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Development of Macromedia Flash Media Based on Riau Malay Culture in BMR Subject For Class IV Elementary School Students

Reo Sepsa [a,1,*], Zufriady [b,2], Eva Astuti Mulyani [b,3]

[a, b, c,] Elementary School Teacher Education, Riau University, Pekanbaru, 28293, Indonesia
[1] reo.sepsa5405@student.unri.ac.id *; [2] zufriady@lecturer.unri.ac.id; [3] eva.astuti@lecturer.unri.ac.id
* Corresponding Author

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ABSTRACT: This research and development aims 1) to develop Riau Malay culture learning media based on macromedia flash, 2) to find out the feasibility and practicality of Riau Malay culture learning media based on macromedia flash. This research is research & development with the four D (4D) development model: Define, Design, Develop, and Dissemination. The research was conducted on fourth grade students at SDN 002 Pembatang even semester 2023/2024. The data collection technique used in this study was in the form of expert validation questionnaire sheets and teacher and student response questionnaire sheets. The data analysis technique used by researchers in this development research was statistical calculation techniques in the form of calculating media feasibility test questionnaire scores and practicality tests for teacher and student responses using a Likert scale with a score of 1-4. The results of the evaluation of product expert validators, material and language experts on macromedia flash media. Product experts show an average score of 100%, material experts show an average score of 88.80% and linguists with an average score of 86.00% with a very decent category. The results of the practicality test conducted on 3 teachers and 10 grade IV elementary school students showed an average score of 90.25% in the very practical category. This media is effective based on the results of the pretest-protest test as measured by the N-Gain test obtaining a value of 0.6 in the medium category.

Keywords: Learning Media, Macromedia Flash, BMR Learning

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INTRODUCTION

The rapid development of information technology in the current era of globalization also influences human life in the world, including in the world of education. The progress of technology and information in the world of education is marked by the many innovations found in the learning process in schools in Indonesia. These innovations can be in the form of the use of information technology tools used by teachers in the learning process, such as the use of IT-based learning media and the use of the internet as a learning resource. This proves that the sophistication of information technology has a very significant impact on the world of education, both for teachers as educators and for students as students (FriendhaYuanta, 2020).

There are lots of media that can be utilized and used by a teacher as variations and innovations in the process of delivering learning material to students, one of the media that can be used in the learning process is macromedia flash learning media. Macromedia flash is an effective, practical and very easy to understand media (Handayani, Putra, and Yetri 2018). Macromedia flash is an application used to create text, image, video and audio-based learning media. The development of macromedia flash-based media can be used as an alternative in the process of developing learning media, one of which is the development of learning media for the subject of Riau Malay Culture (BMR).

For students, the sophistication of information technology also provides enormous benefits. Especially during the Covid-19 Virus pandemic, all school activities were carried out remotely (online). The use of information technology is very helpful for students in finding learning materials needed during a pandemic. Students can find many reading sources on the internet which will continue to add insight

and new knowledge that they can get wherever and whenever they want. One form of media that can be used by students is macromedia flash media (Shinta Daulay et al., 2020).

We have encountered a lot of learning media in BMR subjects nowadays, because using media is considered very helpful in conveying interesting and good material. According to Ruminiati in Melinda (2017) the use of learning media in the learning process can help achieve success in the learning process for a teacher and students.

The use of learning media has good and attractive visual characters and uses language that is easy for students to understand and understand so that it makes students enthusiastic in understanding the material being taught. Sudjana and Ahmad Rivai (2010) that there are several reasons learning media can improve students' learning processes, namely: learning will attract more students' attention so that it can increase students' learning motivation, learning materials will have clearer meaning so that they are more understandable to participants students and students can master learning material from looking at learning media, teaching methods will be more varied, students will do more learning activities, because they not only listen to the teacher's explanation, but also carry out activities such as observing.

Based on the background above, this study aims to produce a macromedia flash media based on Riau Malay Culture for BMR subjects for fourth grade elementary school students. The researcher chose to develop macromedia flash media based on Riau Malay Culture so that students are interested in participating in the BMR learning process. So that it can be useful for students in everyday life.

