Development Of Visual Basic for Application (VBA) Quiz Games Learning Media In Social Sciences In Elementary Schools

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ABSTRACT: This research is a research and development (research and development) which aims to develop interactive learning media material "Map of Population Distribution in Indonesia" in elementary schools. Research and development using model development ADDIE, Analyze (analysis), Design (design), Development (development), Implementation (implementation) and Evaluation (evaluation) proposed by Reiser and Mollenda. Then it was further developed by Dick and Carry in 1996. This research was conducted on fifth grade students at SDN 181 Pekanbaru in the even semester of the 2021/2022 academic year. The results obtained from the media validity test show that the media is interactive material "Map of Population Distribution in Indonesia" get category very valid from the design aspect with percentage score 0.88% , from the pedagogical aspect with a percentage score of 0.89%, from the content aspect with a percentage score of 0.90% and technical aspects with a percentage score of 0.86% . After do test try group small For see practicality media Which developed can concluded that media interactive material "Map of Population Distribution in Indonesia" is very good with a percentage score of 92.00 % and 85.36 % obtained from teacher responses and student responses. This shows that interactive media is appropriate for use by teachers and students in learning. From the results of validity and practicality, it can be concluded that interactive media on conductor and insulator material in elementary schools is declared valid and very good practical .

Keywords: Learning Media, ADDIE, Science

INTRODUCTION

In this era of globalization, technological developments have a major influence on progress in the world of education. New innovations in the world of education are born along with the development of technology (Nasir et al., 2019) . The influence of globalization does not only have an impact on the development of science and technology, but also has an impact on the current learning styles and characteristics of students (Nurul Annisa, 2018) . Therefore, every school must be able to keep up with technological developments that are increasing rapidly every time. By developing technology in learning can improve the quality of education. In this case efforts to improve the quality of education are more focused on educational apparatus (school principals, teachers, administrative staff and school committees) through education, training, workshops *,* seminars and educational institutional development workshops (Ceha et al., 2016) .

The quality of education has a big influence on students, because education is seen as a change in attitude, behavior and knowledge. Teachers are required to be able to arouse students' interest and motivation in learning. Each student

has their own abilities, creativity and interests. Not all students have a level of intelligence above average. With this, of course, as a teacher, it is a big challenge and responsibility to be able to convey learning material as effectively and as well as possible to students so that all students can understand the learning being delivered (Candra & Masruri, 2015) .

One of the efforts that can be made by the teacher to be able to convey material effectively and well is to use various media to support the learning process. The media used must of course be adapted to the learning material. The word "Media" itself literally means middle, introduction or intermediary (Shalikhah, 2017) . *Association of Education and Communication Technology* (AECT) (Nurseto, 2012) argues that media is a form and channel that is used to process information. (Nasir et al., 2018) media can be defined as an intermediary for delivering messages or information from the sender of the message to the recipient of the message that can be seen, heard, manipulated, read and discussed. If there is no reciprocal interaction between the sender and receiver of the message, the media used will not work effectively and efficiently.

One of the media that can be used and created by the teacher is computer-based interactive media. Interactive media is the use of computers in producing text, graphics, audio and moving images that allow users to interact and communicate (Yuniarni et al., 2019) . Interactive media that can be used are not only technology and computer-based media, but teachers can also make media from used items with the creativity of each teacher. There are still many teachers who are not optimal in utilizing media, because if using interactive media from used goods, of course it will take quite a long time in the manufacturing process and the lack of facilities and infrastructure if teachers use technology-based media. Therefore, every teacher must continue to carry out the trainings that have been held and continue to learn how to make media, especially technology and computer-based media. According to (Sumarsono & Murni Sianturi, 2019) there are several reasons why teachers need to be able to develop learning media, namely:

(1) With the media students will become more interested in the material in learning because the material presented is concrete based on students' daily lives.
(2) In parallel classes the teacher has difficulty repeating the same material with a predetermined theme.
(3) With the existence of learning media, students become more enthusiastic in learning, especially using technology-based media and computers.

Based on what has been described, the authors are interested in developing learning media in the form of Quiz *Games Learning Media Who Wants To Be A Success,* namely learning media in the form of *games* in the form of quizzes adopted from quizzes which are very popular on television in almost all world television stations *Who Wants To Be A Millionaire* which the author calls Quiz *Games Who Wants To Be A Success.* In this research, learning media is made with the *Visual Basic For Application application* found in *Microsoft Office* which is directly available in *Microsoft Office* every time we install this application.

The material discussed in this study is Social Sciences (IPS), class V, namely "Map of Population Distribution in Indonesia". The subject of Social Sciences (IPS) is essentially a subject that can involve students directly in acquiring knowledge so that it creates curiosity in students (Dewi Mayangsari, Nuriman, 2014) . Therefore, with the development of this media, it is hoped that there will be a reciprocal relationship between students and the media and learning will be fun (Jalinus & Alim, 2018) .

RESEARCH METHODS

The type of research used in this research is Research and Development (R&D) development research with *the* ADDIE model which consists of five stages, namely *Analyze* , *Design* , *Development* , *Implementation* and *Evaluation* . Research and development is a process or steps to develop a new product or improve an existing product that can be accounted for. These products are not always in the form of objects or hardware *,* such as books, modules, learning aids in the classroom or in the laboratory, but can also be software, *such* as computer programs for data processing, classroom learning, libraries or laboratories, or models of education, learning, training, guidance, evaluation, management, and others (Nana Syaodih Sukmadinata, 2010) . This research will be carried out in the even semester of 2021/2022. This research was carried out at Public Elementary School 181 Pekanbaru.

