Development of Card Media Based on Yu Gi Oh Game To Increase Mathematical Literacy Skills of Islamic Elementary School Students

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Abstract: *This research focuses on the use of mathematics teaching materials on fractions that are less interesting and less connect mathematics material with concrete situations and useful in students' lives. The purpose of this research is to create a product of Teaching Materials on Fraction Materials by using the Problem Card approach and linking it to the Context of the Yu Gi Oh Game which is not only scientifically valid but also easy to apply in practice. This research was conducted in grade II at Madrasah Ibtidaiyah Islamiyah Kumisik. This research is a type of development research that uses a customised development model of the ADDIE model. This model consists of 5 stages, namely: 1) Analyze stage, 2) design stage, 3) development stage, 4) implementation stage. Implementation stage. Data were collected through interviews and questionnaires. From the evaluation by experts, the validation scores obtained were 0.85 for learning experts, 0.84 for media experts, and 0.90 for material experts, with an average value reaching 0.88. Meanwhile, the results of the analysis of teacher practicality showed an average score of 0.90, and for student practicality, the average score was 0.87, 5) Evaluation Stage. Therefore, it can be concluded that the Teaching Materials for Fraction Materials Based on Problem Cards and Using the Context of the Yu Gi Oh Game have met the standards of validity and practical usability, making them suitable to be applied in the learning process regarding fraction materials.*

INTRODUCTION

Developing Yu Gi Oh game-based material card media could be beneficial to improve mathematical literacy skills of primary school students. Studi telah menunjukkan bahwa game-based learning media dapat meningkatkan kemampuan siswa. For instance, the creation of a traditional game-based maths tool has been found to be both very feasible and engaging for students; the game Multiply Cards has also been successfully developed as a medium for learning maths, with high validation results from material and media experts (Andayani et al., 2022).

Animasi-based learning media juga telah terbukti efektif dalam meningkatkan kemampuan hitung siswa di kelas empat, dan baik siswa maupun guru menilainya sangat baik (Evi et al., 2022). By incorporating elements from these studies, the development of Yu Gi Oh game-based material card media has the potential to engage students and significantly improve their mathematical literacy skills (Syahriani, 2023; Diki, 2022).

Learning mathematics in SD/MI is a process that is deliberately designed with the aim of creating a classroom environment that allows students to carry out mathematics learning activities at school, and to develop students' skills and abilities to think logically and critically in solving problems in everyday life. Children's learning characteristics must also be considered so that the teaching and learning process can take place optimally. The quality of children's learning will improve if children feel happy and enthusiastic in learning. The quality of children's learning will also affect the learning process in mathematics, because along with the times, learning mathematics is not only related to numeracy, but there must be mathematical literacy in it (Rohman, et al. 2021; Nafi'an, MI.,2023).

Learning media that continues to develop has a variety of variations to meet the needs of education (teachers and students), to improve and develop the quality of learning, and achieve learning objectives perfectly in accordance with the planned arrangement (Sukring, 2016). Media is a tool that can facilitate educators in delivering material. Through the media, children's attention will focus on the material, so that through the help of learning media it can make it easier for educators to convey the material to be conveyed to students. Interesting learning media will make students remember more easily the material being taught.

Fraction material is difficult for students to understand, and teachers also realise that the concept of fractions is a challenge, and the lack of understanding of the concept greatly affects the lack of mathematical knowledge. In teaching fractions, teachers are more likely to ask students to memorise formulas and apply them rather than helping students develop a deep understanding (Lestari et al., 2020). This approach has minimal effect on students' understanding of fraction material (Baharuddin, 2020).

Based on the results of observations and interviews that have been conducted by researchers at MI Islamiyah Kumisik, it is known that there is still a lack of use of less varied media, so far the enthusiasm of students lacks understanding of the material being taught, so that students are less active in the learning process, lack of interaction between students and educators when learning takes place, and low mathematical literacy skills. It shows that there are still many grade 2 students who think that mathematics is a subject that is considered difficult and boring to learn. In addition, the lack of use of media and teacher-centred learning, students are only required to know the concepts given by the teacher without being directly involved in finding these concepts so that students find it difficult to learn mathematics. Students also tend to do other activities such as playing with their neighbours or other mischief such as disturbing their friends. So a media is needed that functions to foster enthusiasm and make students not get bored quickly in learning.

