Development of Mysterious Box and Card Learning Media (KOKAMI) in Class VIII Light Material

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ABSTRACT

The purpose of this research is to learning media develop box and card mysterious (kokami) in light material, and determine feasibility level of media are developed. The development model used is a model of procedural development according to ADDIE (Analysis, Design, Development, Implementation, Evaluation). Test of small groups do in junior high school TMI Roudatul Qur'an as respondent is students of class VIIIA totaling 28 students. Data collection instrument in this research uses a validation sheet, student questionnaire responses, and questionnaire responses of teachers. The expert of assessment on aspects of the media, visual communication and design feasibility Learned howed that the level of learning media is located on a very decent criteria, namely by obtaining the average of percentage 82.11%. Results of student questionnaire responses amounted to 86.51%, and the results of teachers' questionnaire responses of 83.22%. So, overall Kokami developed learning media has been extremely fit for use as learning media in the class. The advantages of this media include (1) Media Learning is easy to use, simple, and capable of causing the motivation to learn about the material of light, (2) Media Kokami makes students more active in the learning process, (3)Media Kokami learning makes students feel happy and more creative in expressing ideas, (4) Rules on the game Kokami clear instructions how to use the media.

Keywords: Development, Box and Mysterious Card (Kokami), Learning media

INTRODUCTION

Education is an interaction between the factors involved in it in order to achieve educational goals. The interaction of these factors can clearly be witnessed in the learning process, namely when educators teach values, knowledge, and skills to students, while students receive the teaching. The goal of the educational process is not just the intellectual development of students by supplying as much knowledge as possible, more than that, education is a process of giving understanding, understanding, and appreciation to the practice it knows.[1]. Education is also a process in order to influence students in order to adapt themselves as best as possible to their environment and thus cause changes in themselves that allow them to function strongly in community life.[2]

Learning is very important in life. Humans also have the enthusiasm and willingness to continue learning, starting from observing their surroundings, processing information, with the

initial ability to imitate. Just like a baby who imitates words from people around him, learns to walk, imitates the activities of adults around him. Learning also provides permanent changes in a person's behavior based on the experience gained by involving both psychological and physical aspects, with the end result that someone knows from not knowing and becomes skilled to be skilled.[3].

Learning is an activity carried out deliberately in an effort to obtain change and improvement to gain knowledge, improve skills, improve behavior, attitudes and strengthen personality. Learning is also able to modify or reinforce behavior through experience. This is because in learning there is a process of interaction and not just a process of absorption that takes place without the active effort of the learning individual[4].

Learning is an effort made by educators or teachers on purpose with the aim of conveying knowledge, by organizing and creating a learning environment system with various

methods so that students can carry out learning activities more optimally. The concept of understanding the meaning of learning basically focuses on the learning process as an activity that is planned, carried out, and evaluated by the teacher. Learning is carried out deliberately to change and guide students in learning something from the environment in the form of science to develop cognitive, affective, and psychomotor abilities towards student maturity. Learning has certain goals that will be achieved by utilizing the environment as a medium and means of learning for students[5].

The quality of learning is very dependent on the learning process carried out during class learning [6]. The learning process in schools is the best public policy tool as an effort to increase knowledge and skills. In addition, many students think that school is a very fun activity, they can interact with each other. Schools can improve students' social skills and social class awareness. The school as a whole is a medium of interaction between students and teachers to improve their integrity, skills and affection between them[7].

Each learning process is expected that students will get good learning outcomes. However, in reality the learning outcomes obtained by students are not always good and as expected. As the standard of whether or not learning outcomes are based on the KKM which has been determined as a benchmark for the success of the learning process. This should be a concern and evaluation material in the learning process. Poor student learning outcomes are one of the problems in education. Student learning outcomes show the ability and quality of students as an impact of the learning process they have been through[8].

The use of media in the learning process aims to attract and motivate students. Good media is media that has the ability to encourage students to involve themselves so that they are involved in the learning process and can motivate students. Purwanto (2010: 88). In

teaching and learning activities, learning media has an important role. Where the learning media is used to send messages to students to stimulate the learning process. Learning media is also a tool for a teacher in providing material to increase student creativity and attention in the learning process. With the media students will be more motivated to learn, encourage students to write, speak and imagine more aroused. Therefore, through learning media it can make the teaching and learning process more effective and efficient and there is a good relationship between teachers and students. In addition, the media can play a role in overcoming boredom in classroom learning[9].