One of the design models used is the ADDIE design model. The ADDIE learning design model was originally developed by Reiser and Mollenda. Then it was developed again by Dick and Carry in 1996 to design and build a better learning system (Sugiarta, 2014). Visually the stages of the ADDIE model can be seen in Figure 1 below:
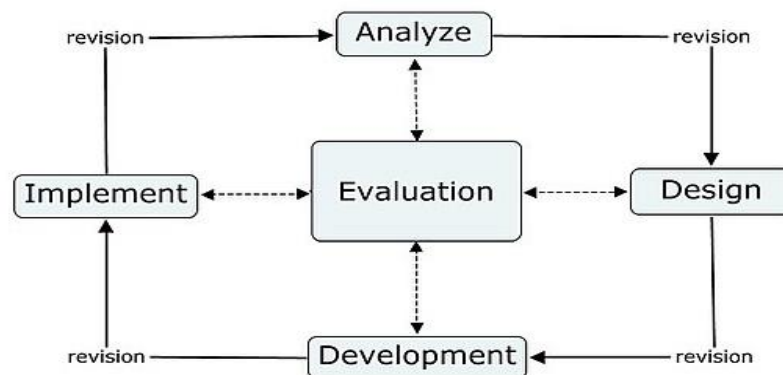

Figure 1. ADDIE Model Stages (Robert Marib Brunch, 2009)

The questions are listed in Table 1. The questions and prizes were obtained according to the order of the questions from the *Who Wants To Be A Millionaire quiz* .

Table 1. Questions and Prizes

Question	Format 15 Pertanyaan	Format 12 Pertanyaan
1	£100	£500
2	£200	£1.000
3	£300	£2.000
4	£500	£5.000
5	£1.000	£10.000
6	£2.000	£20.000
7	£4.000	£50.000

8	£8.000	£75.000
9	£16.000	£150.000
10	£32,000	£250,000
11	£64,000	£500,000
12	£125,000	£1,000,000
13	£250,000	
14	£500,000	THERE ISN'T ANY
15	£1,000,000	

(Winarti, 2016)

Help options
1) 50:50 (Fifty-fifty), the computer will eliminate two incorrect choices.
2) Phone a Friend, call someone to discuss for 30 <u>seconds</u>.
3) Ask the Audience, expect the audience to answer and then the results are presented in graphical form.

In year 2004 - 2008 did not lack 3 new aids:
1. Switch the question, switch questions because of doubt.
2. Ask the expert, call someone by looking at their face (usually an artist or someone else).
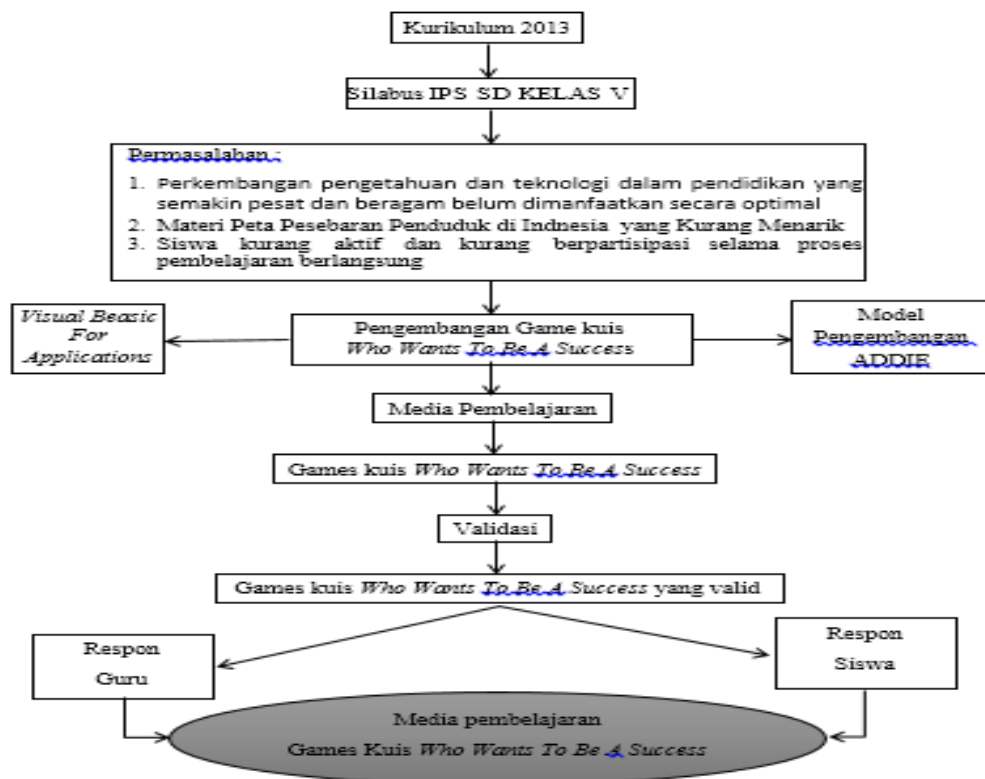3. Three wise man, calling 3 spectators to discuss.

Figure 2. Thinking Framework

Based on the journal quoted from (*University and Knowledge Society Journal* , Afsaneh Sharif and Sunah Cho , 2015) the 5 stages of developing the ADDIE model are as follows:

1) *Analysis* . The analysis phase is the process of identifying what students will learn.
2) *Design.* At this stage, the design of *an instructional strategy* (teaching strategy) is carried out.
3) *Development* . This stage is a concrete step to realize the concept that was designed in the previous stage.
4) *Implementation.* This stage is testing the learning media so that the learning media developed is in accordance with what was designed from the initial stage.
5) *Evaluation* . Evaluation is carried out to see the achievement of the system being developed.