The selection of appropriate learning media can improve the quality of teaching and learning to be more effective and create a pleasant atmosphere for students. The use of learning media will make it easier for students to understand learning. Therefore, the learning process requires supporting media that can be used by students independently and has an attractive appearance for students.

RESEARCH METHODOLOGY

The research was conducted by researchers at MI Islamiyah Kumisik Sugio. The subjects included were grade II students, consisting of 15 students selected by the grade II homeroom

teacher based on their level of intelligence, either high, medium, or low. In this study, researchers chose to use the ADDIE development model. This ADDIE development model consists of four steps, namely define, design, develop, and disseminate or can be adjusted to a 4-P model, which consists of the steps of defining, planning, developing, and disseminating (Trianto in Jazuli 2017: 53). These stages allow the design of the ADDIE development model to find a form in the form of analysing student needs, solving problems and being able to produce products that will be carried out.

In this study, the instruments used to collect data were interviews and questionnaires. According to Sugiyono (2016) interviews are used as a data collection method when researchers need to conduct preliminary studies to identify the problems to be studied and to gain a deeper understanding of the limited number of respondents. Interviews with teachers in this study were conducted to gain an understanding of the analysis needs of grade II students related to Fraction material at MI Islamiyah Kumisik, Sugio. Questionnaires, according to Ardiansyah et al. (2023: 2) is a data collection method that is done by giving a series of questions or written statements to respondents for them to answer. In this study, researchers gave questionnaires to teachers and students, with each questionnaire consisting of 8 questions.

RESULT AND DISCUSSION

The result of this research is the development of Teaching Materials on Fraction Materials based on Yu Gi Oh question cards and linking them in Mathematics books for grade II at MI Islamiyah Kumisik. This research has been carried out through stages that are in accordance with the research and development methodology, by applying the ADDIE development model.

Analyse stage

The analysis stage is carried out by identifying and developing a clear understanding of the needs of students and the wider community regarding morphological structure, anatomy and physiology in plants with special characteristics. This stage aims to collect information related to the problem of fraction material at MI Islamiyah Kumisik. Based on the results of observations at MI Islamiyah Kumisik, it can be seen that: the method used by the teacher when teaching still uses the lecture method and assignments and students still use LKS for learning resources.

In this learning, MI Islamiyah has never made innovations in learning, this makes students less able to more easily understand fraction material, so media is needed to support this learning. With the Yu Gi Oh quiz card media, it is hoped that it can make students happy when learning because this media is made according to the characteristics of students.

Design

The design stage aims to prepare and design learning media that will be used as research. The design stage is designing a quiz card framework that will be made including: a quiz card in which there is a cartoon image of a Japanese cartoon character (Yu Gi Oh) in which the card will contain learning material and a quiz in which there is an assessment of the quiz obtained. The design stage also includes the selection and arrangement of the visual layout and aesthetics of the quiz card. The selection of cartoon characters from Yu Gi Oh is expected to increase students' interest and motivation in learning. In addition, a character that is familiar to students will make them feel more engaged and interested in the material presented. This process also involves creating a consistent card template, so that each card has a uniform and professional look. The placement of images, text and other visual elements must be carefully calculated so that the information can be conveyed in a clear and attractive manner.

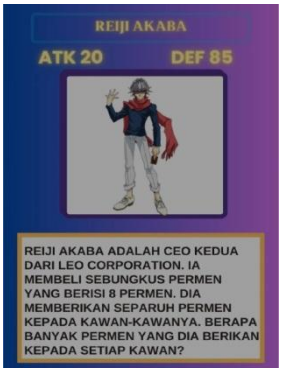
Next, determining the learning materials to be included in the quiz cards is a crucial step.

The material must be organised in such a way that it is in line with the curriculum and learning objectives that have been set. The quiz included in the card not only serves as an evaluation tool, but also as a means to strengthen students' literacy of the material that has been learnt. Therefore, the quiz questions should be well designed, cover different levels of difficulty and be able to measure different aspects of students' literacy skills. The evaluation of the quiz should also be designed to provide constructive feedback to students, helping them to identify their strengths and weaknesses in understanding the material.