METHOD

In this study, the researcher used a type of research and development (Research and Development). This type of research and development or R&D is a type of research used to produce certain products and test the effectiveness of these products (Sugiyono, 2017). Based on this understanding, it can be concluded that this type of R & D research is a process of developing and producing new products which will later be used to improve learning practices. The development model adopted in this study is the four D (4D) model: Define, Design, Develop, and Dissemination from Tiagarajan (Kusuma Ningrum and Wahyono 2020). The following is the research flow for developing the four-D model.

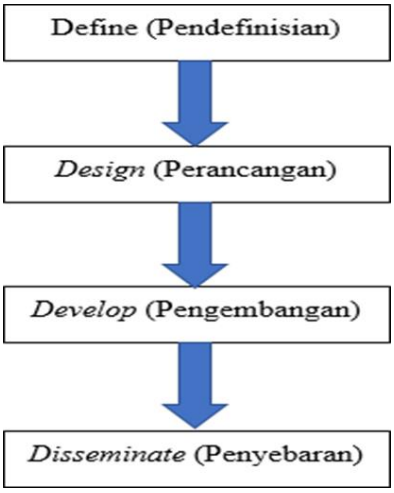

Figure 1. Media Development Design Chart with 4D Model

This research was conducted at SDN 002 Pembatang, Pangean Subdistrict, Kuantan Singingi Regency because the school already had the facilities needed to use macromedia flash media based on Riau Malay culture such as computers or laptops and infocus. This research was conducted at SDN 002 Pembatang for 3 months, namely between January and March 2023. The object of this research was class IV students at SDN 002 Pembatang, with a total of 10 students.

The type of data in this study is to use a questionnaire. Questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer. The questionnaire will be used during expert validation and product trials. The questionnaire filled out by the respondents will be used as a reference in revising the product developed by the researcher. In this

study, data collection techniques were carried out using validation questionnaires filled in by product expert validators, subject matter experts and linguists. After obtaining the validation results by the validator. After the product is revised, the next stage is the product will be tested first. Expert validation questionnaires are used to determine the feasibility of the products being developed and practicality tests are used to determine the practicality of the media which can be viewed from the responses of students and teachers. The data obtained from the responses of students and teachers were then analyzed and concluded so as to receive practical results for the media. The instrument for collecting product validation test data by experts is stated on a Likert scale with a score of 1-4. The categorization of the assessment that will be given by the validator can be seen in the table below.

Table 1. Rating Category by Validator

Assessment Score	Category
4	SS: Totally agree
3	S: Agreed
2	TS: Disagree

The guidelines for calculating the percentage score of the validator questionnaire are as follows:

$$\textbf{AverageScore}=100\%\frac{skor\ yang\ diperoleh}{skor\ pernyataan}x$$

Media can be used if the validator's average rating is categorized in the appropriate and very feasible categories. The category table is contained in the following table.

Table 2. Percentage of Media Validation Criteria

Score Percentage %	Category
81%-100%	Very Worth it
61%-80%	Worthy
41%-60%	Decent Enough
21%-40%	Less Eligible
0%-20%	Very Inadequate

Source:(Arikunto, 2013:44)

Practicality analysis was obtained from a questionnaire given to teachers and students. Categorization of teacher and student responses was analyzed by percentage (%). To find out the percentage of media practicality, the criteria are given as follows:

Table 3. Percentage of Media Practicality Criteria

Score Percentage %	Category
81%-100%	Very Practical
61%-80%	Practical
41%-60%	EnoughPractical
21%-40%	Less Practical
0%-20%	Very Less Practical

After conducting tests in the form of pretest and protest to small group students, the scores obtained from each student. This value is then measured using the N-Gain score formula to analyze the results of the data obtained. The N-Gain score formula used by researchers.

