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The development of interactive multimedia on thematic learning in grade V by the theme history of Indonesian Civilization

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Abstract :

The development goal this research is to produce an interactive multimedia on the theme of learning the history of Indonesian civilization which is valid, practical, effective, and attractive. This research is a research development by using a development model of Borg and Gall which has been modified. Development model consists of 8 steps: (1) Research and data collection, (2) Planning, (3) Development of draft product, (4) The early field tests, (5) Revise the test results, (6) field tests, (7) Completion of the product field test results, (8) Final Product. The instruments used in this research are a validation questionnaire, test questionnaire, interview, and evaluation test. Preliminary field testing results, the product gets a score of 4.6 which is included in the practicality of practical criteria and got a score of 4.6, including the attractiveness of the interesting criteria. Based on the main field testing, the product get a score of practicality 4.5 which is included in the criteria of attractiveness of the practical and get a score of 4.2 which is included in the criteria of interest, as well as get a score of 84.7 Effectiveness included in the criteria effectively. Overall analysis of data from the validation sheet materials experts, media experts, and users of this product is getting an average score of 4.1 which is included in the valid criteria with minor revisions.

Keywords:

Interactive multimedia, thematic learning, the theme of the history of Indonesian civilization

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Introduction

Rapid development of technology gives a great influence to the world of education in Indonesia. Facilities of technology-based learning such as computers or laptops are mostly found in elementary school, so it supports the implementation of curriculum 2013. The key success to determine the successful implementation of curriculum 2013 is the facilities and adequate learning resources (Mulyasa, 2013: 49). The facilities and learning resources are part of technology of information and communications in this era of globalization that are increasingly prevalent discussed and utilized.

Interactive multimedia is appropriate if it is being used as a conductive media of subject matter that related with the characteristics of curriculum 2013. By utilizing the technology in the form of computer or laptop, interactive multimedia can provide learning experiences more effective and interactive. This agreed with the opinion of Boling & Robinson (1999) stated that learning by using interactive multimedia is more enjoyable and better than learning by groups or individuals.

In the implementation of Interactive multimedia, one characteristic of it is to involve the students' participation, so that students are more active in learning. As admitted by Malik and Agarwal (2012), interactive multimedia creates learning process in increasing interaction between teacher and students. Besides, interactive multimedia also can increase the students' attractiveness and interest in learning since interactive multimedia combines some elements of the media which involves text, graphics, images, photographs, audio, video, and animation are fully integrated. Leow (2014) stated that the use of interactive multimedia can trigger students more active and motivated to learn. It encourages doing the development of media in the form of interactive multimedia.

Based on interviews with teacher of Grade 5 (4 September 2014) conducted at SDN Pandanwangi, the researcher gets information that multimedia-based media is highly favored by the students. This is inferred from the teacher's answer "*The students are excited to use computer during the learning process, they assume that learning using books was old fashion, they want something different and more modern*". From interviews with students also obtained the information that the interactive multimedia favored by the students. It concluded that interactive multimedia in teaching requires for learning more attractive, effective, and efficient.

Textbooks on curriculum in 2013 are no longer based on the subject, but by theme. The Government has made a textbook that has been adapted to curriculum 2013. On each theme there are teacher's book and students' book. The book is a handbook for teacher as a guide book for the implementation of learning when students use the book. Learning steps is presented in the teacher's book.

Based on the analysis performed by the researcher, it found that there are not many materials in the book, because the materials are incorporated in the form of theme and combined with other subjects. It makes the teacher more creative to find additional materials related with the theme so that the students have more knowledge. From the existing weaknesses in the teaching book then this research development is very important to develop the media which can provide learning experiences to the students.

On the History of Indonesian Civilization textbook by the sub-theme of Islamic Kingdoms in Indonesia, a description material of Islamic kingdoms in Indonesia is less deep. For example, in the textbook only describes Sunan Bonang and Sunan Kalijogo, while other sunan are not mentioned in the book. It is reasonable, for the book was published by the Ministry of Education and Culture (Kemendikbud) is a minimal textbook used in learning. It requires additional teaching materials for the students, so that the students gain more intact knowledge. This has led the researcher to develop teaching materials that can support and provide additional knowledge about the Islamic kingdoms in Indonesia.