Learning media results in a communication between educators and students in the learning process. If the learning process does not use media, the learning process will not occur. This is because the communication between educators and students is not optimal. Media becomes an intermediary for creating communication, tasked to make it easier for educators and students to communicate, so that a teaching and learning process will occur which results in students understanding what the educator provides. When the teaching material has been delivered, the learning outcomes of students become feedback for educators. This feedback is for consideration in the next learning process. Learning media as a key point in which teachers and students can communicate with each other optimally because learning media are a tool, a means of distribution, a means of reinforcing, and a teacher's representative in conveying information accurately, clearly, and attractively. Thus the position of the learning media is a very important means of connecting from one side to the other because it contains information and messages from educators to students.[10].

Learning media by using a box which contains a mysterious card. Mysterious in this case because students do not know the contents of the card. The use of Kokami is flexible enough for the teacher, the teacher can use it as

material to explain material or give questions and assignments to students[11]. Because the question card is in the box and none of the students know the contents of the question card, the box is called a mystery box. In addition, with kokami media, students are required to be active in the learning process[12].

Mysterious Box and Card learning media are learning media in the form of games. This media is a combination of media and games, this media is made from a box which is used as a container for envelopes containing messages or materials and the message card itself. Message cards are made from index cards sized HVS paper which are then laminated. In this game, the important point is the message card containing the material[13].

Kokami is a learning medium combined with game elements that can attract students' interest to be actively involved in the learning process. The Kokami learning media that is currently developing is a learning medium made of large boxes which is intended as a container for card envelopes containing message cards in the form of question cards, pictures, and instructions so that the card envelopes inside are mixed with question cards, pictures and instructions. This is what causes students to take the same card envelope if the card envelopes contained in the box are mixed together. This research will further refine the placement of card patterns separately and in terms of display design, there will also be changes so that the media can be carried more practically by the teacher compared to large boxes which seem impractical. The change in the appearance of this media lies in the form of the media where the media that was previously a large box will be made into a foldable book. On the basis of the facts found in the field and in accordance with the objectives of development research, namely to produce a new product or improve an existing product, the researcher conducted a development research with the title, "Development of Kokami Learning Media (Mysterious Boxes and Cards) in Light Material for Junior High School Students ". The change in the appearance of this media lies in the form of the media where the media that was previously a large box will be made into a foldable book. On the basis of the facts found in the field and in accordance with the objectives of development research, namely to produce a new product or improve an existing product, the researcher conducted a development research with the title, "Development of Kokami Learning Media (Mysterious Boxes and Cards) in Light Material for Junior High School Students ". The change in the appearance of this media lies in the form of the media where the media that was previously a large box will be made into a foldable book. On the basis of the facts found in the field and in accordance with the objectives of development research, namely to produce a new product or improve an existing product, the researcher conducted a development research with the title, "Development of Kokami Learning Media (Mysterious Boxes and Cards) in Light Material for Junior High School Students ".

This research is a Research and Development (R & D) which aims to 1) Produce a proper and fun kokami learning media for junior high school students in light material. 2) Knowing the feasibility level of a use of kokami learning media on light material for junior high school students. 3) Knowing student responses to the use of kokami media in light material for junior high school students.

RESEARCH METHODS

This research includes the type of research and development or known as Research and Development (R&D), which is a research model used to produce certain products and test the effectiveness of these products. [14].

The R&D model used in this research is ADDIE which consists of 5 stages, namely: analyze, design, development, implement, and evaluate. [15].

The product being developed is tested in two stages, namely the expert test and the small group test. In the expert test stage, the test is carried out on media experts and material experts. Expert testing is intended to assess the quality of the product from both the media design and the material presentation. While the small group test is intended to see student responses and teacher responses regarding the ease and interactivity of the product. The trial was carried out in small groups, meaning that the product was tried out on a limited scale. Small group testing was carried out at SMP TMI Roudatul Qur'an. The respondents were class VIIIA students totaling 28 students.