The data analysis technique in this study used descriptive analysis, the data used was quantitative data aimed at describing the data that had been collected from the assessment of the validation sheet for learning media games " *Quiz* Who *Wants To Be A Success"* based on *Visual Basic For Application* by the validator team. The following are the steps for analyzing validity data:

Table 1. **Scale For E-Module Assessment**

Category	Score
Strongly agree	Very high
Agree	Tall
Disagree	Enough
Don't agree	Low
Strongly Disagree	Very low

(Ramadan & Sugiyono, 2015)

Determine the validity value calculated using the following Aiken's V formula (Hanif, 2017):

$$V = \frac{\sum s}{n(c-1)} \dots (4)$$

Information :

s = reduction between the number given by the appraiser (r) and the rating number

(1) = lowest validity

c = the highest validity rating score (5)

n = number of appraisers

RESULTS AND DISCUSSION

The product developed in this development research is in the form of learning media *games "Who Want To Be a Success"* based on *Visual Basic For Application* on the subject matter of Population Distribution Map in Indonesia for fifth grade Elementary School students. This study uses the *Research and Development (R&D) method* with the ADDIE model. The following are the results of the research that are explained at each ADDIE stage :

Analysis Phase (*Analyze*)

At this stage a needs analysis and task analysis have been carried out, described as follows:

a) **Needs Analysis**

Needs analysis aims to determine students' difficulties in social studies learning and the things needed in developing *game learning media* by conducting a literature study. Based on research conducted by Dinatha (2017) the results of an analysis of student learning difficulties in

social studies subjects were 49.5, which was included in the medium category. Research conducted by Wahyuni (2018) concluded that students had difficulty learning social studies where in this study the results obtained from the percentage of students' difficulty factor questionnaire in learning social studies, including interest 23.33% (low), motivation 30% (low), concentration 43.44% (enough), study habits 40% (low), and intelligence 30% (low).

Quoted from the research of Arum Adita, Anggun Badu Kusuma, and Listika Yusi Risnani in 2017 regarding the analysis of the needs of MIPA educational *games* for teachers and students at Elementary Schools in Banyumas Regency that teachers and students have a good perception of MIPA educational *games* . According to the teacher, the need for educational *games is games* that contain evaluation and simulation questions. The format of educational *games* that are developed must pay attention to the appearance, content, and affordability aspects *of the game,* while according to students, *the games* that are developed should be challenging and interesting.

Based on the literature study conducted, it can be found that *game* learning media What is needed is learning media that is able to overcome students' difficulties in learning social studies and educational *games* that are developed need to contain evaluations and simulations, pay attention to aspects of appearance and content as well as be challenging and interesting for students.

b)   **Task Analysis**

This analysis phase consists of several steps, namely:

(1)   Material Structure Analysis

This analysis was carried out by analyzing the core competencies and basic competencies in teaching materials and adapted to the 2013 curriculum. The results of the analysis of the structure of the material in the Population Distribution Map material in Indonesia for Elementary School Class students are as follows. Competence and learning indicators are presented in the table 2.

Table 2. Basic Competencies and Learning Indicators

Basic competencies	Indicator
3.1 Identify the geographical characteristics of Indonesia as an archipelagic/maritime and agricultural country and its influences on economic, social, cultural, communication and transportation life.	3.1.1 State the differences in the geographical characteristics of Indonesia as an archipelagic/maritime country on a general map
	3.1.2 State the differences in the geographical characteristics of Indonesia as an archipelagic/maritime nation on a special map
	3.1.3 State the differences in geographical characteristics of Indonesia as an agricultural country on a general map.
	3.1.4. Mention the different geographical characteristics of Indonesia as an agricultural country in a special map.
	3.1.5 Detailing how to draw a map with different colors for precise features of nature.
	3.1.6 Shows natural changes caused by human behavior.
	3.1 .7 Validate Place names correspond to the cardinal directions exactly
	3.1.8 State the characteristics of geographic characteristics Indonesia as an archipelagic/maritime country in the general map
	3.1.9 State the characteristics of geographic characteristics Indonesia as an archipelagic/maritime country in a special map
	3.1.10 State the characteristics of geographic characteristics Indonesia as an agricultural country on the general map.
	3.1.11 State the characteristics of geographic characteristics Indonesia as an agricultural country in a special map .

(2)   Analysis of Learning Objectives

The formulation of the analysis aims to facilitate the design of *game learning media* so that learning media can be used to help students achieve the competencies that must be achieved, therefore learning objectives must refer to basic competencies. The learning objectives are also developed into learning indicators.

Learning Objectives By observing the map students are able to identify the potential natural wealth of the Indonesian nation carefully, identify the population density of each province critically, are able to pinpoint the origin of ethnic groups in Indonesia accurately, through discussion students are able to show the areas of distribution of religion in Indonesia correctly, by interviewing students are able to identify the diversity of the population in the area where they live responsibly, by reading and writing students are able to determine the main idea correctly.

(3)   Character Analysis Student

Based on the results of interviews with class teachers, according to the stage of cognitive development according to Piaget which is included in class V elementary school students on stage operational concrete, Which It means student Already capable Think logically to solve a problem. The teacher states that every child has character Which different in process learning. By Because That, The developed media must be able to be accepted by all students. The class teacher explained that with use media interactive can interesting interest students to learn independently and build student curiosity. The results of the interview can be seen in the attachment 1.

(4)   Environmental Analysis Study

Since March 2020 until now the teaching and learning process is still being carried out in a manner online (in network) Which is impact from plague Covid-19, for this reason the researchers adapted the media that was developed to the conditions of the students at home where the developed media could be accessed via a computer.

