



## Development of Picture Card Media as a Geography Learning Media

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### ABSTRACT

**Purpose of the study:** This research aim is to develop picture cards media as a geographical learning medium.

**Methodology:** This type of research is development research (R&D). The stages of R&D research include potentials and problems, data collection, product design, design validation, design revisions, product trials, product revisions, usage trials. The variables of this study: the level of use of media in schools, the level of student activity during learning and student learning outcomes. Collection techniques include questionnaires and documentation.

**Main Findings:** The results of the research on the development of picture card media have a media feasibility level of 46 and material 45. From the total expert validation score the material with criteria is feasible for use in school learning. While the teacher's media validation has a score of 47 and a score of 48 with feasible criteria. At the level of media use based on research results, it has a score of 62.64 with sufficient criteria. While the results of student activity have a student activity level with a total average score of 2.27 and experience an increase in the second meeting with an average activity level of 2.57. Student activities using picture card media experienced an average increase of 0.3 and had an average total score between the first and second activities on the high criterion with a score of 2.42. In these results the level of effectiveness in the use of picture card media has high criteria which can be said to be effective.

**Novelty/Originality of this study:** In developing visual media, picture media is an effective medium to develop. Because the level of use of picture media is in high criteria, the level of use of picture media is said to be effective. The suggestion in this study is to increase existing facilities. To meet the needs of visual media, picture media is media effectively developed.

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## 1. INTRODUCTION

SMA Negeri I Kembang is a newly established public school that implements the KTSP Curriculum for grades X, XI, and XII. From a physical standpoint, the construction of the facilities used are also inadequate as a whole. By looking at the lesson plans used in odd semesters and even semesters, the media used is conventional media in the form of images, which are only applied to X. Sometimes in the process of teaching and learning activities the teacher does not use media at all. Image media is only used for 30% of the total learning activities planned in the lesson plan, the rest do not use learning media.

At the SMA Negeri I Kembang school, image media is used to demonstrate a material related to learning time. In the resulting comparison between those who use learning media and those who do not use them, they have different values. For those who use image learning media based on assignments and tests

produced in the 2012/2013 academic year, it has an average score of 77.33. While those who do not use the media have an average of 73.66. The data was taken from KD which did not use image media at all in the learning process. In the results of the evaluation of the two studies have different values. In the data listed in the lesson plan, 25% of the learning process uses the discussion method with media images which are used as material for discussion.

Picture card learning media is learning developed from pictures previously used in schools such as: posters, maps, pamphlets and others [1]–[3]. This development was based on the results of existing research at SMA Negeri 1 Kembang. Then an analysis was carried out on the potential for the right media to be developed. Card media was developed based on the condition of school infrastructure which had minimal facilities related to supporting media in learning [4]–[6].

The picture card media used for learning has a small size, which is 9x15 in size. This size is used to maintain image quality and clarity in the images so that they are easy to see and practical to use in learning. On the material picture card has components that are included in it such as: 1. the title of the material which contains the material discussed to facilitate discussion of the material 2. The subtitle contains the specific objects discussed to facilitate the category of material discussed 3. The object images contained in the picture card are objects that are the topic discussed in the material which provides a detailed description of the object in the form of a visual picture of the picture 4. Description of the picture card below the image of the material object being discussed in order to facilitate understanding of the discussion of the object in the picture card 5. There is a frame used as a boundary to maintain the aesthetic value in figure 6. There is a cover on the back which functions as an additional aesthetic value.

