The Effectiveness Of Teaching Materials Integrated Local Culture Aspect Of Massenrempulu In Mathematic Learning

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Abstract— The background of this research showed the use of media is needed to help students learn mathematics concepts that relate directly to the students, namely artifacts and language that used in their region. School is a place where culture is associated because learning process as habitual process. It enable mathematical concepts embedded in cultural practice. The implication of cultural characteristics in mathematics learning, it can be seen on the topic that is often referred ethnomathematics. To ease the implementation of learning in the schools, one of ways can be applied is teachers’ creativity which very needed in designing teaching materials to create active learning atmosphere, comfortable, and not in spite of their cultural characters including in the use of artifacts and local language in their region. This study was a quasi experimental design which aimed to find out whether the learning process that use of teaching materials integrated with local culture aspect of Massenrempulu was more effective than learning without the use of teaching materials. The data collecting of this research used instrument in the forms of learning achievement test on the materials triangle and the observation sheet students’ activity. The data analysis of this research implemented statistical descriptive and inferential analysis. The analysis showed improvement of the students learning achievement, and the students learning activeness of experimental class was more active than control class. It can be concluded that the learning process by using teaching materials integrated with aspect of local culture of Massenrempulu was more effective.

Keywords: Effectiveness, teaching materials, culture of Massenrempulu, mathematics learning

I. INTRODUCTION

Suharsimi (2003:10) stated that new educational systems now widely popularized in western is study alone system. Study alone able to be applied by studying a package of learning. It can be modular form or the others package learning. As a reason for the appearance of this system is a great recognition of the individual’s ability.

The fact that they often face is many students still find difficulties in learning mathematic. Some causes of these difficulties included: math does not seem related in daily life, a monotonous way from abstract concept to the concrete do not make students loved learning, and learning process still apply teacher centered learning. In the other hand, one of the things that make student find their problems in learning/understanding the math is there is no connection between the experiences of students daily life and formal mathematics. Hudoyo (1990: 4) stated that mathematics concerned with ideas/abstract concepts which is arranged hierarchically and its reasoning deductively. So that in mathematics studying should be a continuous process and should not be interrupted. From some causes that mentioned earlier, there is other fact became the cause that is the language used.

In relation with these things, we must view a variety of alternatives and innovations in order to improve students’ math skills. One key of the elements is the improvement of teaching in schools by increasing the portion to reason particularly, solve problems, argumentation and communicate through more contextual teaching materials. Mathematic learning has to connect with contextual issues that exist in society. It should be involved cultural context inherent and manifest students themselves, student’s perception will be wider in hopes of driving active events and mental work students in the development process of students’ reflective, discuss, asking, debate, delivered over different interpretations of students
in looking at the problem, so that the process of formation of mathematical knowledge departs from what has been previously owned by the students and will easily resolve various problems.

Based on observation, there are students who do not understand if using Indonesian monotonous. One effort to overcome these difficulties is using “students centered learning”, namely building concepts, principles or procedures are needed, where the teacher just as a facilitator and students are free to spend their ideas and enjoy the learning process. To apply this learning system, it requires the appropriate learning resources. Thus, teachers are expected to develop teaching materials as a source of learning.

Materials can be written or unwritten. But, the teaching material that the author means is the materials in written form which are compiled by teachers systematic that is integrated with the local aspect culture, and it refers to the achievement of basic competence then the instructional materials distributed to the students. Therefore, teaching materials have to be selected appropriately in order to help students in achieving the optimum standards of competence and basic competences.

II. LITERATUR REVIEW

A. Teaching Materials

Mbula and Suhartono (2004: 87) stated that teaching materials is a learning content that contained in the book that written by a teacher or other authors for the benefit of learning. It is further mentioned that the teaching materials are designed and developed based on the principles of good teaching that will help students in their learning process, help teachers to reduce the time of the presentation of the material and reproduce teachers coaching time to students, assist schools in completing the curriculum, and achieve learning objectives with the available time.