Design Stage

At this stage the design of *game learning media has been carried out* . The steps taken when designing include the following :

Design *game scenarios. " hwo wants to be a success"* there are 3 aids during the game, namely:

1)   When a player has difficulty, he can use the help of **Fifty-Fifty** , namely assistance by eliminating half of the wrong answers or answer choices so that there are 2 answer choices left which help the player to choose the correct answer.

2)   *Phone a Friend* , namely by asking someone who is outside the room for help with answers by using the telephone.

3)   *Ask Audience* , namely the assistance requested by the player to the audience (other students who are not playing and are spectators) in this room to help give the correct answer.

Development Stage

This stage is a concrete step to realize *the design* that has been determined and adapted to the needs that have been analyzed. The steps for developing the media *game "hwo wants to be a success"* based on visual basic for application are as follows:

(a)   The material that will be included in the *game learning media "w h o wants to be a success"* is compiled and written in *Microsoft Word* .

(b) Make questions in the form of questions based on learning indicators that will be included in the *game scenario* .
(c) Arrange values and safe levels for each game round as shown in Table 4.2 .
(d) Setting up questions to fight over, to determine who will advance and sit in the "Hot Seat" .
(e)

Table 3. Questions and Values and Safe Levels

Question	Mark	Level	Keterangan
1	10	I	-
2	20	II	-
3	30	III	-
4	40	IV	-
5	50	(AMAN 1)	-
6	55	VI	-
7	60	VII	-
8	65	VIII	-
9	70	IX	-
10	75	(SAFE 2)	-
11	80	XI	-
12	85	XII	-
13	90	XIII	-
14	95	XIV	-
15	100	(SAFE 3)	Success

(f) Make the necessary *coding* in *Visual Basic For Application* .
(g) Make student evaluation results in games through *Microsoft Access* .
(h) Include *sound music* as the background *for the game Who Want To Be a Success"* .
The development of this learning media can be seen in Figure 2-10 .

Figure 2. Offering Page

Figure 3. Initial Display Game Who Want To Be a Success

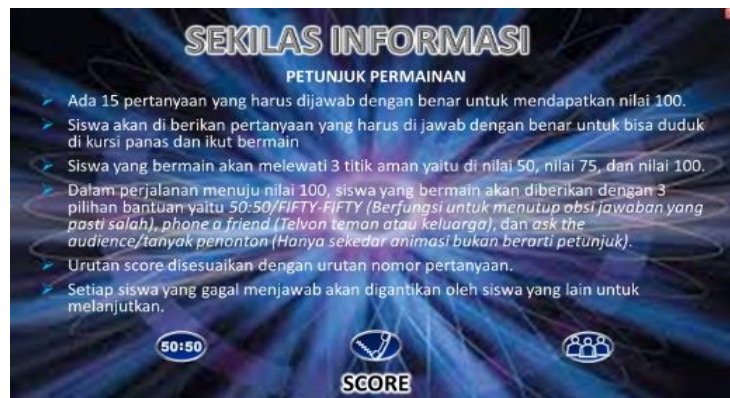**Figure 4. Display of the Hot Seat Game Who Wants To Be a Success**
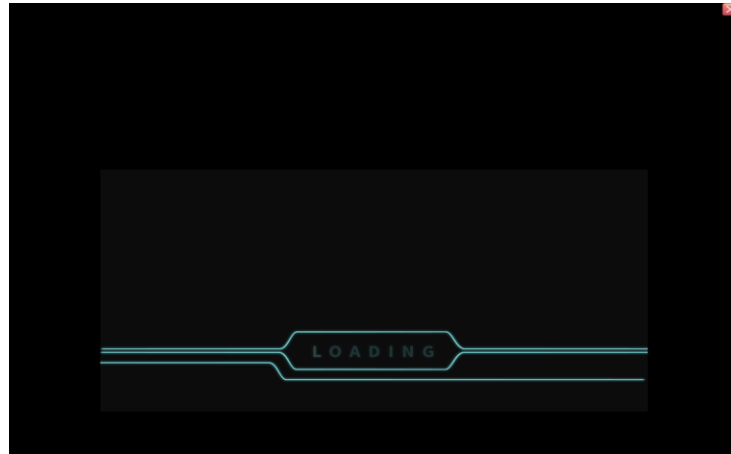

Figure 5. Who Want To Be a Success Game Rules

Figure 6. Display Loading *Game Who Want To Be a Success*

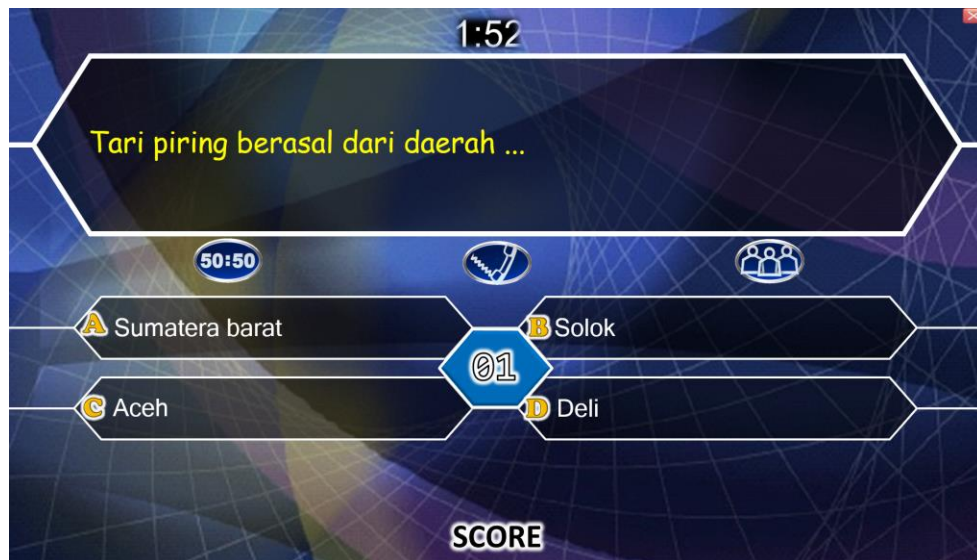
Figure 7. Problem `With 3 Help *Game Who Want To Be a Success*