The instrument used in collecting the research data consisted of two types of instruments, namely the learning media validation sheet and a questionnaire. The learning media validation sheet is an instrument used at the product testing stage by several experts to determine the feasibility level of the media being developed. While the questionnaire consisted of two, namely the student response questionnaire and the teacher response questionnaire which contained several statements that were asked to be responded to.

RESULTS AND DISCUSSION

The products produced by this development research are in the form of mysterious box and card learning media (Kokami) in light material for class VIII where in this development the Kokami learning media has changed in terms of design which is made more portable so that it is easy to carry and store. Based on the tests that have been done, namely testing of media experts and testing of small groups.

Media expert testing

Based on the data that has been obtained through expert judgment on several aspects, the results of the media feasibility test by experts can be presented in table form as follows:

Table 1. Media Feasibility Test Results by Experts

The assessment aspect	Percentage	Category
Media Device	86.01%	Very worthy
Visual Communication	76.67%	Well worth it
Learning Design	83.67%	Very worthy

Based on the test results, it shows that all aspects assessed by experts get very high scores both in terms of appearance and learning media material so that the media developed lies in the very feasible category. Visually seen in the diagram below:
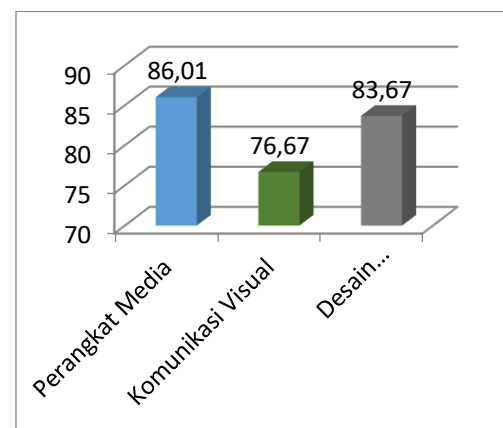
Figure 1. Diagram of Media Feasibility Test Results by Experts

The diagram above shows that the aspects of the learning media that have been developed meet the very proper criteria, which means that the kokami media developed is very well used as a medium for learning physics in class VIII light material. The average results of the feasibility test for the mysterious box and card learning media (Kokami) on class VIII light material that have been assessed by experts are as follows:

$$\text{average score} = \frac{86,01\% + 76,67\% + 83,67\%}{3} = 82,11\%$$

Based on the data analysis of the results of the validation of the feasibility of the learning

media developed regarding the aspects that have been assessed by the expert, it produces a percentage of 82.11% which belongs to the "very feasible" category. Thus it can be concluded, that in terms of the aspects of media devices, visual communication, and media learning design, the Kokami learning media developed are appropriate to be used as physics learning media in class VIII light material.
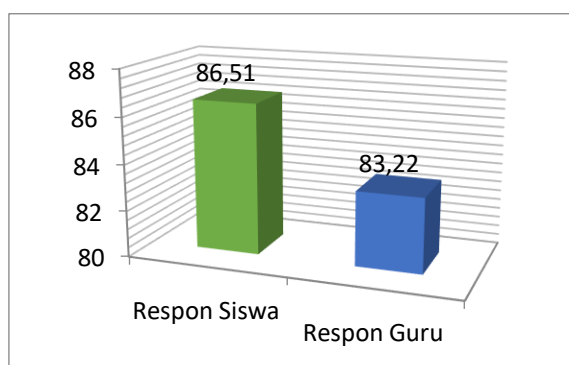
Small group testing

Based on the results of the recapitulation of teacher and student responses from the small group test, it can be presented in the following table form:

Table 2. Student Response Questionnaire Results and Teacher Response

Small group test	Percentage	Category
Student response	86.51%	Very good
Teacher's response	83.22%	Very good

Based on the results of small group testing regarding student responses and teacher responses, it shows that the learning media developed get a very good response. Visually it looks like in the bar chart below:

Figure 2. Student Response Questionnaire Result Diagram and Teacher Response

The diagram above shows the results of a small group trial consisting of two subjects, namely students and teachers. Student responses reached 86.51% and teacher response questionnaires reached 83.22%. Both responses were in the "very good" category. This shows that teachers and students agree that the learning media developed is very supportive of learning activities that are fun for students, because students can learn while playing so that it can motivate students in the learning process.