Based on the Ministry of National Education (2008: 11) concluded that the teaching materials divided into four categories such as print materials (printed) like handouts, books, modules, and student worksheet. Teaching materials through listening (audio) such as tapes, radio, phonograph records, compact disc and audio. Teaching materials are through watching and listening (audiovisual) such as video, compact discs, and films. Interactive multimedia for teaching materials (interactive teaching material) such as CAI (Computer Assisted Instruction), compact disk (CD) multimedia interactive learning and web-based teaching materials (web-based learning materials).

Teaching materials involved two words that are teaching and materials. According to the University of Wollongong NSW 2522, AUSTRALIA on its website, Web Page last updated: August 1998, teaching is defined as the process of creating and sustaining an effective environment for learning (implementing learning is defined as a process of creating and maintaining an effective learning environment). Paul S. Ache further argued about the material, consists of: books can be used as reference material, or they can be used as written paper weights, but they can not teach (the book can be used as reference material, or can be used as written material that have weighs) (Purnomo, 2010: 15).

The objectives of teaching materials such as: (1) providing teaching materials in accordance with the demands of the curriculum and considering the needs of the students, the teaching materials should be appropriate to the characteristics and settings or social environment of students, (2) assist students in obtaining alternative materials when the textbook is sometimes difficult to obtain, and (3) make teachers are easy to do learning process. The teaching materials include handouts, books, student worksheet (LKS), modules, brochures or leaflets, wall chart, photos/pictures, model/mock-up. In preparing the materials, something that should be considered is the title or the materials that are presented should be cored Basic Competency (KD) or subject matter that should be achieved by the students.

Implications of cultural characteristics in mathematic also can be seen on a topic that is often referred as ethno mathematic. Ethno mathematic initially pioneered by Ubiratan D’Ambrosio in 1985. On one level, ethno mathematic called as a math in the environment or math in the community. In another level, ethno mathematic is a special way which is used by a particular cultural group in classifying, sorting, counting and measuring (activities of mathematics). Furthermore, the purposes of exploiting some local involves some aspect, one of them is “Massenrempulu” especially those on the artifact and the local language of the area is expected to help students for do not forget the characteristics of their culture.

B. Culture of Massenrempulu

Culture = cultur (Dutch) = culture (English) comes from the Latin meaning colore means process, working, nourish and develop especially cultivate the soil or farming. Based on those meanings, the word of culture can develops as the sense of power and human activities to process and changing nature. According Widagdho (1991: 18) stated that from the point of Indonesian, culture come from “sansekerta” means buddhayah which is the plural form of buddhi which means the mind or intellect.

Culture in society is often defined as the general body of the arts, including literary arts, music, sculpture, plastic art, philosophical system or the beautiful parts of human life. Finally, the conclusion is
obtained that culture is the production of the human to attain the perfection of life. Everything that is created by humans both concrete and abstract, that is a culture.

The location of Massenrempulu is very rich in various art and tradition. It can not be denied that art, culture, and customs are giving contribution to building whole Indonesian nation including building and welfare of all, especially in Enrekang. But, all of it don’t get more attention from the society. In fact, the diversity of art, culture and customs are owned by Enrekang very much. Unpredictable, Enrekang are the only areas in South Sulawesi which has five kingdoms (http://enrekangkota.wordpress.com, 2009).

As a motto from ancestors who have been lived in the Enrekang area to unite the society is: mali siparappe, re’ba sipatokkong, malila sipakainga, means that: drifting must be landed, fall should be upheld, and forget shall be reminded (Batjo, 1995: 12). The purpose of the motto is help one strengthen of the power, enforce the state with the people in order to achieve a happy and prosperous together.

Implications of the characteristics of culture in mathematics (Etnomathematics) are some examples of the cultural heritage that can be used in mathematics, including artifacts and a local language Massenrempulu. One artifacts that can be used include traditional homes. The portions of the traditional home can be used to explain the concept of plane. Likewise with the ornaments founded in traditional home which is seen some form of plane.

Besides traditional homes, there are also some aspect of culture which is become mainstay in Enrekang, it is from culinary such as: dangke, baje kotu, baje karrang, baje janggoreng, dodol malino, deppa te’ tekan, and nasu cemba. Besides famous with its coffee which have been penetrated to overseas, Enrekang also became the only region producing local cheese that is often called dangke as a traditional food made from cow’s milk that is frozen. In addition, endangered heritages are bamboo musical instrument, this instrument is familiar with bass music with the way to play do not get hit or beaten.

