Abstract

The aim of this research was to know the effectiveness of designed material. It was necessary to test the product in class using a field test by applying a pre-experimental design with a one-group pretest-posttest model. Data were analyzed with qualitative and quantitative methods. The results showed that the scores increased that were the lowest values of the pretest and posttest, which were respectively 26 and 46 whilst the highest values of the pretest and posttest were respectively 80 and 100, an increase of 20 points. Thus, it can be concluded that the instructional materials produced in this research were effective in accordance with the needs in the field, the expectations conveyed by learners based on the test results of practicality, and a potential effect based on field test results.

Keywords: local wisdom, module and compact disc, poem teaching materials, research and development

1. Introduction

This article was part of the research and development that had been done on local wisdom-based poem teaching materials, in the form of modules and compact discs (CDs) for class IX. It was important to develop this teaching material because the available teaching materials had not met the standard yet. Based on the results of the survey and interviews conducted by researchers (November 12, 2015) with students and Indonesian subject teachers at MTs, it was found that the existing poetry material was not in accordance with the competencies that must be owned by students, there was no specific book about poetry, very little contained material about poetry, and
the literature books used were not oriented toward local literature, so students did not know that in the region there was also a literature worthy of study. Many students who did not know the potential that existed in the region believed that there was no such potential. In fact, the local potential of local wisdom contained the values of characters that played a role in the formation of personal students.

Another factor that motivates the author is providing teachers with the experience to be able to process the source of teaching materials that exist in the area, in addition to instilling a love of the region, which will also make learning activities more varied, leading to the achievement of learning objectives.

The teaching materials were developed in line with what Tomlinson said [1]: “Materials include anything that can be used to facilitate the learning, or can be presented in print, through live performance or display, or on cassette, CDI-ROM, DVD or the Internet,” namely in the form of modules and CDs [2-4]. The type of material developed was in accordance with that referred to by Morrison et al. [5] “... Each instructional objective for a unit is classified into fact, concept, principle, procedure, interpersonal skill, or attitude,” including: fact (poetic type, poetry builder element), concept (poem definition, principles, poetic characteristics), procedures (steps to find the theme/message in verse), and attitudes or values (analyzing/finding local wisdom and character values contained in poetry).

The resulting module refers to Anwar [6] where teaching materials are arranged systematically and attractively to cover material content, methods, and evaluation that can be used independently and/or with teacher guidance to achieve the expected competencies. From the six characteristics of good modules – 1) self-instructional, 2) self-contained, 3) stand-alone, 4) adaptive, 5) user-friendly, and 6) consistency – in this developed module most refer to features 2, 4, 5, and 6. Characteristic 1 has to be ignored according to the suggestion of the validator that the student still has a high dependence on the teacher. Based on didactic theory it is also known that MTs students are still dependent on educators. Characteristic 3 is also ignored because the resulting module is supported by audiovisual media containing a recording of the poem in CD form. Teaching materials were developed in accordance with the principles of Amri and Ahmadi [7] namely relevancy, consistency, and adequacy, the following module documents and learning materials CD developed.

To find out whether the materials produced can feasibly be used, a field test is required. The problem is: “How effective are the teaching materials that have been
produced? The goal is to find out whether the material produced is effective and feasible to use or not.

2. Methods

This research is part of research and development aimed at producing new product through a development process. As stated by Gall et al. [8] and Richey et al. [9], “Research and development is an industry-based development model in the findings of research are used to design new products and procedures, which are then systematically field-tested, evaluated, and refined until they must specify criteria of effectiveness, quality, or similar standard.” The main purpose of research and development is not to formulate and test theory but to develop effective products for use in schools [10]. So, this paper presents the results of the effectiveness test of products.

The trial is performed on the module and CD teaching materials by applying a pre-experimental design with a one-group pretest-posttest model in class IXB MTs 1 Palembang, using the Table 1.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>O1</td>
<td>X</td>
<td>O2</td>
</tr>
</tbody>
</table>

Assessments and trials are conducted in line with Tessmer [11], including self-evaluation, expert review, one-to-one evaluations, small-group evaluation, and field tests, as shown in the Figure 1.

![Design flow of the formative evaluation (adapted from Tessmer, 1993).](image-url)
The subjects of the research were the students of class IX MTs N 1 Palembang. Data collection comprised observation and a test. The test was to determine students’ ability to understand the poems before and after using the developed teaching materials, in the form of a multiple-choice objective test based on basic competency and the indicator to be achieved.

Data analysis used a mixed-method design. As Creswell [12] says, “A mixed-methods research design is a procedure for collecting, analyzing, and mixing both quantitative and qualitative research and methods in a single study to understand a research problem.”

Data obtained from preliminary and final tests are assessed, determining the mean and gain of the score, and judging its effectiveness. If the average score in the posttest is greater than that in the pretest it can be concluded that the developed instructional material is effective and feasible to use; otherwise, the instructional material produced needs to be revised again.

Overall, there are 10 steps performed, but this paper only discusses the result of step number 9. Figure 2 show the overall chart and focus of the contents of this paper.

