

Development Of Module Based On Malay Culture As A Learning Resource Students In Tanjung Pura City

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Abstract. The research is a development research with the aim to produce a product in the form of Malay Culture based module as a valid and effective learning resource. This research is done through development stage which refers to Thiagarajan, Semmel and Semmel development design that is 4-D design (four D models). The findings of the research are: 1) the developed module product meets the criteria of good / valid; 2) the effectiveness of the module is summarized based on: (i) Student learning completeness classically in the first test of 79.41% and in the second test of 82.35%, (ii) the achievement of the student's active activity and the ideal time on trial I and trial II is ideal; iii) students' positive responses to module product development on trial I of 92.65% and 95.92% in second try, and (iv) teacher management in learning on trial I and II is good.

Keywords: Module, Malay Culture, 4-D Development Design, Learning Resources

1. Introduction

The integration of culture into the educational process, is believed to be able to create more meaningful learning through the experiences that students encounter in their daily lives. Learning by utilizing local culture as a medium that supports learning is able to obtain maximum results. As Matsumoto (2008) asserts that "culture is an important part of children's education". Therefore, to improve the learning conditions, it is necessary to develop a culture-based learning tool.

Based on the geographical layout of Malay cultural life, especially in Tanjung Pura is still dominant using the house building stage. Where the concept of home stage itself using several mathematical theories, such as one of the concepts Pythagoras theorem. Based on the advantages that exist in this Malay culture, can be utilized into the learning process. In accordance with Vygotsky's opinion that emphasizes the importance of utilizing the environment in learning. As well as the importance of the culture and social environment of a child in the formation of their knowledge.

Based on research conducted by Tandiseru (2015) states that "the use of contextual situation related to culture in learning mathematics is one form of creativity and innovation of teachers in teaching". He also believes that learning mathematics integrated with culture will be able to make meaningful learning for students. This is supported by another study Eduardo (2011) states that "mathematics will be taught effectively and meaningfully by linking the students' local culture".

Based on the above description, the problems to be studied in this research are: (1) development of Malay culture based module (2) validity of Malay culture based module development (3) effectiveness development of Malay culture based module.

2. Methods

This research type is development research by using model of learning device development Thiagarajan, et al that is 4-D model (define, design, develop, disseminate). The resulting product is a Malay culture based module.

a. Subjects and Research Objects

Subjects in this study were students of MTs N Tanjung Pura class VIII. While the object in this study is a mathematics module for grade VIII students based on Malay culture developed. the module developed in this research is the material of Pythagoras theorem. The reason why the researcher chose this school because: (1) in MTs N Tanjung Pura has never done research about development of module based on Malay culture, (2) community in MTs N Tanjung Pura both student and teacher mostly reside in environment Tanjung condition of Malay culture.

b. Module Development

Module development in this research refers to the model of learning device development according to Thiagarajan, Semmel and Semmel (in Trianto, 2011).

c. Instruments and Data Analysis Techniques

Instrument or data collection tool in this research is validation sheet. Furthermore, to see the effectiveness of learning tools that is seen from:

d. Analysis of Student Classical After Student After Using Module

The effectiveness of the module related to problem-solving ability with the criterion of students is said to have good mathematical problem solving ability, if 80% of students who follow the test have medium-grade problem solving ability (obtaining value between 2.51-2,84 or B-). (source: Candy Number 104 of 2014)

e. Analysis of student response data

The result of questionnaire of student response is analyzed by giving positive response and negative of student in filling out student response questionnaire which is calculated by the formula:

$$PRS = \frac{\sum A}{\sum B} \times 100 \% \quad \text{Borich (Herman, 2012)}$$

Borich (Herman, 2012)

Information :

PRS : The percentage of many students who respond positively to each of the categories asked

$\sum A$: The proportion of students who choose

$\sum B$: Number of students (respondents)

To determine the achievement of learning objectives in terms of student responses, if the number of students who responded positively was greater than or equal to 80% of the many subjects studied for each trial (Sinaga, 2007).

f. Analysis of student's active activity

The level of student's active activity can be seen from the percentage of students who absorb information and percentage of interference from other students during the learning process. To calculate the percentage of active student activity level used the following formula:

Student Activity = (number of active students) / (Total number of students) x 100%
(Sinaga, 2007)

g. Analysis of teacher ability in managing learning

The effectiveness of instructional tools can be seen from the level of ability of teachers in managing learning by using modules developed at least "good" category.

3. Results and Discussion

1. Development of Valid and Effective Malay-Based Cultural Module

In developing the module by using Thiagarajan, Semmel and Semmel development model is done through 4 stages which furthermore known by 4D abbreviation is define, design, develop, and disseminate. The end of this development is to produce products in the form of Malay culture-based modules. However, in developing this module should be tested its quality, such as its validity and effectiveness.