From the background of the research, the researcher wants to produce interactive multimedia in learning the theme of History of Indonesian Civilization, by the sub-theme Islamic Kingdoms in Indonesia that is valid, practical, effective, and attractive. This interactive multimedia will be developed using Adobe Flash Program. Adobe Flash has been used in the development of media as in martial arts (Suwiwa, Santyasa & Kirna, 2014), Chemical hydrological materials (Ditama, 2015), lectures IPA (Irfan, 2012), mechanical engineering (Tambunan & Napitupulu, 2016), the Learning of social science in Elementary School/SD (Fanny & Suardiman, 2013), Mathematics (Firdawati, 2012) The interactive multimedia will create interactive learning, inspiring learning, fun learning, and it can challenge and motivate the students as well as condition the students' involvements.

Research Methods

This study uses a development model of Bor and Gall (2003: 271) that have been modified. There are several modifications of the development model from Borg & Gall, which is not taking steps 8, 9, and 10 on the development model of Borg & Gall, because the purpose of research and development is limited only to produce product and it is not a widespread deployment of the product (dissemination). So the details of the procedures development model are described as follows: (1) a preliminary study, (2) planning, (3) development of an early draft of the product, (4) test of earlier drafts of the product, (5) revision the major product, (6) test the main product, (7) the last revision (8) product end. The instruments used in this research are questionnaire validation, questionnaire test, interview guide, and evaluation tests.

Test subject in this study consists of: (1) Expert material / content by criteria that the lecturers are experts in the History of Indonesia Civilization theme of education and the last of minimum education is doctoral (S3) ; (2) Expert in teaching materials / media, by the criteria of the lecturer is teaching learning materials / media and education and the last of minimum education is doctoral (S3); (3) Expert in Linguists and thematic learning, by the criteria of the lecturer is a lecture of Indonesian and education and the last minimum education is doctoral (S3); (4) Classroom teacher in grade V at SDN Pandanwangi 1 Malang, by the criteria of teaching experience at least 5 years in grade V and already have an undergraduate qualification; (5) 6 students were selected randomly in grade V at SDN Pandanwangi 1 Malang to test an early draft of the product (restricted group); (6) All students of grade V of SDN Pandanwangi to test the main product.

The instrument of collecting data in this research is divided into two, namely data collection instruments on preliminary information gathering and collecting data on research and development. For instruments of Preliminary data collection is in the form of

interview guidelines with teacher and students. For instruments of data collection in development study are detailed as follows.

Details of Instruments and its Functions

Aspects of Assessment	Instruments	Observed Data	Respondents
Product validation	Questionnaire Validation	Validity of teaching materials of interactive multimedia	experts of subject matters, specialists of media, linguists and experts of thematic learning
Practicality of the product	Questionnaire	Ease of using interactive multimedia teaching with the instructions	Teacher and studnets
The attractiveness of the product	Questionnaire	Students' pleasure to learn using interactive multimedia	Students
Product effectiveness	Quiz (Evaluation)	The average of students learning outcomes in grade V gained ≥ 70 (minimum completeness criteria/KKM)	Students

Data Analysis

The details regarding the analysis of validity, practicality, attractiveness and effectiveness discussed as follows.

Validity

Validity of the data obtained from three experts, which means that there will be three of data validitions namely the experts of subject matter, specialists of media, linguists and experts of thematic learning. Three data will be added together and divided by three to obtain the final result of data validity of the product. The data obtained from the validation questionnaire which had been given to the experts will be analyzed by quantitative descriptive analysis with the formula that has been adapted from Hobri (2010: 53).

$$x = \frac{\sum \text{achievement score}}{\sum \text{statement}}$$

Information:

x = value of aspects validity

Table of validity criteria

Score	Criteria	Information
X = 5	Very valid	No revision
4 ≤ x < 5	Valid	Little revision
3 ≤ x < 4	Quite valid	Sufficient revision
2 ≤ x < 3	Invalid	Big revision
1 ≤ x < 2	Very Invalid	Useless