Figure 8. Score display Game Who Wants To Be a Success

Figure 8 a   Figure 8 b
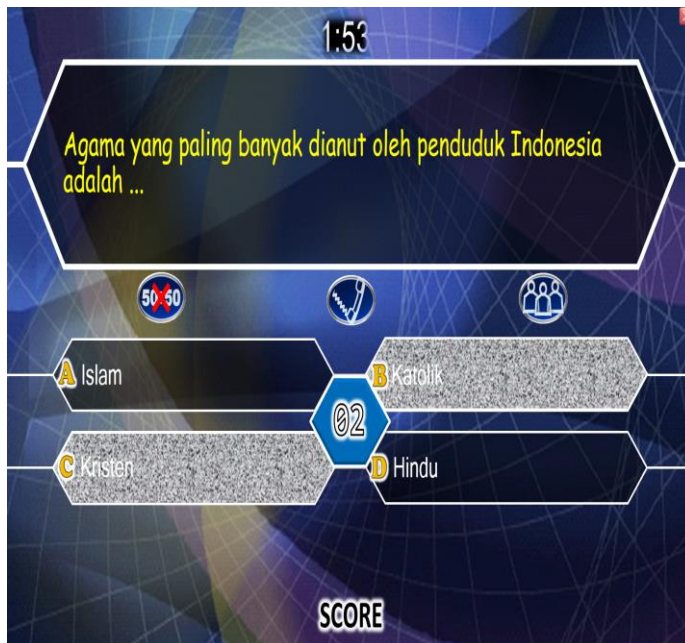**Figure 1. Fifty-fity Answer Help Options display**
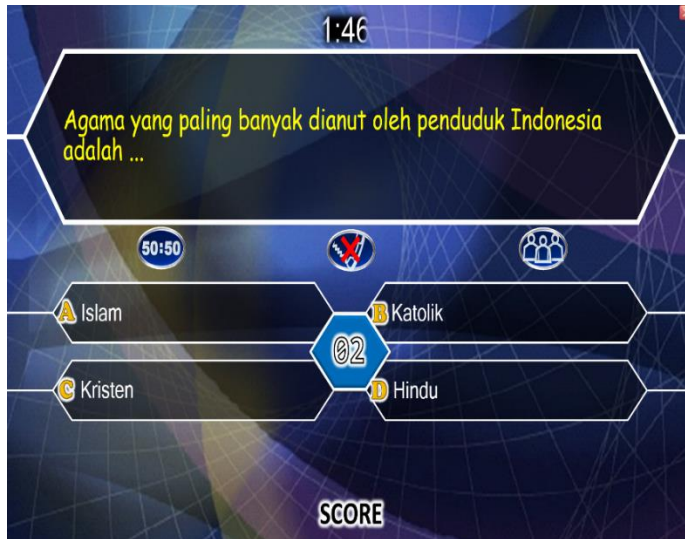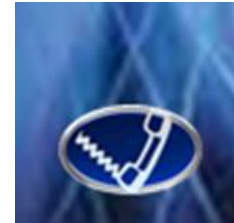
| Figure 9 a | Figure 9 b |

Figure 2. Help Answer Choices *Phone a Friend*
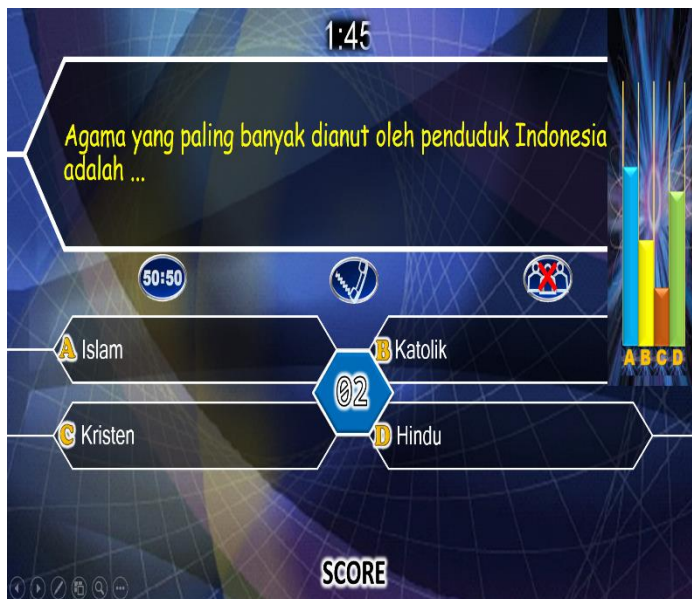
| Figure 10 a | Figure 10 b |

Figure 3. Display Help Answers Ask Audience

Implementation Stage

The learning media *for the game "Who Wants To Be a Success"* which has been developed will then be *compiled. This compile* aims to check *the code* that is made right or wrong and produce learning media *for the game "Who Wants To Be a Success"* in the Application file type. Apart from checking *the code* , this stage is also carried out to ensure that what has been designed at the design stage *and* developed at the development stage *is* running as it should.

This implementation phase is carried out by running *the "Who Wants To Be a Success" Visual Basic For Application* learning *media* project . Learning media is also implemented on laptops/computers by using Infocus *as* a projector because in later use it will use a projector in learning classes.

