

The Elaboration of Tangram Media with a Scientific Approach to Social Studies Learning in Elementary School

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Abstract

This study aims to develop tangram media for elementary students in teaching social studies. The purpose of developing tangram media is so that students can develop their creativity in designing various forms of houses and traditional dances in Indonesia. This study describes scientific learning that should be used in the implementation of the 2013 curriculum. In this study, the authors used the ADDIE model. Data analysis using questionnaires. The results of the development have been validated by the content/material expert getting a percentage of 87.7% and media experts 82.3%. The results of peer evaluations of the content/material get a design percentage of 95.3% and the content/material obtained is a percentage of 91.6% while the response results of small group students get a percentage of 85.4 and classic 83.8%. The results show that the use of tangram media is resulted in proper product development and well used by students in learning activities.

Key words: *Tangram media, scientetific approach, social studies*

INTRODUCTION

The basic education curriculum in Indonesia has undergone changes following the times in an effort to adapt to the needs of the world of education. The curriculum is an important component in the education system. In it there is a learning plan that directs the teacher to carry out learning to students so that they have personal readiness and abilities according to their needs and learning objectives. Learning with a scientific approach is learning that consists of observing (to identify things that want to know), formulating questions (and formulating hypotheses), trying/collecting data (information) with various techniques, associating/analyzing/processing data (information) and draw conclusions and communicate results that consist of conclusions to obtain knowledge, skills and attitudes. These steps can be continued with creating activities (E. Kosasih: 2013).

Curriculum development 2013 develops spiritual attitudes, social attitudes, knowledge, and skills of students (*Permendikbud* No. 54/2013). The implementation of the 2013 curriculum requires a paradigm shift in learning from conventional learning which is only done in class, into learning that activates students to use various learning resources that can be obtained outside the classroom.

Social Sciences Learning (IPS) is an integrated study material which is simplification, adaptation, selection and modification organized from the concepts of science in History, Geography, Sociology,

Anthropology and Economics. Social studies as one of the subjects in school is considered very important because IPS can increase students' knowledge in thinking logically, rationally, critically, carefully, effectively, and efficiently.

The development of science and technology is increasingly encouraging renewal efforts in the utilization of technological results in learning. The teacher is required to be able to use the media in accordance with the development of the subject matter. Teachers can at least use tools that are cheap, easy and efficient, even though they are simple and simple, but are a necessity in the effort to achieve the expected learning goals. Media in general is a human, material or event that builds conditions that can make students able to gain knowledge, skill or attitude. In this case, the teacher, textbook, and school environment are the media. While according to Gagne (1970) in Sadiman (2009: 6) states that media are various types of components in the student environment that stimulate learning.

Learning media is everything that can be used to convey messages or information in the teaching and learning process so that it can stimulate the attention and interest of students in learning. According to Gagne and Briggs (1992) said that, learning media include the contents of teaching materials, which consist of books, tape recorders, video cassette tapes, video recorders, films, slides (picture frames), photos, images, graphics, television, computers and etc. Thus learning media is a component of learning resources or physical vehicles that contain instructional material in student environments that can stimulate students to learn.

Tangram media is an educational game, besides being used to play ordinary tangram, it is also used to teach social studies. Tangram games are suitable to be applied in elementary schools especially in social studies subjects. Especially for this research, tangram media is used to design Indonesian cultural diversity, namely dance and traditional houses. Especially for elementary school's students are more comfortable using tangram media, because students are more creative, using tangram is very beneficial for the teacher. Teachers or educators can make this game themselves from easy-to-obtain materials, which are cardboard, colorful folding paper or other materials. (Elfers: 1976).

The tangram media consists of 7 flat wake pieces, which are 2 equilateral triangles (large size), 2 equilateral triangles (small size), 1 equilateral triangle (medium size), 1 parallelogram and 1 square. Develop the ability to use the right words to manipulate forms, such as turning, rotating and shifting. Motivation is a change in energy in a person or person who is characterized by the emergence of feelings and reactions to achieve goals.

Tangram is beneficial for children in various ways, including developing a love of geometry and various other forms or patterns. Rules for playing in Tangram. The basic rules for playing are by connecting the seven sides of the tan (all tan must be used) and each tan must not overlap. Certain abilities are not needed to be able to play tangram - enough with patience, the time and imagination of each person will be able to solve ways of forming something or creating a new imaginary model.

Motivation in the learning process is needed for acceleration in achieving the goals of education and learning specifically. Learning in the broadest sense can be interpreted as a process that allows the emergence or change of behavior as a result of the formation of the main response, with laden that changes or emergence of new behavior is not caused by the existence of maturity or by the existence of temporary

changes by something. Motivation can also be said to be a series of efforts to provide certain conditions so that students want to do something, and if they do not like it, they will try to negate or avoid the feeling of dislike. So motivation can be stimulated from the outside, but motivation grows from within a person. In learning activities, motivation can be said as the overall driving force in students that causes learning activities, so that the goals desired by the subject of learning can be achieved. Learning outcomes will be optimal if there is appropriate motivation.