From the validation results can be concluded that the module components developed are in the category "valid" with the average value of the component that is 89.16. But even though the learning device components developed have met the criteria of validity, there are some things that need to be fixed in accordance with the notes provided by the expert team covering the use of language, writing or typing, display images that must be in accordance with the conditions and clarified. So based on the results of notes from the experts team that this module has met the criteria of validity with the category "valid" with a little revision note.

a. Effectiveness of Malay Cultural Module

In determining the effectiveness of a product developed can be seen from four aspects of the results of classical mastery, student active activity, positive responses of students and management of teachers in learning. The following will present a discussion for each indicator in measuring or viewing the effectiveness of learning tools.

1) Classical Exhaustiveness

This criterion is met if more than or equal to 80% of students are said to have had problem-solving abilities with an average score of at least 2.67 or B- (the category of due diligence). The result of pretest data analysis on problem solving ability was found that 7 students were complete or 20,59%; in trial I obtained 27 complete students or 79,41%; while for the problem solving ability of students on the pretest of trial II it was found that 28 students were complete or 82.35%. Based on the data analysis that has been done seen that there is an increase in the achievement of the ability of students mathematical problem solving on pretest and postes.

When viewed from the results of the completeness of the problem solving ability of students can be concluded that the module meets the criteria of effectiveness, so this module has been effective for use in learning.

2) Student's active activity

This criterion is met if the student activity during the learning activity meets the criteria of the ideal time tolerance set. Student activity is said to be ideal if three of the five criteria for tolerance of achievement of the ideal time used in the activity categories 1, 2, 3, 4 and 5 are met. Note that the tolerance criteria for activity 3 and 4 must be met. And on trial I and II the criteria have been fulfilled.

In experiment I activity 1 student reach 17,94% from ideal time; activity 2 reached 13.4% of the ideal time; activity 3 reaches 25.22% of the ideal time; activity 4 reached 34.36% of the ideal time; and activity 5 reaches 6.62% of the ideal time. In the experiment 1, the active activity of the dominant students was seen in activity 4 of 34.6% of the ideal time ie the activity in the form of discussing / inquiring activities between students and friends, and between students and teachers, drawing conclusions of a procedure or concept. While on trial II activity 1 student reach 21,67% from ideal time; activity 2 reached 14.9% of the ideal time; activity 3 reached 27.42% of the ideal time; activity 4 reached 31.6% of the ideal time; and activity 5 reaches 4.44% of the ideal time. In the second experiment, the dominant student activity was seen in activity 4 of 31.6% of the ideal time, the activity was in the form of discussing / inquiring activity between students and their friends, and between students and teachers, drawing conclusions of a procedure or concept.

Based on the average percentage of time of active student activity on trial I and II then has reached the active criteria referred to in chapters II and III that have been set. With this the criteria of effectiveness of students' active activities are said to be effective.

3) Positive response of students

This criterion is fulfilled if $\geq 80\%$ of students give positive response to developed module. Based on the results of analysis of test data I about student responses obtained the result that the average percentage of total positive response of students on trial I was 92.65% while in trial II was 95.92%. If the results of this analysis are referenced to the criteria set out in Chapter III, it can be concluded that the student response to the module developed has been effective.

4) Management of teachers in learning

This criterion is met if the level of ability of teachers in managing learning by using modules developed in the category of minimum "good". Based on the results of analysis on trial I and II obtained a fairly good assessment of teacher observation in learning. In experiment I obtained the average value on all four meetings amounted to 87.11. While in trial II obtained the average value at the fourth meeting of 96.15.

The fulfillment of the validity aspect is in line with the opinion of Akker (1999) which states that validity refers to the extent of the design of the device based on the latest state of technology, art, or science ('content validity') and the various components of the device consistently related to each other ('construct validity'). Giving the device to the validator is part of the content validation whereas field trials are part of the construct validation. The fulfillment of effectiveness is in line with Slavin's (2006) opinion that the effectiveness of learning refers to four indicators, namely the quality of instruction, the appropriate level of instruction, the incentive and the time.

4. Conclusion

The development of Malay culture based module using Thiagarajan, Semmel and Semmel development model is aimed to produce a valid module product as a learning resource for students in MTs N Tanjung Pura. From the results of research that has been done then the conclusions that can be described in this study are:

1. Malay cultural-based modules have met the valid and effective criteria.
2. Valid Criteria seen from the validation results conducted by expert lecturers and teachers on products developed in the form of drafts I, II and III.

3. Effective criterion is seen from (1) Student's completeness of classical completeness, (2) student's active activity, (3) positive response of student, and (4) teacher management level in learning.

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