Evaluation Stage

Based on the theoretical study of the ADDIE development model that was discussed earlier, each stage of ADDIE development is carried out in an evaluation stage to see the achievement of the learning media being developed. The evaluation process of each of these stages, including:

a)　Analysis Phase (*Analyze*)

At the task analysis stage, an evaluation was carried out on the approach used in the development of the learning media *game "Who Wants To Be a Success"* , with a review of the teaching materials and *game topics* to be made, there was a change in approach, starting from a constructivist approach to a contextual approach.

b)　Design Stage (*Design*)

At the design stage, several evaluations were found, including:

(1)　*Game* scenario . The *game* storyline is evaluated to be a more interesting storyline and in accordance with the *game's theme* .

(2)　*Game storyboards* . In line with the evaluation of the *game scenario, the storyboard is* automatically evaluated. This is because *game scenarios* and *game storyboards* are closely related.

(3)　*history board* . The systematic order of learning media is evaluated so that the *game learning media* that will be developed later becomes more coherent and systematic.

c)　Development Stage (*Development*)

During the development stage, several evaluations were found, including:

(1)　The number of questions made is still lacking. At first it was just practice and evaluation questions, then added quiz questions.

(2)　Sound recording. The recorded sound is evaluated to see whether the sound can be heard properly or not and whether there are other sound disturbances or not. Sound recordings that are not good are deleted and re-recorded before being included in the learning media.

(3)　The color of the text that matches the *background color* is changed and the size of the small text is enlarged so that the writing is more visible.

d)　*Implementation* Stage (*Implementation*)

At the implementation stage, several evaluations were found, including:

(1)　Incorrect *code* writing . When implemented, the *game* learning media *project* could not be run because *an error occurred* . After being evaluated, it turned out that *a typo was found* in writing *the code* .

(2)　In the moving payload animation *code, it's not quite right.* When implemented, the animation moves and then stops where it shouldn't.

(3)　*The code* on *the button* is not correct, at the time of implementation , *the button* what should serve to take the user back to the previous page instead takes the user to the next page or makes the page disappear.

(4)　The main menu display is not attractive. Initially the menu display was made using the "Main Menu" component in Visual Basic For Applications, but by using this component the display of the learning media menus was too small, therefore, the menu display was

made from *vector* images so that it could be made bigger and the color design made even more attractive .

(5)   Some images do not appear during implementation. This is due to writing the wrong *code* .

(6)   The form doesn't appear. At the time of implementation, the form that should have appeared after *the button* was clicked did not appear. This is due to writing the wrong *code.*

(7)   The form shown is incorrect. At the time of implementation, it was found that the form that appeared was not the desired form. This is due to writing the wrong *code* .
the game's sound music was too loud and distracting, so the music was changed to *music* that was lighter, relaxed, and matched the *game's theme* .

(8)   There are many writings with *typos* in the material and also in the writing of conversations between characters.

(9)   The position of the pictures is not right. At the time of implementation, there were many pictures that were not in the right position, for example, not too low, not too high and covering the text.

(10)   When entering the wrong password at login, the "incorrect password" information does not appear. This is due to writing the wrong *code* .

(11)   *The code* to stop the character's voice is not written so that the character's voice does not stop when the user has gone to the next form.

The final product produced after carrying out all the ADDIE stages, namely in the form of a learning media application based on *Visual Basic For Application "Who Wants To Be a Success" game,* is ready to be tested for validity by validators from Riau University lecturers. This validation aims to obtain a valid application of the learning media *game "Who Wants To Be a Success"* based on *Visual Basic For Application* on the Material Map of Population Distribution in Indonesia for Elementary School students grade V, 3. Validation was carried out by 3 validators who were experts using the validation sheet which can be seen in Appendix 7. The results of the validation data tabulation can be seen in Appendix 8. Data analysis for each aspect was calculated using the Aiken's V formula, in general it can be described as follows :

a)   Design Aspects

The validation results on the design aspect were calculated using the Aiken's V formula which is presented in Table 4.

Table 4. Design Aspect Validation Results

No	Rating Items	$\sum s$	V	Validation Criteria
1	Interesting or appropriate learning media screen design	11	0.92	Very high
2	The letters used are appropriate or easy to read	10	0.83	Very high
3	The images in the media correspond to the contents	10	0.83	Very high
4	The images used help students' understanding	12	1	Very high
5	The images used aid learning	12	1	Very high
6	The color used corresponds to the reading	9	0.75	Tall
7	The sound used is appropriate and unobtrusive	11	0.92	Very high
8	Buttons or signs used are easy to recognize	10	0.83	Very high
9	The position of text, graphics, videos or bookmarks is consistent	10	0.83	Very high
10	Complete software with instructions or user manual	11	0.92	Very high

Data from Table 4 shows that all indicators are valid with a validity index ranging from 0.75 to 1 and has an average Aiken validity index of 0.88 with suggestions that more interesting image variations are needed.
b)   Pedagogical Aspects

The validation results on the pedagogical aspect were calculated using the Aiken's V formula which is presented in Table 5.

Table 5. Results of Pedagogical Aspect Validation

No	Rating Items	$\sum s$	V	Validation Criteria
1	Teaching competencies are written clearly	12	1	Very high
2	Teaching competence can be achieved	11	0.92	Very high
3	The competency formulation is a guideline for media users	11	0.92	Very high
4	The presentation of the topic attracts students' attention	10	0.83	Very high
5	The information conveyed is easy to understand	10	0.83	Very high
6	This media encourages students to think creatively	10	0.83	Very high
7	Presentation of material is orderly or easy to follow	10	0.83	Very high
8	Examples or exercises given are in accordance with the material	11	0.92	Very high
9	The learning method is suitable for multimedia media	11	0.92	Very high

Data from Table 5 shows that all indicators are valid with a validity index ranging from 0.83 to 1 and has an average Aiken validity index of 0.89.
c)   Content Aspect

The validation results on the content aspect are calculated using the Aiken's V formula which is presented in Table 6.