C. Effectiveness

Effectiveness in English means efficacy. The effectiveness according to Slavin (2010) consists of four indicators: (1) the quality of learning, (2) the suitability of the learning level, (3) intensive, and (4) time. Schulman (Nurdin, 2007: 105) suggests the effectiveness of two types of learning, included (1) the effectiveness of correlative and (b) the effectiveness of the normative. The effectiveness correlative is the effectiveness assessed as a function of measures of academic achievement. In other words, a study became effective when correlated or in accordance with the desired result. While the normative effectiveness is comparing the results of the implementation of learning with a model or ideas about good learning which are derived from a theory. The criteria of effectiveness of normative used correspondence as the test tool, not a correlation. So, a study became effective when it corresponds suitable with standard procedures that developed theoretically.

Based on the descriptions above, academic achievement or student learning outcomes is one of the aspects of learning effectiveness. The other aspect is student activities and student responses.

Sudjana (1989: 38-39) stated that, teaching success can be seen from student achievements, and of course expect that all of the results obtained a system of values form (value system) which can form the personality of students, giving color and direction in all actions. Hamalik (2006: 30) the results of learning is when a person has learned to expect a change in behavior in a person, for example from unknowing to knowing, and from do not understanding will understand. Good learning outcomes must be comprehensive means not just the acquisition of knowledge solely but is also evident changes in attitudes and behavior in an integrated manner. Big Indonesian Dictionary (2003: 895) argues that achievement from learning outcomes that have been achieved or done.

Based on some opinions that mentioned earlier that the result of learning mathematics in this study is an indicator of the level of students’ understanding of mathematical concepts or materials which has been taught, causing a change in attitude and behavior in an integrated manner. These changes occur not because of maturity of the effects of learning activities that acted in the learning process.

D. Hypothesis

Based on literature review and framework which has been explained above, so the hypothesis in this research is the students’ achievement of mathematics learning which has been taught by integrated teaching materials by aspect of local culture of Massenrempulu is more effective than the achievement of students which has been taught without using teaching materials.

For the statistical purposes, the hypothesis of this research as follows:

\[ H_0 : \mu_1 \leq \mu_2 \text{ opposite } H_1 : \mu_1 > \mu_2 \]

With
III. RESEARCH METHOD

A. Types of Research

This research is quasi experiment which aims to know whether the learning by using integrated teaching materials by aspect local culture of Massenrempulu is more effective than the learning without using teaching material. Variable in this research namely independent variable and dependent variable. Independent variable is the learning treatment by using integrated teaching materials by aspect local culture of Massenrempulu as experimental research and independent variable is students’ mathematics achievement that will be obtained by the researcher through mathematics achievement test.

B. Research Design

The research design that will be used is Randomised Control Group Design. This design will put experimental class and control class randomly so both classes are same and the treatment for both classes will determine the difference.

C. Definition of Variable Operation

In order to avoid misinterpretation in understanding variable so the definition of variable operation that will be used in this research as follows:

- Integrated teaching materials by aspect of local culture of Massenrempulu. Integrated teaching materials by aspect of local culture of Massenrempulu is written materials that organized by teacher systematically which containing materials that support the achievement of competence standard and basic competence which the materials will be integrated with local culture aspect of Massenrempulu that focus on artifact and local language. The materials will be given to students before learning process so the students can know and learn the materials that will be discussed in each meeting and the students can repeat the materials at home so the learning process will be more effective and efficient.

- Effectiveness. The effectiveness of learning can be measured from comprehension or students’ learning completeness and students’ activeness in learning process. The criteria of students’ learning completeness can be seen from learning outcome by give the student exercise, students who have been reached the KKM are pass and if 85% already achieved by students through KKM, so the class has been reached learning completeness.