Development Stage

The development stage includes a series of activities that focus on creating, developing and modifying enrichment books in the form of Yu Gi Oh-based quiz cards to achieve learning objectives. At this stage, the initial design that has been planned is developed into a real product by paying attention to every detail needed, ranging from the quality of images, text, to the integration between learning materials and quiz elements. The development also involves trialling the product on a small group of students to get feedback and make necessary improvements.

Modifications were made based on the trial results, both in terms of content and visual layout, so that the resulting quiz cards are not only interesting and fun, but also effective in helping students achieve the



expected competencies. In addition, it is important to ensure that these quiz cards are easy to use by students and can be integrated easily into daily teaching and learning activities.

Figure 1, Figure 2, Figure 3, Figure 4

The material expert recommended that all questions be related to the thesis title, which is to improve students' mathematical literacy, so all questions are related to the story. Finally, the learning expert provided input to improve the delivery of the material. In addition, the discussion expert also provided input in the form of correct learning improvements.

Implementation Stage

The implementation stage is applied to learning development to determine its impact on learning quality including effectiveness, attractiveness, and learning efficiency. Effectiveness relates to the extent to which product development can achieve the desired goals and abilities. Attractiveness relates to the extent to which product development can create a fun, challenging and motivating learning atmosphere for students to learn while efficiency relates to money, time and energy to achieve the desired goals.

At this stage, researchers develop teaching material modules in accordance with the design they have prepared, with the aim of producing valid and practical teaching materials. To assess the success of the teaching materials developed, validity trials were conducted by three experts, namely media experts, material experts, and linguists. The following is the average percentage of validation results for language, media, and material.

Table 1. Validator Assessment Results

Validator	Score	Description
Material Expert	0.90	Very High
Learning Expert	0,85	High
Media Exper	0,84	High

From the data listed in Table 1 above, the Teaching Materials for Fractions based on Yu Gi Oh card games received a media validation score of 0.84, classified in the high category, while validation from material experts reached 0.90, also in the high category, and validation from learning experts reached 0.85, in the high category. Thus, based on the validation results of the three experts, it can be concluded that the Fraction Teaching Materials based on the Yu Gi Oh card game are valid for use.

One of the recommendations from the material experts in Sukring and Baharudin's research was to link the problems with relevant stories to improve students' mathematical literacy. The Yu Gi Oh card game-based teaching materials effectively integrate mathematical concepts with an interesting game context for students. This is in line with their findings that linking learning materials with concrete situations and stories can improve students' understanding and engagement.

Evaluation stage

The evaluation stage is a crucial step in learning media development, where educators must evaluate the learning materials that have been used to determine whether the learning objectives have been achieved. This evaluation includes assessing the effectiveness and efficiency of Yu Gi Oh-based quiz cards in helping students improve mathematical literacy skills. Educators collect data through various methods, such as direct observation, questionnaires, interviews, and analysis of student quiz results.

The final revision based on this evaluation is very important to ensure that the learning media produced is really practical and feasible to use. Suggestions and observations from students as well as observers during the pilot phase provided valuable insights into which aspects needed to be improved or enhanced.

CONCLUSIONS

The conclusion of this study shows that the use of mathematics teaching materials on fraction materials with the Problem Card approach associated with the Yu Gi Oh Game Context has succeeded in creating valid and practical learning media. This research was conducted in grade II of Madrasah Ibtidaiyah Islamiyah Kumisik and used the ADDIE development model which includes the stages of analysis, design, development, implementation, and evaluation. Data collected through interviews and questionnaires showed very positive results. From the experts' evaluation, the validation scores obtained were 0.85 for learning experts, 0.84 for media experts, and 0.90 for material experts, with an average value reaching 0.88. The results of the practicality analysis from teachers and students also showed a high average value, namely 0.90 for teachers and 0.87 for students. Therefore, it can be concluded that the Teaching Materials for Fractions Based on Problem Cards and Using the Context of the Yu Gi Oh Game have met the standards of

validity and practicality. This product is feasible to be applied in the learning process to improve students' mathematical literacy skills regarding fraction materials in an interesting and relevant way to their lives. A recommendation for further research is on other mathematical materials, such as number operations, geometry, or statistics. This is to see if the same approach can improve students' understanding across different maths topics.

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