This study describes scientific learning that should be used in the implementation of the 2013 curriculum which includes five learning activities, namely: observing, asking questions, conducting experiments or seeking information, doing reasoning or associations to process information and develop networks or communicate the results of investigations. The characteristics of learning are the key to producing students who are creative and innovative.

RESEARCH METHOD

A development research is an attempt to develop an effective product for use in schools. Development of new products is prepared based on the experience of implementing the newly implemented program, individual and group needs, and adapted to the development and changes in the student environment. In designing learning systems there are several models known by several experts. In general, learning design models can be classified into class-oriented models, system-oriented models, product-oriented models and others. In this study the researchers use a generic development model known as ADDIE (Analysis, Design, Development, Implementation, Evaluation). In this study, researchers conducted stages namely: 1) analyzing the need for learning media, 2) designing learning media, 3) developing learning media, 4) applying media in learning, and 5) evaluating learning media.

In developing learning media, it is necessary to pay attention to choosing development models to ensure their quality. The selection of learning media is adjusted to the standard content and adapted to the characteristics of students. The development model as a conceptual design process in an effort to improve the function of the existing model, through the addition of learning components that are considered to improve the quality of achieving predetermined goals. In the development of this research, researchers conducted a model/product test which included, among others: test design, test subjects, data types, instruments and data analysis.

The target test is users of development products, namely elementary school students particularly in class IV students both individually and in groups. Curriculum 2013 is used and textbooks developed are Thematic Themes 1 Sub Themes 1 Beautiful Togetherness. Sampling used was a non-probability sampling technique that is purposive sampling type.

The type of data obtained based on the Tangram learning media trial was qualitative data. Qualitative data obtained from questionnaires distributed to the subjects of the trial. To obtain the expected amount of data, data instruments were used, namely questionnaires or questionnaires. Questionnaires or questionnaires are a number of written questions that are used to obtain information from respondents in the sense that reports of things that the respondents have already familiar with.

Data analysis technique was used to process data collected from the results of review and trial of Tangram product development using qualitative descriptive analysis and descriptive statistical analysis. Percentage technique was used to present data which is the frequency of the subject's response to the test on learning design products. The data that has been collected in the validation questionnaire is basically qualitative data, because each statement is divided into very bad, bad, good and very good categories. In calculating, the data was first converted into quantitative data in accordance with the weight of the score, including one, two, three, four and five then the data was transformed in the calculation of the rating scale (Sugiyono, 2009: 99).

RESULTS AND DISCUSSION

The results obtained from validation present trial data, data analysis and revision of product development results based on data analysis. Data analysis and product development revisions presented are: (1) the results of evaluation of product content/material validated by Ibut Priono Leksono (2) results of product evaluation design experts validated by Ibut Priono Leksono (3) results of product evaluations by colleagues who validated by Kasiati, (4) the results of evaluation of product content/material by colleagues validated by Achmad Said, (5) the results of product evaluations by small and classical group students. In the assessment of material content experts, media experts and peers are conducted by giving a score with a check mark (v) on each question in the questionnaire and providing comments, input and suggestions. Every comment, input and suggestion is used to improve the learning material, so that it fits the expected learning objectives. While students only comment on the questionnaire. Thus the results of the trial of learning materials using tangram media as a result of validation with data analysis are the results of trials on content/material experts, with the results of questionnaire data analysis showing 87%, the results of trials on media experts, with the results of questionnaire data analysis showing amounting to 82.3%, the results of trials on peers namely teachers about learning content/material with the results of questionnaire data analysis showed 91.6%, the results of trials on peers namely teachers about learning design with the results of questionnaire data analysis showed as much as 95.3%, the results of trials on small group students with the results of questionnaire data analysis showed 85.4%, the results of trials on classical students with the results of questionnaire data analysis showed 83.8%, it can be concluded that the tangram learning media with scientific approach worthy of being used as a learning medium.

CONCLUSION

By using tangram media, the students will be more motivated because they make patterns or designs of various kinds with very attractive colors and different from one another. This study also shows that the elaboration of tangram media with the implementation of the 2013 curriculum can show that the students undergo a scientific approach includes student learning activities, namely: observing, asking questions, conducting experiments or seeking information, doing reasoning and communicating. The results of validation trials from content/material experts, design experts and colleagues that the development of tangram media with a scientific approach to improve learning motivation of fourth grade

elementary school students are feasible to use in learning activities because of its very good assessment from the results of the analysis of data in percentage form. So that the characteristics of learning are the key to producing students who are creative and innovative. The development of using tangram learning media must be adapted to students' emotional development and conformity with students' intellectual development. This study proves that developing tangram media tailored to the characteristics of students and adapted to Basic Competencies and Learning Indicators, can motivate elementary school students to become more creative in developing skills in social studies subjects. Therefore, it is suggested that tangram media is developed and used as a learning medium if the desired learning objectives can be achieved.

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