Source: Hobri (2010:53)

Practicality

Data practicality is divided into two, namely the data practicality test earlier drafts of the product and test the major product. For the field test obtained from two users, namely teacher and students. Two of these data will be added together and divided by two to know the result. The data obtained from the questionnaire of practicality, both limited test and field test will be analyzed by quantitative descriptive analysis by the criteria in the table using the formula

$$x = \frac{\sum \text{achievement score}}{\sum \text{statement}}$$

Information:

x = value of aspects practicality

Table of practicality criteria

Score	Criteria	Information
X = 5	Very practical	No revision
4 ≤ x < 5	Practical	Little revision
3 ≤ x < 4	Quite practical	Sufficient revision
2 ≤ x < 3	Impracticable	Big revision
1 ≤ x < 2	Very impracticable	Useless

Source: Hobri (2010:54)

Attractiveness

The attractiveness of data is divided into two, namely the attractiveness of data test of the limited group and field tests. Data obtained from the attractiveness questionnaire will be analyzed by the formula.

$$x = \frac{\sum \text{achievement score}}{\sum \text{statement}}$$

Information:

x = value of aspects attractiveness

Table of attractiveness criteria

Score	Criteria	Information
X = 5	Very attractive	No revision
4 ≤ x < 5	Attractive	Little revision
3 ≤ x < 4	Quite attractive	Sufficient revision
2 ≤ x < 3	Not attractive	Big revision
1 ≤ x < 2	Very not attractive	Useless

Source: Hobri (2010:54)

Effectiveness

Data of effectiveness is measured using an instrument test in questions of quiz contained in interactive multimedia and be given to the students after using interactive multimedia. The data of effectiveness obtained from the average results of the students in one class. If the average value of students in grade V gained ≥ 70 (KKM), the interactive multimedia considered as effective, but if it is less than 70, then the interactive multimedia considered as ineffective and it needs revision.

Instrument test consists of 20 multiple choice questions. One question answered correctly gets a value of 5, maximum score is 100. The formula is as follows.

Score of each question answered correctly = 5
 The amount of the maximum score = 20

$$\text{Achievement Value} = \text{Sum of Correct Item} \times 5$$

while the formula of average students' learning outcomes in one class as follows.

$$\text{Class Average Value} = \frac{\text{Sum of Achievement each Student}}{\text{Sum of Studens}}$$

Validation from the Experts of Subject Matters

This validation is performed to measure the feasibility of the product from aspects of materials. Recapitulation of validation results from the experts of mathematics and science will be described in the table below.

Table of Validation Results from the Experts of Mathematics and Science

No	Assessment Aspects	Score					Category
		1	2	3	4	5	
1	The level of clarity in intelligibility multimedia learning objectives				√		Valid
2	The suitability of the material on the interactive multimedia learning objectives				√		Valid
3	The level of intelligibility of the material presented through interactive multimedia				√		Valid
4	The level of material truth contained in interactive multimedia				√		Valid
5	The suitability of Interactive multimedia materials to the students' needs of elementary school in grade V in the learning of thematic by the sub-theme of Islamic Kingdoms in Indonesia				√		Valid
6	The accuracy of pictures that accompanying the materials contained in interactive Multimedia				√		Valid
7	The clarity of the writing on the interactive multimedia display				√		Valid
8	Selection of the pppropriate language in an interactive multimedia display					√	Very Valid
9	Narrative conformity of on the interactive multimedia display				√		Valid
10	Video conformity on the interactive multimedia display with the material				√		Valid
11	Questions conformity to the quiz supports the mastery of knowledge				√		Valid
12	Material attractiveness that packed in then interactive multimedia					√	Very Valid
Total					50		

Sorce: Questionnaire for the Experts of Mathematics and Science

The development of interactive multimedia.....

