

Development of UNO Game Media in Mathematics Learning Integer Operations

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Abstract: This research is a development research that aims to improve the UNO game media using the ADDIE model (Analysis, Design, Development of Production, Implementation or Delivery, Evaluations) to be used in mathematics education media for the Integer Operations module. This research was tested on class by selecting 15 students to be exact who had taken the integer operations learning module. This study uses the test method, which is to provide questionnaires to students, as well as documentation. The instruments used in this study were the module aspect feasibility validation sheet, media feasibility validation, practicality and student comment sheets. The results of the analysis from the validator and student comments show that the UNO card can help sharpen students' brains in counting activities because they can learn by playing without feeling bored. The use of UNO card media has a positive impact on improving student learning outcomes. This can ensure that the UNO card game can attract attention and can make it easier for students to learn mathematics.

Keywords: Media development; card game; Integer operation

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INTRODUCTION

Operations on integers are the basic material of mathematics that is used as mathematical practice in everyday life. One of the guidelines associated by public authorities in mathematical examples is addition, subtraction, multiplication, and division in integers [1]. Often obstacles are found on the difficulty of the basic material for integer operations, so that understanding of concepts becomes less and has a negative impact on the learning process of mathematics between teachers and students. In addition, students' learning motivation in the next material will be affected, because it is important for students to try to understand mathematics according to their level of mental change.

Therefore, the teacher's role is to improve students' understanding in learning mathematics, especially in integer operations by using creative and innovative learning media. Learning media becomes a liaison between learning and students directly which greatly affects students' interest in learning and can improve student learning outcomes. One of the learning media that encourages students to always be active and create a pleasant atmosphere is game media [2]. By using game media, no matter how difficult the learning material is, it will be defeated by the joy of the learning media carried out. Game media that can support the achievement of mathematics instructional goals and can optimize learning to

be effective and efficient so that students understand the mathematical concepts taught faster is the UNO game.

METHODS

This examination is an improvement research, especially the progress of the UNO Card game media which will be used as a vehicle for learning mathematics for integer material. UNO Media is one of the enhancements of visual-based print media, because this media is delivered through printing interactions that produce text, illustrations, and photos/pictures shown on the card. UNO media enhancements are relied on to make student learning exercises fun and excite students. The type of information in this review is research on improving game media in mathematics learning material for integer activities using the ADDIE model (Investigation, Design, Development or Production, Implementation or Delivery, Evaluation) [3]. So this examination is seen through tests, documentation, perceptions, and outstanding surveys so that they can find out the level of eligibility, proficiency, attractiveness of the item. This exploration was directed to Sion Junior High School, Blora Regency. The subjects in this review are 7th grade junior high school students who have taken integer material. Students were isolated into 3 groups, each group consisted of 5 students with heterogeneous capacities.

The instruments used in this review are approval sheets, fairness sheets, learning outcomes test sheets, and student assessment results. The approval sheet consists of the UNO Game media approval sheet and the material approval sheet. The investigation of the information in this review is the examination of the legitimacy of the possible material point of view, the investigation of the validity of the presentation point of view, the examination of common sense, and the investigation of student judgment. The results of the examination can be used as a source of perspective for working on the UNO card game media.

RESULT AND DISCUSSION

Results

The ADDIE learning model (Analysis, Design, Development or Production, Implementation, Evaluation) will be used as a research process for developing UNO card media. This learning model can be explained with the following steps:

Analysis

UNO card is one of the learning media made from paper that has a rectangular shape with a size not too big and not too small. UNO cards can be played in various circles, but of course the benefits they generate are different for each group[4]. Students who are having difficulty understanding integers in their mathematics lessons, with this UNO card, are expected to be used as learning **UNO Card Design**

media with the concept of learning while playing.

The UNO card provides a presentation of number assignment problems that clarify integer math activities using different task properties. Subsequent UNO card configurations have been rechecked and upgraded. This UNO card is designed as attractive as possible so that students are interested and well classified. This UNO card set consists of red, yellow, blue, and green colors where each set contains 112 cards consisting of 76 regular cards and 36 action cards [5].



Figure 1. Ordinary cards and action cards

1. Regular cards have four colors with numbers listed between 0-9 where numbers 1-9 have 2 cards in each color, while the number 0 only has 1 card in each color. So the sum of each color is 19.
2. The UNO card has six action cards in a set, including:
 - a. +2 card, used when the color of the top card is the same as the +2 card. In addition, this action card also causes the player to take 2 cards if the player does not have a +2 card.
 - b. Reserve card or reverse, serves to change the direction of the game.
 - c. Skip card, serves to dismiss the next player according to the number of skip cards issued.
 - d. The +4 card, should only be used when you have no other cards in your hand that can be played.
 - e. Wild card, this card can be issued at any time, in any color, and serves to choose a color when the player does not have a color that is at the top of the discard card.
 - f. Blank card, can be used as a replacement for a lost card.

How to play this UNO card game, namely:

1. Shuffle the UNO cards first
2. Deal 7 cards to each player.
3. Keep the rest of the cards in the middle of the table
4. Take, open, and place the top card from the remaining card pile to start the game
5. Look and remove cards according to the color, number, or symbol on the open card on the table
6. Take a card from the pile on the table if you don't have a card that should be removed
7. When playing, pay attention between action cards and regular cards because it is an opportunity for your victory.
8. Don't forget to say "UNO" when you have one card left in your hand
9. Play the best you can with your last card to your victory
10. Calculate the game score.