Table 6. Results of Aspect Validation

No	Rating Items	$\sum s$	V	Validation Criteria
1	Study materials according to Curriculum 13 (K13)	10	0.83	Very high
2	Subject matter according to competence	10	0.83	Very high
3	Lesson Materials in accordance with learning objectives	11	0.92	Very high
4	Subject matter according to the ability level of students	11	0.92	Very high
5	The study material is in accordance with the basic knowledge of students	11	0.92	Very high
6	Learning materials contain educational value	11	0.92	Very high
7	The study material is accompanied by exercises	12	1	Very high
8	Exercise according to the topic of the lesson	12	1	Very high
9	The study material is accompanied by a formative test	11	0.92	Very high

| 10 | Formative tests according to the subject matter | 9 | 0.75 | Tall |

Data from Table 6 shows that all indicators are valid with a validity index ranging from 0.75 to 1 and has an average Aiken validity index of 0.90.

d)   Technical Aspect

The results of the validation on the technical aspects were calculated using the Aiken's V formula presented in Table 7 .

Table 7. Technical Aspect Validation Results

No	Rating Items	$\sum s$	V	Validation Criteria
1	Users can control the learning process	11	0.92	Very high
2	Media has many branches to other parts	10	0.83	Very high
3	Users are not stuck while browsing the media	10	0.83	Very high
4	The journey of presenting media content is easy to follow	11	0.92	Very high
5	There is more than one acquisition of information	11	0.92	Very high
6	Users can easily find the information they need	10	0.83	Very high
7	Users can exit the media whenever they want	11	0.92	Very high
8	Easy to use software (operate)	9	0.75	Tall

Data from Table 7 shows that all indicators are valid with a validity index ranging from 0.75 to 0.92 and has an average Aiken validity index of 0.86.

Student Response Results

(a)   Trials Product

Product Which has revised in accordance suggestion And input from validation expert then trials were carried out on teachers and students on a small scale for practicality trials product (practicality) Which developed. Test try This aim to see the legibility of the developed media, the benefits provided by the use of media in the learning process, the ease of using the media and the feasibility of the media developed.

The assessment was carried out for the trial using open interviews and instruments in the form of a questionnaire on the practicality of teacher responses and a questionnaire on the practicality of student responses to the use of the interactive media that was developed. Interview open done on moment test try *one to one* with 3 students. The teacher's response practicality questionnaire was given to class teachers which included an assessment of the appearance aspect, the content of the material, and the level of usability of the media which consisted of 19 statement items. While the practicality of student responses was given to students in small groups of 6 students which included assessing aspects of media use, user reactions, and content. material.

(b)   One to One

The One to One trial was carried out to see the legibility of the media designed. Test try One to One done on 3 student class V School Base. When students operate the media, the

researcher looks at the difficulties experienced by students and gives several open questions to each one student. Researchers found that students experienced confusion when starting learning media because there were no instructions on media, what should students do. For this reason, this difficulty is a benchmark for researchers to improve media design by adding user instructions on the page First.

In addition, the researcher asks questions to students openly, namely how do students feel about using this media? Is this media interesting for students? For students who are used to using computers, students answer that they are happy because interactive media is attractive to students because of the pictures and videos that are presented. Students can also discover concepts independently. However, students who are not used to operating a computer find it difficult to press *the mouse* and make it difficult for students to answer the various questions presented. The answers/comments given by students during the *one-to-one* trial can be seen in table 8 .

Table 8. Student Responses When Testing *One To One*

STUDENT	COMMENT
Student 1	Learning to use this media is very fun and very interesting, when a question is answered incorrectly, please make an emoji / cross.
Student 2	Learning to use this medium is very fun.
Student 3	Learning to use this medium really helped me and the media is very enjoyable.
Student 4	The questions are very easy to understand, and the questions presented are neatly arranged. The language used in the media is easy to understand.

(c)   Teacher Response Test and Student Response

Based on the results obtained from the practicality test of teacher responses and student responses to the media developed, it was found that the Population Distribution Map in Indonesia for fifth grade elementary school students was included in the very practical category with an average practicality obtained of 91.37% and can be used by teachers and students. Obtaining this score is based on the responses given by teachers and students. On the teacher's response validation sheet, 11 statements are presented which have aspects of appearance assessment, content in the media, and the level of media usability. Overall the assessment given by 1 elementary school class teacher obtained a percentage score of 88.18 % in the very practical category.

Whereas on the student response validation sheet there were 19 statement items, in which the assessment aspects were in the form of students' use of media, user reactions, and student responses related to media content. Overall the assessment given by fifth grade elementary school students in the small group COA test *obtained* a percentage score of 94.56 % in the very good category. A recap of the results of the practicality test for teacher and student responses is presented in table 9.

Table 9. Practical Results of Teacher and Student Responses

No	Practical results	Average Score Practicality	Category
1	Teacher Response Practicality	88.18%	Very good
2	Student Response Practicality	94.56%	Very good
	Average Practicality	**91.37%**	**Very good**

One to one trials , teacher response tests And response student in group small is found that the game learning media who wants to be a success that is developed is feasible and can be used as media learning Knowledge Knowledge Social in School Elementary, especially for the subject of Population Distribution Map in Indonesia for fifth grade Elementary School students. Interactive learning media is said to be feasible and practical, because it meets the established assessment criteria.

Discussion

The learning media developed in this study is the learning media game "Who Wants To Be A Success" based on Visual Basic For Application on the Map of Population Distribution in Indonesia for elementary school students in grade V. The process of developing this learning media uses the ADDIE development model which consists of 5 stages, namely the analysis stage , design stage , development stage , implementation stage , and evaluation stage .