Table 4. Criteria for the N-Gain Test

N-Gain Value	Category
$g > 0.7$	Tall
$0.3 \leq g \leq 0.7$	Currently
$g < 0.3$	Low

Source: Melzer in Syahfitri, 2008:33

RESULT AND DISCUSSION

This development research produced a product in the form of a macromedia flash application based on Riau Malay culture in the BMR subject for fourth grade elementary school students. This product was developed with the aim of making it one of the solutions in introducing BMR learning which is usually used with the lecture method. Using the Macromedia Flash application will make the learning process more interesting and not too boring. In the Macromedia Flash application, there are several pictures, colors, and sounds that explain the material so that it makes students interested in the BMR learning process. This product was developed by researchers with the aim of making it one of the solutions to convey Riau Malay culture learning about Riau typical food ingredients. The type of research used by researchers is development research with a 4-D model with the stages of defining, designing, developing and disseminating. The results of the research stages that have been carried out by researchers are as follows:

1. Defining stage

In the define stage, the researcher analyzes 3 things including initial analysis, student analysis and concept analysis.

a) Preliminary analysis

At this stage the researcher analyzed the curriculum used by SDN 002 Pembatang. The curriculum implemented by SDN 002 Pembatang is the 2013 curriculum. The 2013 curriculum uses a scientific approach by describing a learning process that emphasizes the active role of students in constructing their knowledge and skills. Based on the analysis carried out, there are basic competencies and learning objectives of Riau Malay culture regarding Riau special food materials for class IV elementary schools as follows:

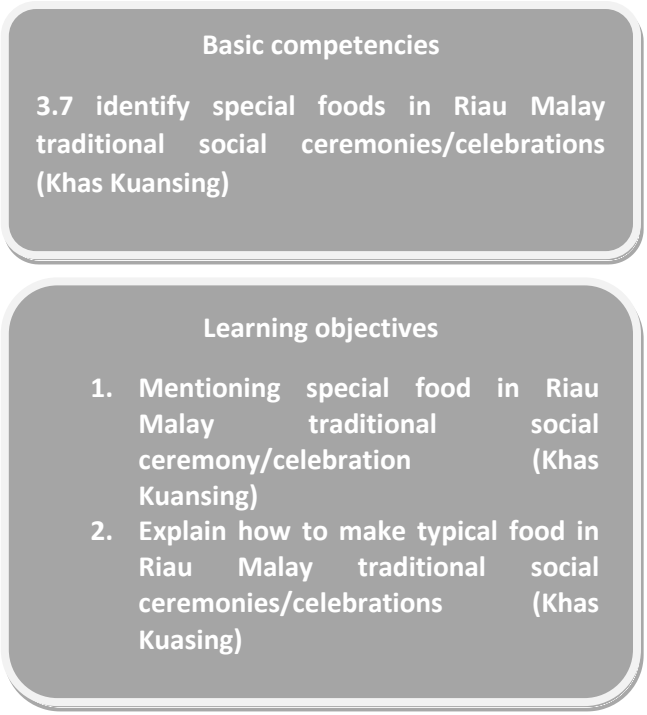

Figure 2. Basic Competency & Learning Objectives

b) Student analysis

Student analysis aims to determine students' learning interests with the developed Riau Malay culture-based macromedia flash media. This analysis was conducted on fourth grade elementary school students. According to Piaget, children aged 7-12 years are in the concrete operational stage. Based on the results of the analysis conducted by the researcher on SDN 002 Pembatang for fourth grade elementary school students, they predominantly like learning that uses macromedia flash media and uses material and images that are easy to see and understand, especially in BMR learning. In the normal learning process, students only use BMR package books, which are minimal with material for each lesson. This is a factor in the low learning interest of students in BMR subjects. However, when students are given macromedia flash media in BMR learning material about Riau specialties they are very interested in the learning process. Therefore, with the existence of macromedia flash media based on Riau Malay culture, it is hoped that it can be a solution for students in understanding material about Riau special food and can make students' learning interest increase and become a new innovation for teachers in conveying Riau special food material in the learning process.

c) Concept analysis

After reading the basic competencies and learning objectives in Riau special food material, the next step is for researchers to formulate research objectives based on the analyzes that researchers have done. The purpose of this research is to develop a product and find out the feasibility and practicality of macromedia flash media based on Riau Malay culture.