Qualitative data are obtained from the suggestions given by the validator either spoken or written suggestions. Direct spoken suggestions are: (a) in the learning material about angles, the description of the part of the angles should be written clearly so that the students can understand more easily, and (b) the optional answers should be able to give detection whether the students answer true or false, when it is true it gives the sign of true, and when it is false, it gives the sign of false.

Validation from the Experts of Media

Validation from the experts of learning media is performed to gain the validation of the product and suggestions related to the product conformity which is resulted from the principles of interactive multimedia. Recapitulation of the validation results from the experts of media will be presented in the following table.

Table of the Results Validation from the Experts of Media

No	Assessment Aspects	Score					Category
		1	2	3	4	5	
1	The guidelines of using interactive media are easy to understand		√				Less Valid
2	Interactive multimedia conformity to the learning objectives		√				Less Valid
3	The display of interactive multimedia fits the characteristics of elementary students			√			Quite Valid
4	The guidelines of using button that ease the users			√			Quite Valid
5	Suitability of the chosen color with background			√			Quite Valid
6	The font selection and its read			√			Quite Valid
7	The accuracy and clarity of narration / voice on interactive multimedia					√	Very Valid
8	The accuracy and clarity of the pictures on interactive multimedia			√			Quite Valid
9	The accuracy and clarity of the animation on interactive multimedia			√			Quite Valid
10	The accuracy and clarity of the videos on interactive multimedia				√		Valid
11	The easy of operating product			√			Quite Valid
12	The given buttons are suitable so it makes users users easier		√				Less Valid
13	Multimedia display is orderly				√		Valid
14	The language use is easy to understand				√		Valid
15	Interactive multimedia can create students' happiness			√			Quite Valid
16	The overall display is attractive			√			Quite Valid

No	Assessment Aspects	Score					Category
		1	2	3	4	5	
Total		50					

Source: Questionnaire for the Experts of Media

Qualitative data are gained from the suggestions given by the validator either spoken or written suggestions. The spoken suggestions are: (a) it is better to give the title, class and semester on the initial of the display, and (b) it needs to keep the consistency of the buttons and navigation button layout on the interactive multimedia.

Validation from the Linguist and the Experts of Thematic Learning

Validation from the expert of thematic learning and linguist is performed to obtain product validation and suggestions related to the product conformity which is resulted with the principles of thematic learning and language selection which used in the interactive multimedia. Recapitulation of the validation results from the expert of thematic learning and linguist will be presented on the table below.

Table of Validation Results from the Linguist and Experts of Thematic Learning

No	Assessment aspects	Score					Category
		1	2	3	4	5	
1	The intelligibility level of learning objectives to interactive multimedia					√	Very Valid
2	The suitability of the material on the interactive multimedia with the learning objectives					√	Very Valid
3	The intelligibility level of materials that is conveyed through the interactive multimedia					√	Very Valid
4	Suitability integration among the subject matters on thematic learning by the sub-theme Islamic kingdoms in Indonesia				√		Valid
5	Suitability of the materials on interactive multimedia to the students' needs in grade V in thematic learning by the sub-theme Islamic kingdoms in Indonesia					√	Very Valid
6	Suitability of the material on the interactive multimedia with the thematic learning materials by the sub-theme Islamic kingdoms in Indonesia					√	Very Valid
7	The clarity of font on the interactive multimedia display					√	Very Valid
8	An appropriate language use on the material of interactive multimedia				√		Valid
9	Narrative conformity on the display of interactive multimedia					√	Very Valid
10	The selection of an appropriate language use to the questions of quiz on interactive multimedia					√	Very Valid
11	The selection of an appropriate language use to the questions of quiz on interactive multimedia					√	Very Valid
Total		53					

Source: Questionnaire for the Experts of Thematic Learning and Linguist

The development of interactive multimedia.....

Qualitative data is obtained from the suggestions given by the validator either spoken or written suggestions. The spoken and written suggestions: (a) the source of text on the multimedia should be showed on the interactive multimedia, and (b) guidelines for the students should be written using more communicative language in order to attract students' interest.