The media expert's assessment on the aspect of media equipment includes several assessment indicators, namely effective and efficient, reliable (reliable), maintainable (can be maintained / managed easily), packaging, and reusability (easy to use). The results of the expert's validation recapitulation show that for each indicator it reaches a high enough percentage with an average percentage of all indicators reaching 86.01%, which is located in the very feasible category. The assessment of media experts on the visual communication aspect includes several assessment indicators, including communicative, creative in The following ideas are pouring ideas, simple and attractive, visual (fonts, images, and colors), and background. The results of the expert validation recapitulation show that for each indicator it reaches a fairly high percentage with an average percentage of all indicators reaching 76.67%. Based on the assessment of the two aspects that have been assessed by media experts, it is obtained that the average percentage given is 81.34% which is in the very feasible category. This means that the assessment can be stated that the Kokami learning media has been declared feasible both in terms of media equipment aspects, and aspects visual communication. So, the learning media developed can be used as a learning medium for science subjects in light material.

The assessment of material experts on the aspects of learning design includes several assessment indicators, namely the relevance of practice questions with SK and KD, flexibility, provision of learning motivation, conformity of questions to learning objectives, suitability of material with characteristics of junior high school students, ease of understanding, systematic, clarity of description, accuracy and

determination of questions, and providing feedback on learning outcomes. The results of the expert validation recapitulation show that for each indicator it reaches a fairly high percentage with an average percentage of all indicators reaching 83.67% which is in the very feasible category. The following is a pattern from the recapitulation results of the development of Kokami learning media which are presented in the following table:

Table 4.3. Recapitulation Result Assessment Pattern

Expert Test	Assessment Aspects	Score	Category
	Aspects of media devices	86.01 %	Very Worth it
	Visual communication aspect	76.67 %	Well worth it
Material Expert	Learning Design Aspects	83.67 %	Very Worth it

Based on the visible pattern, it can be concluded that in terms of appearance and learning media material, the developed media attracts students so that it is very feasible to be used as a medium for learning physics in class VIII light material. In addition, testing was also carried out in small groups. Testing in small groups was carried out in order to see the responses of students and teachers to the media developed by using the media, which was then done by filling out the questionnaire provided. Teachers and students are very enthusiastic in using the developed learning media. This can be seen in the assessment of teacher responses and student responses to Kokami learning media which reached a high percentage, namely 83.22% teacher response and 86.51% student response which was included in the very feasible category.

Table 4. Quantitative Data Results of Expert Test Stage and Small Group Test

Stages	Score Percentage (%)
Media Expert Test	81.34
Media Expert Test	83.67
Small Group Test	
Student Response	86.51
Teacher Response	83.22

Based on quantitative data, the results of the trial phase obtained qualitative data which stated that media products in all stages of the trial had very good criteria, it could be said that they were suitable for use as a tool in conveying material. It can also be seen that based on expert tests and small group tests that have been carried out there is a relationship between the assessments made by experts, teachers, and students. The linkage that is meant is both at the expert test stage and at the small group test stage the learning media that has been developed get a high percentage of scores. So that the assessment carried out by experts is in line with teacher responses and student responses.

Even though the instructional media has been assessed on the very feasible criteria at the expert testing stage and is very good at the small group test, the media resulting from this development certainly still has shortcomings. However, overall based on the expert test assessment and small group testing of the media developed, the learning media combined with games in the form of boxes and mysterious cards (Kokami) are suitable for use as learning media in class VIII light material.

CONCLUSION

Based on research that has been carried out, the Kokami learning media has the following advantages and disadvantages:

Kokami that has been developed has the following advantages:

1. Learning media are easy to use, simple, and able to generate motivation to learn about light material

2. Kokami learning media makes students more active in the learning process,

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because they participate in the use of learning media.

3. Kokami learning media make students feel happy and be more creative in expressing their ideas

4. The rules of the Kokami game provide clear instructions on how to use the media.

Besides having advantages, the Kokami media developed also has disadvantages, including that some of the letter cards are still too small which results in unclear questions or the material presented.

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