D. Population and Sample

Population in this research is the seventh grade students of SMP Negeri 1 Anggeraja that consists of seven classes. Sampling will be taken from population members which conducted by using technique of Random Sampling. The sampling method doing because the population member is homogenous so the sample that selected can represent the population. The steps for sampling as follows:

- Among all students from seventh grade of SMP Negeri 1 Anggeraja which consists of seventh classes, two classes has been choose and will determined randomly which one will be experimental class and control class.

- Next, the learning treatment will be given to experimental class by using integrated teaching materials by aspect local culture of Massenrempulu and control class without using teaching materials.

E. Technique of Data Collection

The data from this research gained from learning process and learning outcomes. Data of learning process gained through observation from student activity in learning process. Data of learning outcomes gained by give learning achievement test namely essay, the test will be conducted after experimental class is over. In order to avoid misappropriation in finishing the test, the test for each class will be conducted at the same time.
F. Techniques of Data Analysis

The collected data will be analyzed quantitatively. Techniques of data analysis for research result that will be used, namely:

- Analysis of Learning Completeness. Analysis of learning completeness be used to know whether the learning by using integrated teaching materials by aspect local culture of Massenremputlu is more effective to seventh grade students of SMP Negeri 1 Anggeraja. The scores obtained by students through learning achievement test will use to determine individual completeness and students classical completeness on standard of competence that should be mastered by students. Individual completeness (students) is determined with the formula:

\[ N = \frac{S_i}{S_t} \times 100 \]

With:
- \( N \) = Individual learning completeness
- \( S_i \) = Total scores achieved by students on all indicator test
- \( S_t \) = Total score from all indicator test

The class will pass the completeness if there are 85% students in that class are pass the KKM. The completeness of learning in the class will be presented by using percentage with the formula as follows:

\[
\text{Study Completeness} = \frac{\text{The number of students who have been pass the study}}{\text{The number of all students}} \times 100\%
\]

- Analysis of Descriptive Statistics. By using the average frequency table, percentage, and standard of deviation to describe the respondent scores from each research group. The structure of analysis organized based on Depdikbud (Darmawati 2006: 19): level of mastery 0% - 34% is categroized as very poor, level of mastery 35% - 54% is categroized as poor, level of mastery 55% - 64% is categroized as fair, level of mastery 65% - 84% is categroized as high, level of mastery 85% - 100% is categroized as very high.

- Analysis of Inferential Statistics. Analysis of inferential statistics will be used to test the research hypothesis. In this case, the researcher will use one line variant or test-t as follows:

\[ t = \frac{\overline{x}_1 - \overline{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \]

\( s^2 \) is combined variation by using the formula below:

\[
\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}
\]

(Tiro, 2000: 234)

Specification for the formula above: \( \overline{x}_1 \) = Mean score of experimental class, \( \overline{x}_2 \) = Mean score of control class, \( n_1 \) = Total number of subject in experimental class, \( n_2 \) = Total number of subject in control class, \( s^2 \) = Standard of deviation combination, \( s_1 \) = Standard of deviation in experimental class, and \( s_2 \) = Standard of deviation in control class.

There will be requirement of analysis before doing test-t namely (1) normality test, and (2) population variant homogeneity test.

IV. RESULT AND DISCUSSION

In this section will describe the results that have been obtained in research. Based on analysis results of the study completeness of seventh grade students SMP Negeri 1 Anggeraja for experimentall class that consists of 30 students obtained 29 or 97% students have been complete their study. In this research also conducted assessment of the students attitude in learning process by using teaching materials. Aspects that considered as factors of assessment namely: motivation and interest of students, attention and activeness of students.
A. The Result of Descriptive Analysis

The purposes of result of descriptive analysis is describe the characteristics of research response on treatment. In this case, the analysis will using frequency table, percentage, mean, highest scores, lowest scores, and standard of deviation in each presentation of treatment response characteristics for each treatment as follows:

This table describe the result of descriptive analysis data of mathematics study result for experimental group (students taught by using teaching materials).