Teacher user data

Data from teacher is the data of practicality product from the teacher's view. Test for the teacher is performed in the classroom. Quantitative data is obtained from the questionnaire for teacher concerning the practicality of interactive multimedia. Recapitulation of the data practicality from the test on teacher will be presented in the following table.

Table of Results Test of the Main Product on the Teacher

No	Assessment Aspects	Score					Category
		1	2	3	4	5	
1	Interactive multimedia helps my learning					√	Very Practical
2	I think I can operate the multimedia smoothly					√	Very Practical
3	It does not need much time to operate the interactive multimedia					√	Very Practical
4	Interactive multimedia helps the students to understand information					√	Very Practical
5	Interactive multimedia can trigger students' creativity					√	Practical
6	The language use is easy to undaerstand					√	Very Practical
7	The display of interactive media creates happiness to the students					√	Very Practical
8	Interactive multimedia can motivate students to learn					√	Very Practical
9	Interactive multimedia can be used repeatedly					√	Very Practical
10	The materials in interactive multimedia fits the material of thematic learning Indonesian civilization					√	Very Practical
Total						49	

Source: Questionnaire for the teacher

Students User Data

Data is gained from the students is about the practicality and attractiveness. The recapitulation data of practicality and attractiveness from test to the students will be presented in the following table.

Table of Test Results of the Main Product to the Students

No	Names	Achievement score of each statement number								
		Practicality				Attractiveness				
		1)	2)	3)	4)	5)	6)	7)	8)	9)
1	AB	4	4	4	4	4	4	4	3	4
2	AK	5	5	5	5	5	5	5	5	5
3	ASP	5	5	4	5	4	5	5	4	5
4	AO	4	4	4	4	4	4	4	4	4
5	ASJ	5	5	4	5	4	5	5	4	5
6	DI	4	4	5	4	5	5	4	5	5
7	DMA	4	4	4	4	4	4	4	4	4
8	EMP	4	5	5	5	4	5	4	5	5
9	FN	4	4	5	4	3	5	4	3	4
10	FP	5	5	5	5	5	5	5	3	4
11	FM	4	3	4	4	3	5	4	3	5
12	HFM	4	5	4	5	4	5	4	5	5
13	HK	4	4	5	5	4	5	5	5	4
14	HPA	4	4	4	4	4	4	4	4	4
15	HA	5	5	5	5	5	5	5	3	5
16	IAN	4	4	3	4	5	4	4	4	4
17	JES	4	4	3	4	4	4	5	4	4
18	MFP	5	5	5	5	5	5	5	5	5
19	MD	4	4	4	4	3	5	4	3	3
20	MRP	4	4	3	4	4	4	4	3	4
21	MDP	4	3	3	3	4	5	4	3	5
22	MDS	4	4	4	4	4	5	4	4	5
23	NNN	5	5	5	5	4	5	4	5	4
24	NAH	4	4	3	4	3	4	4	3	3
25	NCC	3	4	3	5	3	5	5	4	4
26	RBS	4	4	4	4	4	5	5	4	5
27	RRF	5	5	3	4	3	5	4	5	5
28	SS	4	4	4	5	4	4	4	3	4
29	TR	4	4	4	4	4	4	4	4	4
30	TRP	5	4	5	4	4	5	4	4	5
31	TAA	5	5	5	4	3	5	5	3	4
32	UC	5	4	5	4	4	5	5	3	4
33	VPFS	4	4	5	4	3	4	4	5	4
34	WL	5	5	3	5	3	5	5	3	5
35	ZKM	4	5	5	5	5	5	5	5	5
Σ achievement score		601				747				
Σ statement		140				175				

Source: Questionnaire for the students from the test of main product

For data effectiveness is measured using an instrument test in questions of quiz given to the students after using interactive multimedia. The data effectiveness is obtained from the average results of students in one class. If the average value of grade V gained ≥ 70 (KKM) multimedia is considered as effective, but if it is less than 70, multimedia is considered as ineffective. The recapitulation of students test results will be presented in the table below.