2. Design stage

After carrying out the definition stage, the researcher then designs how the presentation in the learning media will be made in accordance with the analysis that has been done before. The planning stages carried out by the researcher are as follows:

a) Select Product specifications

In this study, researchers chose the Macromedia Flash 8 application to create learning media that students and teachers can access via computers. The researcher chose the macromedia flash application program because this application program has characteristics and produces type files (extensions).

b) Define Material Coverage

The material in the selected media development is material about Riau special food. This material is studied by grade IV elementary school students with basic competencies in understanding existing special foods, efforts to maintain the preservation of Riau specialties so that they are not lost by other regional foods. In the typical Riau food material, the range of material presented is in the form of understanding some typical Riau food, ingredients in making and how to make Riau special food.

c) Making Research Instruments

The research instruments referred to in this study are people involved in research such as researchers, product validators, material validators, language validators, teacher instruments and student instruments.

d) Make Initial Media Design

The initial design of the media is in the form of an arrangement of material that will be displayed on the learning media. The material is made in the form of text, sound and is equipped with pictures and navigation buttons.

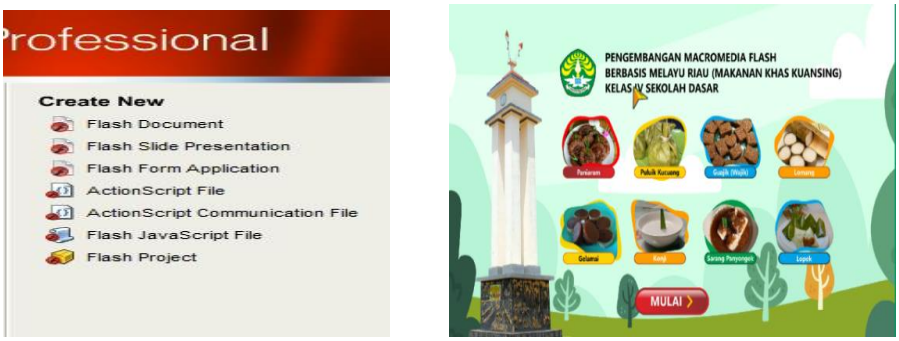

Figure 2. Results of BMR-Based Macromedia Flash Media

Figure 3. Material in Macromedia Flash Media

Figure 4. Evaluation Activities

3. Development stage

After completing the two previous stages and producing a media, the next stage is the development stage. At this stage the finished media will be assessed with a validation sheet by an expert validator (media, material and language). The results of the assessment are used as an improvement in perfecting the Riau Malay culture-based macromedia flash media so that it is valid so that it can be tested on students. The purpose of validation is to get media that is valid, feasible and effective. Good product so that it can be used in BMR learning. Following are the validation results that have been obtained by the researcher from the validator's assessment.

Table 4. Product Expert Validation Results

Assessment Aspects	Rating Score	Amount	Average Percentage
Ease of Navigation			
Statement 1	4	8	100%
Statement 2	4		
Cognitive Content			
Statement 3	4	8	100%
Statement 4	4		
Information Presentation			
Statement 5	4	8	100%
Statement 6	4		
Media Integration			
Statement 7	4	8	100%
Statement 8	4		
Artistic and Aesthetics			
Statement 9	4	8	100%
Statement 10	4		
Total Score Percentage %			**100%**

Table 5. Material Validation Results

Aspect	Rating Score	Amount	Average Percentage
Material			
Statement 1	4		
Statement 2	4	18	
Statement 3	4		90%
Statement 4	3		
Statement 5	3		
		Language	
Statement 6	4		
Statement 7	4	14	87.50%
Statement 8	3		
Statement 9	3		
Total Score Percentage %			**88.80%**

Based on the results of the table above, the development results in the form of macromedia flash media based on Riau Malay culture received a 100% media expert validation assessment in the "very feasible" category. Material validation gets an average score of 88.80% in the "very feasible" category. And linguists get an average score of 86.00% in the "very decent" category. Therefore the researchers carried out the next stage, namely product trials. This product trial was conducted to see the practicality and effectiveness of the product developed by the researcher. The product trial was carried out by giving a teacher's response questionnaire sheet to 3 class IV teachers as a practitioner test. Student response questionnaire 10 students of class IV SDN 002 Pembatang. The results of product trials conducted by researchers are as follows.