The analysis phase includes needs analysis and task analysis. Needs analysis was carried out to determine students' difficulties in social studies learning and things needed in the development of game learning media by conducting literature studies. At this stage, the data obtained from the research conducted showed that the results of the analysis of students' learning difficulties in social studies subjects were 49.5, which was included in the medium category. Furthermore, the research conducted found that students had difficulty learning social studies where in this study the results obtained from the percentage of students' difficulty factor questionnaire in learning social studies, including interest 23.33% (low), motivation 30% (low), concentration 43.44% (enough), study habits 40% (low), and intelligence 30% (low).

Quoted from the research of Arum Adita, Anggun Badu Kusuma, and Listika Yusi Risnani in 2017 regarding the analysis of the needs of MIPA educational games for teachers and students in SMP Kab.Banyumas, it was found that teachers and students have a good perception of MIPA educational games . According to the teacher, the need for educational games is games that contain evaluation and simulation questions. The format of educational games that are developed must pay attention to the appearance, content, and affordability aspects of the game, while according to students, the games that are developed should be challenging and interesting. The results of this study became the basis for developing learning media for the game "Who Wants To Be a Success ".

The task analysis stage is carried out by analyzing the structure of the material, learning objectives and concept analysis. This analysis was carried out based on the 2013 curriculum, after going through the analysis phase, followed by designing which included designing game scenarios , creating storyboards , formulating and developing an outline of learning media in the

form of a history board , and compiling a Population Distribution Map in Indonesia for fifth grade elementary school students.

The next stage is the development stage of the learning media game " Who Wants To Be a Success ". This learning media was developed according to the design that was made before. The steps taken at this development stage include writing material in Microsoft word, making practice questions, quizzes and evaluations in Microsoft word , making game characters using the SuperMe application , recording game character voices, creating content forms from learning media in Visual Basic For Applications starting from the presentation form, the main menu form and so on according to the history board design .

Game form in Visual Basic For Application is made according to game scenarios and game storyboards, includes the coding of the Visual Basic For Application program on the necessary buttons , creates a database using Microsoft Access that has been connected to Visual Basic For Application , includes game sound music with coding , saves the game learning media project "Who Wants To Be a Success " and finally creates an ad-hoc network hotspot to connect to the client computer so that this game learning media can be shared and run on multiple computers.

The implementation stage is carried out in a way compile on the game learning media project "Who Wants To Be a Success ". This compile aims to check the code that is made right or wrong and produce learning media for the game "Who Wants To Be a Success" in the Application file type. In addition, this stage is also carried out to ensure that what has been designed at the design stage and developed at the development stage goes as it should. Learning media is also implemented on client laptops/computers using ad-hoc networks that have been developed previously.

The author found coding that was not suitable so it needed to be evaluated after the implementation was complete, therefore the final stage of the ADDIE model was carried out, namely the evaluation stage. The game learning media "Who Wants To Be a Success" was evaluated both in terms of appearance, content and coding used. All of these evaluations are revised and will produce a game learning media application "Who Wants To Be a Success " which is ready to be validated by the validator team based on design, pedagogical, content and technical aspects.

The validation results on the design aspect obtained a validity index ranging from 0.75 to 1 and had an average Aiken validity index of 0.88. The validity of the design aspect by the validators was included in the high category with suggestions for more interesting image variations. This shows that the game learning media "Who Wants To Be a Success" has fulfilled a good design.

The pedagogical aspect has a validity index ranging from 0.83 to 1 and has an average Aiken validity index of 0.89. The validity of the pedagogical aspect by the validators is in the high category. This shows that the game learning media "Who Wants To Be a Success" has fulfilled good pedagogy.

The content aspect has a validity index ranging from 0.75 to 1 and has an average Aiken validity index of 0.90. The validity of the content aspect by the validators was included in the high category with improvements to the Population Distribution Map material in Indonesia for fifth grade elementary school students. This shows that the lesson material for the game learning media "Who Wants To Be a Success" has fulfilled good content.

The final assessment on the technical aspect has a validity index ranging from 0.75 to 0.92 and has an average Aiken validity index of 0.86. The validity on the technical aspect by the

validators is in the high category. This shows that the game learning media "Who Wants To Be a Success" has fulfilled good technical.

Based on the elaboration of the validation results above, it can be concluded that the learning media game "Who Wants To Be a Success" based on Visual Basic For Application on the Population Distribution Map material in Indonesia for fifth grade elementary school students, is valid in terms of design, pedagogy, content and technical aspects.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research, data analysis, and discussion it can be concluded that the learning media Games " Who Wants To Be A Success Quiz" based on Visual Basic For Application on the Population Distribution Map material in Indonesia for fifth grade elementary school students is declared valid based on design aspects validation results on design aspects are calculated using the Aiken's V formula presented in Table 4.2. The pedagogical aspects of the validation results on the pedagogical aspects are calculated using the Aiken's V formula presented in Table 4.3. The content aspects of the validation results on the content aspects are calculated using the formula Aiken's V which is presented in Table 4.4. and the technical aspects of the validation results on technical aspects are calculated using the Aiken's V formula presented in Table 4.5. Based on the results of the validation, it was concluded that the game learning media " Quis Who Wants To Be A Success" based on Visual Basic For Application on the Population Distribution Map material in Indonesia for fifth grade elementary school students, was declared valid and feasible to be used as a learning medium.

Learning media Games "Quiz Who Wants To Be A Success" which was developed according to use to support students' multiple intelligent learning abilities because it has been equipped with audio, video, moving images and animation. This media also uses a WLAN ad-hoc network that functions to share learning media software to client computers .

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