Table os student test scores

No	Name	Mark	KKM	Information
1	AB	95	70	T
2	AK	95	70	T
3	ASP	80	70	T
4	AO	85	70	T
5	ASJ	75	70	T
6	DI	65	70	TT
7	DMA	90	70	T
8	EMP	80	70	T
9	FN	85	70	T
10	FP	80	70	T
11	FM	85	70	T
12	HFM	85	70	T
13	HK	95	70	T
14	HPA	85	70	T
15	HA	80	70	T
16	IAN	95	70	T
17	JES	85	70	T
18	MFP	90	70	T
19	MD	90	70	T
20	MRP	95	70	T
21	MDP	80	70	T
22	MDS	90	70	T
23	NNN	85	70	T
24	NAH	70	70	T
25	NCC	85	70	T
26	RBS	65	70	T
27	RRF	85	70	T
28	SS	90	70	T
29	TR	90	70	T
30	TRP	95	70	T
31	TAA	90	70	TT
32	UC	75	70	T
33	VPFS	90	70	T
34	WL	85	70	T
35	ZKM	85	70	T
Total		2965		
Average of one class		84,7		

Information: T = complete (tuntas), TT = incomplete (tidak tuntas)
 Source of students test scores

Data Analysis of Product Validity

After the three data validity from three experts are collected (experts of subject matter, specialists of media, and experts of thematic learning and linguist), three data is then averaged that it is summed and then divided by three to determine the final result of the level of product validity of this product is 4.1, means that this product qualified as valid, and it requires little revisions. Some of these revisions are more clearly on the following table.

Table of Recapitulation of Analysis Result level of validity

Validator	Results	Comment and suggestion
Expert of subject matters	4/2 (valid, little revision)	In the learning material about angles, the description of the part of the angles should be written clearly so that the students can understand more easily. The optional answers should be able to give detection whether the students answer true or false, when it is true it gives the sign of true, and when it is false, it gives the sign of false.
Expert of Media	3.2 (quite valid, sufficient revision)	In the early display it should be given title, class, and semester. It needs to keep the consistency of the font. Learning objectives and evaluation should be matched. It needs to maintain the consistency of the font. Menu of the button needs to put orderly based on the layout.
Expert of thematic learning and linguists	4.8 (valid, little revision)	Sources of the text should be showed in interactive multimedia The guideline of the use for the students should be written in communicative language so that it can attract the students' interest.
Average	4.1 (valid, little revision)	

Source: questionnaire for Experts of subject matter, experts of media, and expert of thematic learning

Data Analysis of Product Practicality

Data practicality is divided into two, namely initial draftproduct tests dan main product test. Initial draftproduct testis gained from 6 students in grade V at SDN Pandanwangi 1. Initial draftproduct testis gained two users; they are the teacher and students in grade V at SDN Pandanwangi 1. It will be described and analyzed the practicality of the product from the initial draft of test data product. Practicality of data is analysed using formula $X = \frac{\sum \text{achievement score}}{\sum \text{statement}}$ so it becomes $X = \frac{111}{24} = 4.6$. Those scores will be converted to qualitative score using the following table.

Table of Practicality criteria

Quantitative Score	Qualitative Score	Information
$X = 5$	Very practical	No revision
$4 \leq x < 5$	Practical	Little revision
$3 \leq x < 4$	Quite practical	Sufficient revision
$2 \leq x < 3$	Impracticable	Big revision
$1 \leq x < 2$	Very impracticable	Useless

Source: Hobri (2010:54)

The conversion results based on the table above are obtained the practicality criteria of this product from a limited group test included in the practical criteria. Next the practicality product will be analyzed from the main data test. Practicality analysis from the main product test consists of the practicality data of the teacher and students. Based on the data presented on the table, practicality data of the teacher is analysed using the formula

$$x = \frac{\sum \text{achievement score}}{\sum \text{statement}} \text{ so it becomes } x = \frac{49}{10} = 4.9.$$

Practicality criteria is converted using the table becomes qualitative score so that practicality criteria of the product from the view of teacher included in practicality criteria.