This makes media images already used in the learning model. In addition, when holding pictorial media the school can already support this, this can be seen from the existence of printing around the school that can be used for making picture cards. Seeing the potential above, the researcher is interested in applying the media that was developed as a learning medium with the title: "Development of Picture Card Media as Learning Media for Students of SMA Negeri I Kembang Academic Year 2014/2015"

## 2. RESEARCH METHOD

This type of research is research and development (Research and Development). Research and Development is a research method that begins with seeking information (research) which is then used to develop a particular product (development).[1]–[3]. This research was conducted at Kembang 1 Public High School located on Jalan Raya Bangsri-Keling km 6, Kembang District, Jepara Regency. The research was conducted during the even semester of the 2014/2015 academic year. The population is all research subjects [4], [5]. The population in this study was class X SMA Negeri I Kembang. The sample was partly taken from the entire object under study and considered as an object that represents the entire population taken based on certain techniques [6]–[9]. The sample in this study was obtained using a proportional random sampling technique. The details of the class X student sample used are shown in the table below.

Table 1. Details of the sample of class X students used.

| Kelas  | X1 | X2 | X3 | X4 | X5 | Total |
|--------|----|----|----|----|----|-------|
| Jumlah | 6  | 6  | 6  | 6  | 6  | 30    |

In the implementation of picture card media, data is collected related to learning using picture card media. The data collected is the level of student activity using picture media such as picture card orientation, picture card identification, picture card analysis, describing picture cards, developing picture cards. To collect data Then the data collection method was carried out using the questionnaire method. This method was used to collect data by giving questionnaires to students regarding the activities carried out.

The data analysis technique used in this study is descriptive statistical analysis technique. Descriptive analysis technique is a type of data analysis that is intended to reveal or describe the circumstances or characteristics of each research variable individually by using frequency distribution analysis, average (mean), and division standards [10]–[12].

## 3. RESULTS AND DISCUSSION

This research refers to the process of research and development (Research and development) of media images which are then developed into media picture cards through predetermined procedures and the application of picture card media is carried out to test the level of effectiveness of the media by determining indicators of success effectiveness through the level of effectiveness and student scores. which are then correlated.

In the process of developing picture card learning media, a media feasibility test is needed. The feasibility test is carried out after the picture cards are printed and which will be used in the learning process.

The media feasibility test is carried out on validators according to their respective fields. The feasibility of this media includes: (a) the feasibility of the media made (b) the material included in the learning media. This is used to determine the extent to which the media is feasible.

First, media validation is carried out by media experts. Media validation by media experts on picture cards has a low feasibility level if it has a score of 17-28, sufficient if it is 29-40, and high if it is 41-51. The results of media expert validation of image card media are shown in the table below.

Table 2. Results of media expert validation of image card media

| Validator        | agency             | Criteria |
|------------------|--------------------|----------|
| 1                | Geography Lecturer | Worthy   |
| 2                | Geography Teacher  | Worthy   |
| Total persentase |                    | 46,5     |

From the results of the calculation above, the picture card media is said to be feasible to be applied to schools. Second, validation is carried out by material experts with the aim that the material contained in the picture card media is relevant to the learning taught at school. This validation has the following criteria: for scores of 17-28 have low criteria, 29-40 have sufficient criteria, and for 41-51 have decent criteria. The results of validation by material experts are shown in the table below.

Table 3. Results of validation by material experts

| Validator        | agency                   | Skor | Criteria |
|------------------|--------------------------|------|----------|
| 1                | Unnes Geography Lecturer | 45   | Worthy   |
| 2                | Geography Teacher        | 48   | Worthy   |
| Total persentase |                          | 46,5 | Layak    |

From the results of the calculation above, the picture card media is said to be feasible to be applied to schools. Furthermore, the picture card media will be tested in schools. At the trial stage it was carried out in class X3 using 30 samples of students who were randomized to avoid subjectivity. The results of student responses can be seen in the following table.

Table 4. Student responses to picture card media

| Statement                              | Score     |             |
|--|-----------|-------------|
|  | Test      | Application |
| What is the material for picture cards | 75        | 80          |
| Do picture cards help with learning    | 75        | 84          |
| Interesting drawing cards              | 74        | 80          |
| Impressions about picture cards        | 81        | 86          |
| Compilation of picture cards           | 71        | 83          |
| Picture card design                    | 74        | 83          |
| Help understand the concept            | 80        | 88          |
| Card media differences                 | 75        | 87          |
| Ease of understanding                  | 70        | 79          |
| Use of card media                      | 75        | 86          |
| Total                                  | 75 (Good) | 83 (Good)   |

The results of statistical calculations show that the developed picture card media has a good student response. Furthermore, there is the teacher's response to the picture card media used as a consideration for the feasibility of applying the media to the picture card, before it is actually used as a learning medium for students. The results of the teacher's response to the media The image cards are shown in the table below.