Development or Production

The results of information from validators that have been researched show that the use of UNO card media stands out for students and students become more enthusiastic in learning. The use of independent learning media can help students take advantage of free time, making learning pragmatic and not limited by time or place. Displays in the media are interesting and invite students to learn, broaden students' inspiration in learning, and also build students' information about numbers [6].

At this stage, the side effect of the approval made by the validator on the material displayed in the media is simple, clear, and can be felt by students. The use of pictures or other depictions as supporting materials can make it easier for students to learn. In this UNO card lesson, the material provided is an understanding of basic abilities, goals and markers [7]. The material presented is precise, the substance of the material is very point by point, complete and organized.

UNO Play Implementation

In this study, to find out about the impact of the UNO card game on students in the learning process, research on the UNO card was tested on 15 students who were then divided into several groups, each group consisting of 5 students. Of the 15 students, some gave their opinion about the UNO card, that the UNO card has a unique and good shape and the game is easy for students to understand. [8] said that the learning process, especially on integer operations with UNO card media, can attract the attention of students in learning because the learning process with UNO card media is interspersed with UNO card games so that it does not bore the participants in learning.

The UNO card media as a means of supporting student learning has a good impact, this is evidenced by testing 15 students. Some of them gave the opinion that the UNO card has a unique and good shape and the game is easy to understand because of that, there are some students who say that the UNO card can attract students' attention in learning so that the learning process with the UNO card media does not make you bored. The UNO card itself has advantages, namely, it can sharpen students' brains in terms of counting and can make it easier for students to learn mathematics, especially in the material "integer operations". On the other hand, in conducting the research process, there are obstacles that are experienced, namely, when conducting research in schools, there is limited time to conduct research due to students who are very enthusiastic.

Evaluation

In the final stage of doing this research, the researchers tried to find out the shortcomings of the UNO card media, learning outcomes, and strategies in learning, the shortcomings of the UNO card media in the learning process, especially in the material "integer operations". The evaluation results will be used as material for improving the UNO card media. Based on the results of the practicality research sheet that has been tested on the validator, the results show that the practicality level of the UNO card is 88.88%. based on the results of the validation sheet for the feasibility of the UNO card material, which had previously been tested for the practicality of the UNO card media in learning by the validator, the results showed that it was 100% valid as long as it was used by students in the learning process. Then for the validation results regarding the feasibility of using the UNO card, it has been tested by the validator, the results are proven to be 100% suitable for use by students in learning.

Based on the results of student activities, it can be seen that the UNO card game can provide convenience for students in studying integer operations. It is known that the average score of students experienced an increase of 13.25, which at the beginning of the previous

year, the average score of 64.06 experienced an increase of 77.31. This proves that the UNO card game media can attract students' attention in learning mathematics. From the research results, it shows good results regarding the use of UNO card media in learning so that the shortcomings of the UNO card game have not been found in the process of this research.

DISCUSSION

UNO Card Media Validation Test

The results of the validity test showed that the use of UNO card media from the media aspect attracted the attention of students so that students were more enthusiastic in the learning process. The use of UNO card media as a support for independent learning can support students in using their free time, making learning activities practical and not limited to time and place. Based on the results of the validation sheet for the feasibility of the UNO card material that has been tested by the validator, it shows that the UNO card media is proven to be 100% valid for use by students.

On the other hand, according to the validation of the feasibility of the UNO card media that has been tested by the validator, it shows that the UNO card media is proven to be 100% feasible for students to use in the learning process. The UNO card is categorized as good and valid to use because it has the advantages of an attractive appearance, and can be used anywhere and easy to carry everywhere so that students can learn while playing and will not feel bored.

The Practicality of UNO Card Media

After being tested through practicality to the validator, it shows that the UNO card is proven that the practicality of the UNO card belongs to the good category with a percentage rate of 88.88%. This can support student learning activities to be practical and can be done anywhere and anytime not bound by time and place. Then the UNO card media can be used in free time so that students can take advantage of it by studying independently and as additional teaching materials as a learning process. [9].

Student Opinion Sheet Results

Judging from the image or display on the UNO card media, students become interested and encourage to learn and get motivated. In addition, it can increase the knowledge of arithmetic. After the test with 5 questions was given and looking at the results of the opinion sheet received, it showed that from the first question the UNO card had an attractiveness from the viewing angle with a percentage of 100%. The second question with a percentage of 93.75% of students argues that the UNO card can increase students' interest in learning mathematics. In the third question with a percentage of 87.5% students gave the opinion that the UNO card was easy to understand. In the fourth question, with a percentage of 75% giving the opinion that the UNO card can facilitate the process of learning mathematics. In the fifth question, with a percentage of 93.75% students gave an opinion that they agreed if the next material was also presented using the UNO card learning media.

Study Learning Outcomes

Students are given questions about increasing integer operations seen from the results of their work using UNO media. From the results of student work, it can be seen that the use of UNO card media can make it easier for students to learn about integer operations. With the average value of students has increased by 13.25 from 64.06 previously to increase to 77.31. This shows that the use of UNO card media has a positive impact so that it can increase student interest and learning outcomes in learning mathematics [10].

CONCLUSION

The use of the UNO card educational media has been proven successful and has a positive impact on the learning process and student education learning outcomes. The UNO game media stated that the media met the very valid criteria from all aspects, namely the feasibility of the module by the validator and with a total percentage of 100%. This game media can be used by students in the field because it has good practicality with a percentage of 88.88%. Based on the description above, the developed UNO card game media can meet the aspects of material feasibility, media feasibility, and practicality. Thus the UNO game media was developed in research, thus this media is very suitable for use by students.

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