Based on the table, initial draftproduct tests of the students is analyzed using the formula $x = \frac{\sum \text{achievement score}}{\sum \text{statement}}$ so it becomes $x = \frac{601}{140} = 4.3$. Using the table of

practicality criteria needs to do a conversion from quantitative score into qualitative score so that the practicality crietria of this product from the view of students included in the practicality criteria. After the two data from the main product tests are collected (4.9 for teacher and 4.3 for students), two data is then averaged that it is summed and divided by two to determine the final result of practicality level of the product, so it can be determined the practicality product of main product tests, it is 4.7, means that the product is included in the criteria of practical.

Data Analysis of Product Attractiveness

As the practicality data, attractiveness data is also devided into two, namelyinitial draftproduct tests dan main product test. The analysis will be explained as follows.

Based on the data attractiveness, initial draftproduct tests is performed by using the formula $x = \frac{\sum \text{achievement score}}{\sum \text{statement}}$ so it becomes $x = \frac{138}{30} = 4.6$. Using the table of

attractiveness to convert quantitative score into qualitative score so that the criteria of attractiveness in this product are considered as attractive and get little revision. Next, based on the table 4.6, the data analysis of the main product test is using

$$x = \frac{\sum \text{achievement score}}{\sum \text{statement}} \text{ so it becomes } x = \frac{747}{175} = 4.3.$$

Using the table of attractiveness is done to convert quantitative score into qualitative score so that the criteria of attractiveness of this product are determined as attractive and only needed little revision.

Data Analysis of Product Effectivity

The effectiveness data is obtained from the average results of students in one class. If the average value of the class gained ≥ 70 (KKM) so multimedia is considered as effective, but if it is less than 70, multimedia is considered as ineffective. Based on data in table 4.7

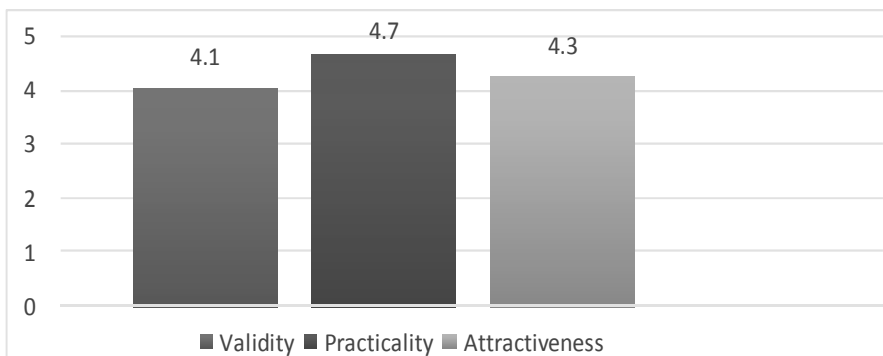
above, the average results of students in the class reached a value of 84.7 despite two students did not complete, the product remains in the criteria of effective because the average value of the class gained 84.7 which mean that the value is ≥ 70 (KKM).Recapitulation of the results analysis of field tests that include an analysis of practicality, attractiveness and effectiveness of the product will be presented in the table below.

Table of Recapitulation of the Analysis Results of Product Tests

Assessment Aspects	Product Test	Results	Comment, Suggestions, and Information
Practicality	Initial draftproduct tests	4.6 Practical	Add size on the video display.
	Main product tests	4.7 Practical	The guideline is easy to understand and use. The guideline is short and clear.
Attractiveness	Initial draftproduct tests	4.6 Attractive	-
	Main product tests	4.3 Attractive	
Effectiveness	Main product tests	84.7 Effective	From 35 students there are 2 students did not complete and 33 students completed (≥ 70)