<table>
<thead>
<tr>
<th>STATISTICS</th>
<th>STATISTICS SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size</td>
<td>30</td>
</tr>
<tr>
<td>Ideal maximum score</td>
<td>100</td>
</tr>
<tr>
<td>Mean score</td>
<td>83,60</td>
</tr>
<tr>
<td>Median</td>
<td>84,50</td>
</tr>
<tr>
<td>Modus</td>
<td>77</td>
</tr>
<tr>
<td>Standard of deviation</td>
<td>9,912</td>
</tr>
<tr>
<td>Variance</td>
<td>98,248</td>
</tr>
<tr>
<td>The score range</td>
<td>35</td>
</tr>
<tr>
<td>Minimum score</td>
<td>65</td>
</tr>
<tr>
<td>Maximum score</td>
<td>100</td>
</tr>
</tbody>
</table>

The result of mathematics study for experimental class namely mean score is 83,60, median is 84,50, modus is 77 and standard of deviation is 9,912. Meanwhile, the score range is 35, highest score is 100 and lowest score is 65.

Based on category from Depdikbud, so the result of mathematics study in the experimental class (the class taught by using teaching materials) frequency and score percentage will be cathegorized as follows:

<table>
<thead>
<tr>
<th>Score (%)</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 34</td>
<td>Very Low</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>35 – 54</td>
<td>Low</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>55 – 64</td>
<td>Fair</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>65 – 84</td>
<td>High</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>85 – 100</td>
<td>Very High</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

For more detail, data in the table can be seen in diagram 1 as follows.

DIAGRAM 1. FREQUENCY OF LEARNING OUTCOMES FOR CLASS EXPERIMENT
I = very low, II = low, III = fair, IV = high, V = very high

Having regard to the frequency distribution table 2. as well as the diagram 1 can be obtained information that results for students taught using teaching materials of 30 students of class VII SMP Negeri 1 Anggeraja selected as the study sample of 15 respondents, or 50% of learning outcomes are in the high category and 15 respondents or 50% of learning outcomes are in very high category, while the average score was 83.60 learning outcomes of the ideal score of 100 with a standard deviation of 9.912 so it can be concluded that the learning outcomes of students of class VII SMP Negeri 1 Anggeraja taught using instructional materials classified as "high".

The following table illustrates the results of descriptive analysis data result of learning mathematics for control class.

**TABLE 3. DESCRIPTION OF LEARNING OUTCOMES MATHEMATICS SEVENTH GRADE STUDENTS OF SMP NEGERI 1 ANGERAJA FOR CLASS CONTROL**

<table>
<thead>
<tr>
<th>STATISTIC</th>
<th>STATISTIC VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesample size</td>
<td>30</td>
</tr>
<tr>
<td>Ideal maximal score</td>
<td>100</td>
</tr>
<tr>
<td>The average score</td>
<td>64.07</td>
</tr>
<tr>
<td>Median</td>
<td>65</td>
</tr>
<tr>
<td>Modus</td>
<td>68</td>
</tr>
<tr>
<td>Deviation standart</td>
<td>9,996</td>
</tr>
<tr>
<td>Variance</td>
<td>99,926</td>
</tr>
<tr>
<td>The range of scores</td>
<td>40</td>
</tr>
<tr>
<td>The minimum value</td>
<td>44</td>
</tr>
<tr>
<td>The maximum value</td>
<td>84</td>
</tr>
</tbody>
</table>

Results mathematics for control class is obtained an average score of 64.07, median is 65, modus is 68 and a standard deviation of 9.996. The range of scores 40 where the 84 as the highest score and the lowest score 44.

**TABLE 4. FREQUENCY DISTRIBUTION AND PERCENTAGE OF LEARNING MATHEMATICS OUTCOMES SEVENTH GRADE STUDENTS OF SMP NEGERI 1 ANGERAJA FOR CLASS CONTROL**

<table>
<thead>
<tr>
<th>Score (%)</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 34</td>
<td>Very Low</td>
<td>-</td>
<td>16.67</td>
</tr>
<tr>
<td>35 – 54</td>
<td>Low</td>
<td>5</td>
<td>33.33</td>
</tr>
<tr>
<td>55 – 64</td>
<td>moderate</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>65 – 84</td>
<td>high</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>85 – 100</td>
<td>Very high</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

For more details, the data in the table can be seen in chart 2 below.