3. Results

3.1. Pretest results before using the product

Before using the product of teaching materials based on local wisdom, students answered the questions of the initial test, five essay questions and 15 objective questions. The value obtained by students varies: Two students got the lowest score of 26, and two students got the highest score or 80, while the average score was 55.35. Table 2 show the preliminary test results.

| Statistics of preliminary test. |
|---|---|---|---|---|---|
| **N** | **Minimum** | **Maximum** | **Mean** | **Std. Deviation** |
| **Pretest** | 43 | 26.00 | 80.00 | 55.35 | 13.528 |

The frequency of the values obtained by students can be seen in Table 2 below. The frequency of observation that emerged was as follows: Two students obtained a score of 26; three students obtained a score of 33; three students obtained a score of 40; four students obtained a score of 46; nine students scored 53; 10 students scored 60; six students scored 66; four students scored 73; and two students obtained a score of
The results and comparison of the chi-squared count and chi-squared table can be seen in Table 3 below. Table 3 shows that \( \text{\textit{chi-square}}_{\text{count}} < \text{\textit{chi-square}}_{\text{table}}, \) i.e. \( 14.558 < 15.50, \) thus the sample is declared homogeneous and normally distributed.
TABLE 3: Calculation of chi-square.

<table>
<thead>
<tr>
<th>Group</th>
<th>Chi-square (_{count})</th>
<th>Chi-square (_{table})</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>14.558(^a) (df 8)15.50</td>
<td>X(^2) count &lt; X(^2) table Ho accepted</td>
<td>Normal distribution and homogeneity</td>
</tr>
</tbody>
</table>

3.2. Treatment by using developed product

After a preliminary test, the sample performed a lyric lesson using the module and CD of the poem teaching material based on local wisdom for six hours of learning. Based on the observations, during the use of teaching material products, students appeared active, happy, and enthusiastic. The teacher’s role in learning remains that of a motivator, facilitator, mediator, administrator, and evaluator [13, 14]. This cannot be eliminated completely because the students of class IX still depend on the teacher. However, in the implementation of this research, the students are expected to maximally utilize teaching material products and they are required to study the contents of modules and CDs as effectively as possible.

Students understood the contents of learning module 1, listening to the poem reading on the CD to do the task. Furthermore, students performed formative test 1 after listening to the poem reading on the CD. Then the students gave feedback to know the achievement of its value. Students who had reached the minimum achievement criterion limits continued with lesson 2. Then the students gave feedback to know the achievement of its value. Students are expected to reach the minimum achievement criterion limits. After studying lessons 1 and 2, students were then given a posttest.

3.3. Posttest results after applying developed learning material

The posttest was given on January 6, 2017. The test was given after the students had learned to use the poem modules and CDs. The posttest results varied, with the highest score of 100 being obtained by three students while two students obtained the lowest score of 46. The average score obtained by the students was 76.44. Table 4 below presents the posttest results.

TABLE 4: Statistics of Posttest Results.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest</td>
<td>43</td>
<td>46</td>
<td>100</td>
<td>76.44</td>
<td>13.417</td>
</tr>
</tbody>
</table>
Table 4 shows that the number of students was 43, the average score was 76.44, the standard deviation was 13.417, the lowest score was 46.00 and the highest score was 100.00. It is known that from the 43 students, the observation frequency that emerged was as follows: Two students obtained a score of 46; one student obtained a score of 53; four students scored 60; five students scored 66; eight students scored 73; 10 students scored 80; six students scored 86; four students scored 93; and three students obtained a score of 100.

Based on the pretest and posttest results there was an increase in value. The lowest score of the pretest was 26 and that of the posttest was 46; the highest score of the pretest was 80 and that of the posttest was 100, an increase of 20 points. The average score of the pretest was 55.35 and that of the posttest was 76.44, an increase of 21.09 points. The standard deviation obtained from the pretest score was 13.528, and the standard deviation obtained from the posttest was 13.417. The average pretest error rate was 2.063 and that of the posttest was 2.046. Table 5 below shows the statistical results of the comparison test between the pretest and posttest values.

Table 5: Description of the pretest and posttest results.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>43</td>
<td>26</td>
<td>80</td>
<td>55.35</td>
<td>13.528</td>
<td>2.063</td>
</tr>
<tr>
<td>Posttest</td>
<td>43</td>
<td>46</td>
<td>100</td>
<td>76.44</td>
<td>13.417</td>
<td>2.046</td>
</tr>
<tr>
<td>Valid N (leastwise)</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Furthermore, it is known that the difference mean score after and before using the developed poem module and CD was as shown in the Figure 3.

Based on Graph 3, we can see the comparison between the posttest and pretest score. The average posttest value is 76.44 and the pretest value is 55.35; there is a difference of value equal to 21.09. Thus, there is an increase in the value obtained by the students after using the developed module and CD. The mean score of the students has also exceeded the KKM (KKM limit: 75). Thus, it can be concluded that the developed teaching materials are effective.

From the results of the effectiveness test, a comparison between posttest and pretest values can be seen; there is a difference in value of 21.09. Thus, there is an increase in the value obtained by the sample students after using the development module and CD. The average score of the sample students has also exceeded the KKM, and the resulting teaching material has been effective, in accordance with the needs
in the field, in line with the expectations conveyed by the learners based on the test results of practicality, and has a potential effect based on field test results.

The procedures and results of this research and development have also been in line with previous study by Alzahrani and Alshaya and Oyaid [15, 16]. The equation of research done with previous researches is equally developed teaching materials and using the R & D model. The difference lies in the developed teaching materials, the resulting product, the location and subject of research, as well as the steps of research and development undertaken.

4. Conclusion

Modules and CDs of local wisdom-based teaching material that has already been tested are in accordance with the needs in the field, in line with expectations conveyed by learners and teachers, and have been effective. Furthermore, the teaching materials are expected to be utilized for learning poetry in school.

This usage test does have a disadvantage compared to the pretest-posttest control-group design, but is better than the one-shot case study. Nevertheless, researchers believe that the results that have been obtained in this field test are effective because the difference in the posttest average value is very significant compared to the average value of the pretest. For the next study it is suggested that two groups should be used, and that there is a comparison group/control class.
References