Table 6. Results of Practicality of Teacher and Student Responses

NO	Practical results	Average Score Practicality %
1.	Teacher Response Practicality	88.30%
2.	Student Response Practicality	92.25%
	Average Practicality	**90.25%**

Based on the results of the product trials in the table above, Macromedia Flash media is suitable for use in BMR learning. The results of the product trials conducted by the teacher obtained an average score of 88.30% and student response results with an average value of 92.25%. And the results of the average practicality scores 90.25% in the "very practical" category. With this assessment, Riau Malay culture-based macromedia flash media in BMR learning is appropriate for use in the learning process. The researcher also gave pretest and posttest questions to test the effectiveness of Riau Malay culture-based macromedia flash media to 10 grade IV elementary school students. This is done to determine the initial and final abilities of students who learn to use macromedia flash media based on Riau Malay culture. The

results obtained were analyzed using the N-Gain formula. The following is the result of the N-Gain calculation.

Table 7. Pretest and Posttest Results Using N-Gain

NO	Name	Mark		Difference	ideal score 100%	N-Gain score
		Pretest	Postest			
1	R1	80	90	10	20	0.5
2	R2	80	90	10	20	0.5
3	R3	80	90	10	20	0.5
4	R4	70	100	30	30	1
5	R5	50	90	40	50	0.8
6	R6	70	90	20	30	0.6
7	R7	80	100	20	20	1
8	R8	80	90	10	20	0.5
9	R9	60	70	10	40	0.25
10	R10	80	90	10	20	0.5
Total Value of N-Gain Score						**0.61**
Category						Currently

Based on the N-Gain results in the table above, it is known that the value is 0.61 in the medium category. This shows that macromedia flash media based on Riau Malay culture on BMR subjects is effective in increasing student learning.

4. Deployment stage

After completing the three stages of developing macromedia flash media based on Riau Malay culture in the BMR subject and having improved the macromedia flash media based on the input and suggestions provided by the validators, teachers and students, the researchers carried out the next stage, namely the deployment stage. The activities carried out at the deployment stage are providing files containing learning media accompanied by supporting applications that can open the Macromedia Flash media display. The files were given to 3 grade IV elementary school teachers.

DISCUSSION

This research is research & development, namely the type of research used to produce certain products and test the effectiveness of these products (Sugiyono, 2018: 297). Products that can be developed in the world of education are not only in the form of books, modules, but also in the form of software, such as programs and applications from computers. The development of macromedia flash media in the BMR class IV elementary school subject is carried out with the four D (4D) development stages: Define, Design, Develop, and Dissemination (Tiagarajan in Kusumaningrum & Sugeng, 2020)
The development of learning media developed in this study is the same as the development of computer-based media in general which includes audio, text and visuals in a medium. However, in this study the researchers used the Macromedia Flash application in developing learning media on Riau Malay cultural material, which is a new innovation.

Based on this, researchers developed macromedia flash media based on Riau Malay culture on BMR subjects that were valid, feasible and effective. This validity was obtained based on the results of the media, material and language expert validator's assessment. It is said to be feasible because the macromedia flash media developed reflects the characteristics of students who are experiencing concrete developments. This macromedia flash media also improves student learning outcomes in the BMR subject about Riau specialties

CONCLUSION

The development of Riau Malay culture-based macromedia flash media in the BMR subject for grade IV elementary school students was carried out using the 4D model, namely define, design, develop and disseminate. The development of Riau Malay culture-based macromedia flash media in the BMR subject for grade IV elementary school students is very feasible based on the results of the validation assessment of production experts, media experts and linguists by obtaining an average score that reaches the "very feasible" category for each respective field of expertise -respectively. Macromedia flash media based on Riau Malay culture is also very practical based on the results of the assessment of the response questionnaire of 3 teachers and 10 students with an average score that reached the "very practical" category. The results of the validation responses of experts and teachers and students were measured based on the results of the acquisition of the questionnaire scores which were calculated using a Likert scale. While the results of the pretest and posttest were measured by the N-Gain test which obtained an average value in the "moderate" category. Which is where there is an increase in students using macromedia flash media based on Riau Malay culture in BMR learning.

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