**DIAGRAM 2. FREQUENCY OF OUTCOMES LEARNING FOR CONTROL CLASS**
I = very low, II = low, III = fair, IV = high, V = very high

Having regard to the frequency distribution table 4. with diagram 2. can be obtained information that results for students who are taught without the use of teaching materials of 30 students of class VII SMP Negeri 1 Anggeraja selected as research sample that is 5 respondents or 16.67% of learning outcomes are in the low category, 10 respondents or 33.33% of learning outcomes in the fair category and 15 respondents or 50% were in the high category, while the average score was 64.07 learning outcomes of the ideal score of 100 with a standard deviation of 9.996 so it can be concluded that the learning outcomes of students of class VII SMP Negeri 1 Anggeraja who taught with not use teaching materials classified as "fair ".

B. The Results of Inferential Statistical Analysis

Inferential statistical analysis was used to test research hypotheses; the analysis used the t-test. Before, the t-test tested for normality and homogeneity of variance in each class first. Normality test aimed to see if the data on learning outcomes of mathematics does not deviate from the normal distribution. The homogeneity test is to see whether the two groups come from a homogeneous population.

1) Normality test. Data normality test in learning of mathematics result class VII SMP Negeri 1 Anggeraja was using the following criteria.

a) The significance value or probability value <0.05, distribution is not normal
b) The significance value or probability value > 0.05, distribution is Normal

<table>
<thead>
<tr>
<th>TABLE 5. TEST OF NORMALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelas</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Hasil Belajar Matematika</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*a. This is a lower bound of the true significance.*

Based on the analysis of data normality test Table 5, the obtained value of p = 0.200, which means 0.200>0.05, it indicates that the data result of learning mathematics scores for these two groups of the population is normally distributed.

2) Homogeneity test. Test of homogeneity of the population variance use testing of Levene Test, this test is intended to know whether or not a homogeneous population variance.

a) The significance value or the probability value <0.05 the data comes from populations which have not equal variances.

b) The significance value or the probability value > 0.05 the data comes from populations which have same variances.

<table>
<thead>
<tr>
<th>TABLE 6. TEST OF HOMOGENEITY OF VARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hasil Belajar Matematika</td>
</tr>
<tr>
<td>Eksperimen</td>
</tr>
<tr>
<td>Kontrol</td>
</tr>
<tr>
<td>Based on Median</td>
</tr>
<tr>
<td>Based on trimmed mean</td>
</tr>
</tbody>
</table>

Based on the analysis of data result homogeneity test Table 6, it appears that sig value or testing of Levene Test is 0.803. From this result it appears that for sig> 0.05. It can be concluded that the data of mathematics learning result for the two groups come from the same population (homogeneous).

3) Hypothesis test.
After all the requirements of analysis are completed then do a hypothesis testing to the hypothesis test for examine the hypothesis which has been showed above, which reads:

"The achievement of learning mathematics which is taught to student with use an integrated teaching material aspects of local culture Massenrempulu more effective than the mathematics achievement of students taught without the use of teaching materials in VII class SMP Negeri 1 Anggeraja".

The statistical tests in this research are:

\[ H_0 : \mu_1 \leq \mu_2 \] opponent \[ H_1 : \mu_1 > \mu_2 \]

with

\[ \mu_1 \] : The achievement learning average that taught with use teaching material.

\[ \mu_2 \] : The achievement learning average that taught without use teaching material.

T-test test were used was t-test for Equality of Means, with the testing criteria are:

1. If the Calculate Statistic (rate of t out put)> Statistical Table (tables t), \( H_0 \) is rejected
2. If the Calculate Statistics (rate of t out put)<Statistical Tables (tables t), \( H_0 \) accepted

<table>
<thead>
<tr>
<th>TABLE 7. INDEPENDENT SAMPLES TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene's Test for Equality of Variances</td>
</tr>
<tr>
<td>( \mu )</td>
</tr>
<tr>
<td>Equal variances assumed</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
</tr>
</tbody>
</table>

Based on the value \( t = 7.600 \) and value of \( t \) table = 2.00 then the \( t \) count> \( t \) table, then \( H_0 \) is rejected. It was concluded that the learning achievement of students taught use teaching materials is better than the students who are taught without use teaching materials. The average student achievement of experimental class higher at 83.60 from the average achievement of the control class is 64.07.