Table 5. Teacher responses related to picture cards

| Statement                                      | Score     |
|--|-----------|
| What is the scope of the picture card material | 3         |
| Do picture cards help with learning            | 2         |
| Interesting drawing cards                      | 2         |
| Impressions about picture cards                | 3         |
| Compilation of picture cards                   | 2         |
| Picture card design                            | 4         |
| Help understand the concept                    | 3         |
| Card media differences                         | 3         |
| Ease of understanding                          | 3         |
| Use of card media                              | 3         |
| Amount   | 25 (Good) |

From the statistical calculations above, it shows that the revised media has good teacher responses. This means that the media has positive things when used in learning. Next, students' activities are analyzed on learning outcomes using picture cards. In this study, student activities were carried out in 2 stages with the following results.

Table 6. Student activities on learning outcomes using picture cards

| Statement                                      | Stage | Stage | Average | Score | Effectiveness<br>Criteria |
|--|-------|-------|---------|-------|---------------------------|
|  | 1     | 2     | Score   | Max   |                           |
| What is the scope of the picture card material | 2,40  | 2,57  | 2,49    | 3     | Tall                      |
| Do picture cards help with learning            | 2,30  | 2,60  | 2,45    | 3     | Tall                      |
| Interesting drawing cards                      | 2,40  | 2,63  | 2,52    | 3     | Tall                      |
| Impressions about picture cards                | 2,30  | 2,60  | 2,45    | 3     | Tall                      |
| Compilation of picture cards                   | 2,30  | 2,53  | 2,42    | 3     | Tall                      |
| Picture card design                            | 2,20  | 2,57  | 2,39    | 3     | Tall                      |
| Help understand the concept                    | 2,27  | 2,60  | 2,44    | 3     | Tall                      |
| Card media differences                         | 2,27  | 2,60  | 2,44    | 3     | Tall                      |
| Ease of understanding                          | 2,10  | 2,50  | 2,30    | 3     | Tall                      |
| Use of card media                              | 2,13  | 2,50  | 2,13    | 3     | Tall                      |
| Amount   | 22,67 | 25,7  | 24,19   | 30    |                           |
| Mean   |       |       | 2,42    | 3     | Tall                      |

In the results of calculating the average total score between stages 1 and 2 the total score produced is 24.19. The optimum or maximum score for evaluating effectiveness is 3. However, in the classification, the score of 2.42 is in the high category. So by looking at this, the use of picture card media in the learning process at SMA Negeri 1 Kembang is said to be effective.

In the development of image card media, printing is carried out which is then carried out by validation from media experts and material experts. This is enabled so that the media that is made is valid or in accordance with what has been standardized. Media validation has two components that must be validated. The first validation is related to quality the medium itself. This relates to the material, design, coverage, and other components related to the media. While the second validation is related to the material covered in learning media. This validation functions so that the material covered is in accordance with the material being studied at school. So that it does not go out of the Competency Standards and Basic Competences that exist in the existing curriculum.

In media validation by media experts, there is an error in the image card. The error is in the form of an overlapping caption on the image. This is due to: 1. the influence of the software used. This can happen when the difference in software when making. When making image card media, the software used was Adobe Photoshop CS6 which was then made in JPEG format for printing. After the printing process, use Corel Draw software to print out so that the dimensions are clearer. So that there is a shift 2. Occurs in the print out process or the type of print or printer used. Because it uses 360 gram ivory paper, it requires a better printer that matches the thickness

of the paper and ink used. 3. The design on the image card has an image on the back in the form of a cover and front of the image, resulting in inaccuracy which requires cutting to be neater. After repairs were made, the validation reached a total score of 46, namely the criteria for proper use in schools for learning.

