In this blog-based learning media with the context of sarongs, it gives the impression for students to know more deeply about songket sarongs that exist in their area. Their response was that the pattern of the songket sarong motif had the same shape as the lines and angles studied. Starting from material on various lines to material on the relationship between two angles. This can also improve understanding of learning material and provide students with knowledge about the traditional clothing culture in Palembang which is often used, namely songket sarongs with various characteristic motif patterns. In terms of linking songket sarongs in harmony with the lines and angles designed in a blog-based media, this can give a new impression and become an interesting learning media to study and use in learning.

Conclusion and Suggestion

The development of blog-based mathematics learning media with a sarong context on line and angle material for class VII SMP developed at SMP LTI IGM Palembang was declared valid, practical and has a potential effect on the ability to understand concepts

qualitatively and quantitatively which was carried out using questionnaire analysis, interviews and comments and suggestions from validators and students. The results of the questionnaire analysis (expert review) with an average of 4.129. Then practically from the results of the questionnaire instrument given at the one-to-one, small group, and field test stages in trials of 76,263, it was declared practical. Furthermore, it has a potential effect on students' conceptual understanding abilities based on the analysis that has been obtained, namely an average of 82.033, meaning that this blog-based learning media has a high potential effect.

As for suggestions for future research, this research can be used as a reference source for further research by considering the advantages and disadvantages when adjusting the delivery of the right material so that the research runs without the constraints of lack of learning time. It is hoped that further research will develop blog-based media with other material on learning mathematics.

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