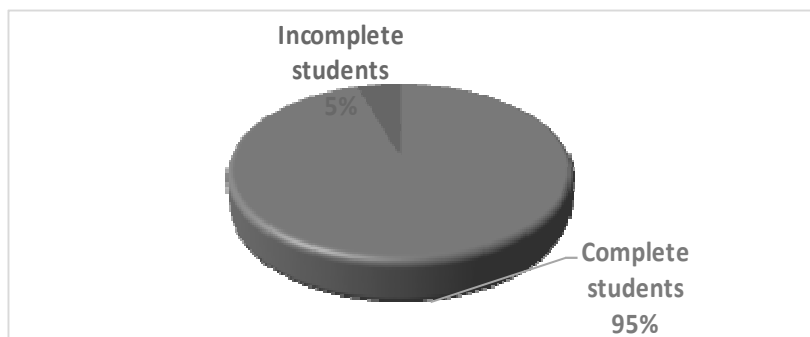
Source: Questionnaire for teacher and students

Belo is presented the bar chart concerning the recapitulation of validity, practicality, and attractiveness of the product.



Picture1.1Bar chart of Validity, Practicality, and Attractiveness of the Product

Below is presented a pie chart concerning product effectiveness with the percentage of students' completeness.



Picture1.2Pie chartof Students' completeness

Based on the picture above, it can be concluded that interactive multimedia is very effective for being used in thematic learning. Regarding to Boling & Robinson (1999), learning by implementing interactive multimedia will be more enjoyable and better than learning with groups or individuals. Additionally, Leow (2014) stated that learning by using interactive multimedia learning can make students more active and more motivated to learn. Related to the effectiveness of interactive multimedia, Zang (2005) argued that students who use multimedia in full learning get better learning outcomes than students with conventional learning. Based on those reviews, it can be concluded that the interactive multimedia is very effective for being applied in learning.

The results of research development produces interactive multimedia development in thematic learning for grade V by the theme History of Indonesian Civilization which are valid, practical, and attractive. Here is a look of interactive multimedia that has been developed.



Picture1.3 Display of developed interactive multimedia

Conclusion

Based on initial drafts of the product test, the product is getting a score of practicality 4.6 which is included in the practicality criteria and got score of 4.6, including the attractiveness criteria. Based on main producttest, these product get score of practicality 4.5 which is included in the attractiveness criteria and get score of effectiveness 4.2 which is included in the attractiveness criteria, also get score 84.7 which is included in the effectiveness criteria. Based on the data analysis from the validation sheet of the experts of subject matters, expert of media, and users, these product get a mean score 4.1 which is

included in the criteria of valid with little revisions. From the results of the analysis above, it can be concluded that interactive multimedia is feasible for being used in thematic learning of the history of Indonesian civilization by the sub-theme Islamic kingdomss in Indonesia.

It can be concluded this product is valid and it can be used in the field, the level of practicality of this product are included in the practical criteria, so it eases the user. Multimedia also has an interesting attractiveness rate, means that the students are very happy to learn to use these product and the problems of weaknesses level of students' interest in learning can be minimized here. Effectiveness aspect also indicates to work, it can be said that these product can minimize students' poor performance during all this time. The development of this product is based on the identification of the existing problems at SDN Pandanwangi 1 Malang, but the materials were developed in accordance with the content of the standards curriculum 2013, it means that the material can be used for large scale, not only in SDN Pandanwangi 1 Malang, so that if it needs dissemination, it does not require big revision. To see the characteristics of multimedia which one of them is to be interactive, so that the students can interact with multimedia then this product can be disseminated as teaching materials that can be used by students at home.

To be considered for the similar research further, it can be aware of some the weaknesses found by researchers in these product that interactive multimedia which is developed only as a supplement for learning and it can only achieve KI 3 (knowledge). Moreover, because the product contains a lot of instructions in the form of audio, it is recommended to each computer is equipped by headset to minimize noise blared from each student's computer.

This product has successfully integrated thematic learning steps on the theme History of Indonesian Civilization by the sub-theme of Islamic kingdomss in Indonesia into an interactive multimedia, so it needs to develop similar product with the theme and other sub-themes. This product development more emphasizes on the achievement of KI 3 (knowledge), so that it needs to develop the next product to achieve KI 1, KI 2 and KI 4. For the similar research development, it needs to do an experimental stage to test the effectiveness of the product more thoroughly.

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