Media validation by material experts is carried out to see the alignment or suitability between the material on the picture cards and the Competency Standards, Basic Competences and Indicators which are then validated through the instruments that have been made. In validating this product, there are several revisions, namely: 1. The coverage of the material is too broad, making it difficult for the media to focus on the material. In this revision, the picture card media was originally covered in one discussion of the lithosphere, but the scope of the material was too broad, making it difficult to focus on the material contained in the picture media. So that the picture card media must be focused on specific material. The selection of this material on the picture card is based on phenomena that can be visualized so that the material can be poured on the picture card in the form of an image object. So in the picture card material choose volcanism which feels a lot of venom that can be visualized in the picture. The material contained on the picture cards is in the form of volcanism objects such as lava, lapilli, mountain shapes and others. All material concepts are outlined in the form of images to facilitate students' understanding in capturing existing concepts 2) in material not covered in foreign languages (English). In each geographical object there are lots of terms adopted from English which is an international language such as lava pits becoming cinder cones and so on. This is needed to enrich information and increase vocabulary in scientific language. So that students can easily understand if they find terms related to volcanism. After revision this validation has a score of 47 which has criteria suitable for use in school learning.

After media validation, a trial was carried out at the school. This trial has a revision in the image clarity section, the clarity of the image is affected by the pixel level of the image size used. A good pixel for using picture card media is 700x1024. This is so you don't experience broken when printing is done. Next is the selection of good fonts that are easy to read such as time new roman, arial and Calibri which are commonly used in writing grammar. So that students can read well the existing information. evaluation which can trigger creativity and discussion among students. So that the picture cards are made in 2 forms, namely material and discussion material or questions. This is enabled so that students not only learn the material but can review and test what they have mastered. So the teacher knows the extent to which the competencies mastered by students during learning. After being tested the results of the trial were revised again. The results of this revision were used in the application to see the effectiveness of the picture card media by looking at the level of student activity in learning.

Student activity in learning is a form of benchmarking for the effectiveness of the use of picture card media. The higher the student activity based on the procedures set out in the concept, the more effective the use of picture card media is. In the application of picture card media, there are two stages. material to students, the second stage is evaluated, the third meeting is carried out giving stage two material (repetition), the fourth stage is carried out stage two evaluation. In the activity results achieved between stage one and stage two have different activity levels which are quite different in the acquisition of scores and generated criteria. In the first stage students have an activity level with moderate criteria which has an average total score of 2.27 and most student activities have medium score criteria. Meanwhile, in the second meeting student activities experience an average score increase of 0.30. At the second meeting of student activity has an average score of 2.57 which has high criteria.

Seeing the difference in increasing the level of student activity in learning by using picture card media, the obstacle that becomes a factor is the unpreparedness of students related to the use of picture cards. Because this media has never been used in schools even in learning. This becomes an obstacle when learning takes place. So a teacher must guide or give instructions to students when explaining material to students. At the second meeting students began to get used to using the media, this was because they were used to learning at the first meeting. So that at the second meeting students began to be enthusiastic and there was active interaction with the teacher both answering questions, understanding concepts, looking at picture cards intensively and effectively or anything else. This is shown by the value of the activity that has high criteria at the second meeting and has an average total score of 25.7 in the high category. At the second result level, both the first and second student activities produce an average score of 2.42 which has high criteria. Seeing these results the use of picture card media can be concluded that the use of picture card media is effective when used in the learning process.

#### 4. CONCLUSION

Based on the results of the research, the conclusions that can be put forward in this study are that the learning media that is widely used and can be developed in the learning process at SMA Negeri 1 Kembang is based on visual media. One of them is by using picture card media. Then, it was found that the level of use of picture card media by students during learning has high criteria. So, the level of use of picture card media in the learning process at SMA Negeri 1 Kembang is said to be effective.

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