Next will be tested which is better between the use of teaching materials with no use of teaching materials, that testing as follows:

\[ H_0 : \mu_1 \leq \mu_2 \] opponent \[ H_1 : \mu_1 > \mu_2 \]

The calculations result shows that the value of \( t = 7.600 \) and the value of \( t \) table = 2.00 then the \( t \) count> \( t \) table then \( H_1 \) accepted. So, it can be said that the average of the student learning result are taught with use teaching materials integrate with the aspects of local culture Massenrempulu better than the average of student learning result that are taught without the use of teaching materials. It shows that "The achievement of learning students taught use teaching materials integrate with the aspects of local culture Massenrempulu more active than students taught without use teaching materials that can be seen from the percentage of student’s activeness that is taught use teaching materials always rise. From this results indicate that learning with use the teaching material which is integrated with the aspects of local culture Massenrempulu effective to the students of SMP Negeri 1 Anggeraja" proven to be true in significance level of 5%.

C. Discussion of the Research Result

From the analysis result of completeness learning can be seen from 30 students obtained 29 or 96% of students who have been passed in study. From the results of the learning process, it is known that students taught use the teaching material which is integrated with the aspects of local culture Massenrempulu more active than students taught without use teaching materials that can be seen from the percentage of student’s activeness that is taught use teaching materials always rise. From this results indicate that learning with use the teaching material which is integrated with the aspects of local culture Massenrempulu effective to the students of SMP Negeri 1 Anggeraja.

From the results of analysis descriptive can be known that students taught use the teaching material which is integrated with the aspects of local culture Massenrempulu, the average score was 83.60 of student learning result are in the high category, while the students taught without the use of teaching
materials an average score of student learning result is 64.07 in a category is moderate. From the result shows that the achievement learning of mathematics students of VII class SMP Negeri 1 Anggeraja taught use an teaching material which is integrated with the aspects of local culture Massenrempulu includes in the “High” category and taught without the use of teaching materials included in the "Fair" category.

The result of inferential statistical analysis showed that the results of the $t = 7.600$ and the value of $t$ without the use of Massenrempulu in Mathematic Learning. Without the use of teaching materials to the "High" category and taught without the use of Massenrempulu includes in the “Fair” category.

The result of inferential statistical analysis showed that the results of the $t = 7.600$ and the value of $t$ without the use of Massenrempulu in Mathematic Learning. Without the use of teaching materials to the "High" category and taught without the use of Massenrempulu includes in the “Fair” category.

Based on the explanation above, it can be obtained information that learning by using the integrated teaching material aspects of local culture Massenrempulu more effective than learning without the use of teaching materials. Thus, student achievement taught using teaching materials which is integrated with the aspects of local culture Massenrempulu better than the students who are taught without the use of teaching materials. So, it very wise when every educator prepare teaching material contextually, for example which is integrated with the aspects of local culture Massenrempulu that for can be the effective and efficient learning, because the teaching materials students can learn independently in school and at home. In addition, indirectly teaching materials that are integrated with aspects of local culture can help students remember their culture characteristic.

**ACKNOWLEDGMENT**

Allamkulillahai Babir Alamin, the writer expresses her highest gratitude to Allah SWT who has given guidance, blessing, and mercy to her in completing this article under the title “The Effectiveness of Teaching Materials Integrated Local Culture Aspect of Massenrempulu in Mathematic Learning. Finally, it can be done well.

This article has been arranged based on the article rule, and with the efforts of the writer in utilizing writing competency optimally, but because of the limitation of the writer’s competency enables still many lacks of arranging this article. Therefore, the writer does hope useful suggestions and critics that come from all people.

The writer realizes in process of arranging this article gets helps and participations from all people. There are several handicaps and difficulties that faced by the writer, however because of supports and guidance from all people so that it can be solved. Concerning with the process of completing this article, the writer also expresses big thanks to all people especially the leader of Muhammadiyah University of Parepare.

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