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Educational Research to Endorse Productive and Innovative Generation in the 21st Century

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October 16-17, 2017

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Preface

The 2nd Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL with web link is http://aisteel2017.unimed.ac.id/) was held on October 16 -17, 2017 in Medan City, Indonesia. This conference was organized by Postgraduate School, State University of Medan (Unimed) and is the routine agenda at Unimed now. The Second Annual International Seminar on Transformative Education and Educational Leadership’ is realized this year with various presenters, researchers, lecturers and students from universities both in and out of North Sumatera participate in the theme of which is “Educational Research to Endorse Productive and Innovative Generation in the 21st Century.”

2nd AISTEEL is the annual international seminar with main aim is to discuss of recent research special for Transformative Education and Education Leadership. Several topics like: Teachers Education Model, Research Global Issue in Education, Mathematics and Science Education, Social, Language Education, Vocational Education, Curriculum, Economic, History and Management Education have been discussed at the 2nd AISTEEL 2017. 2nd AISTEEL international seminar provided experts’ view on transformative education and educational leadership as well as curriculum article presentation. There were five keynote speakers have been came Professor Keiichiro Yoshinaga, Dr. Bambang Sumintono, Dr. Sitti Maesuri Patahuddin, and Dr. Yulia Rahmawaty. The organizer had been use online submission system to receive all abstract, full paper and also communication with authors. All of information include with comment of reviewer can be checked real time by author.

Chairperson

Dr. Rahmad Husein, M.Ed
Welcoming Speech of Director of Postgraduate School State University of Medan

The Second Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL)

The honorable,
- Rector of State University of Medan, Prof. Dr. Syawal Gultom, M.Pd.
- Vice Rectors of UNIMED
- Professor Keiichiro Yoshinaga, PhD, Institute of Liberal Arts and Science, Kanazawa University – Japan
- Dr. Bambang Sumintono, M.Ed., University Malaya – Malaysia
- Dr. Sitti Maesuri Patahuddin, Faculty of Education, Science, Technology and Mathematics, University of Canberra – Australia
- Yuli Rahmawati, Chemistry Education Program, Universitas Negeri Jakarta
- Deans of Faculties of Education, Languages and Arts, Social Sciences, Natural Sciences and Mathematics, Engineering, Sports Sciences, and Economics
- Vice Directors of Postgraduate School of UNIMED
- All speakers, lecturers, researchers, students, and participants

Good Morning

Welcome the honorable guests speakers Professor Keiichiro Yoshinaga, Dr. Bambang Sumintono, Dr. Sitti Maesuri Patahuddin, Assoc. Prof. Emilia Zulmira de FAN, and other speakers, lecturers and students from outside and inside Unimed to this international seminar which is the routine agenda at Postgraduate program of Unimed now. I’m glad that ‘The Second Annual International Seminar on Transformative Education and Educational Leadership’ is realized this year with various presenters, lecturers and students from universities both in and out of North Sumatera and participate in the theme of which is “Educational Research to Endorse Productive and Innovative Generation in the 21st Century.”

Ladies and Gentlemen,

In this second seminar excels the first one related to the administration by online and the publication index by either Thomson Reuters or Google Schollar. By the new policy on student’s publication, postgraduate program really matches the system, particularly for the students who will sit in the oral defence examination. Through the seminar, the postgraduate students improve their article journal writing and it is proved by many articles are submitted by the students.

The plenary speakers coming from 15 provinces in Indonesia will present topics covering multi disciplines. They will contribute a lot of inspiring inputs and new knowledge on current trending educational research topics all over the world. The expectation is that all potential lecturers will share their research findings to educational scientists and researchers as well for improving their teaching process and quality. Thus, this will contribute to the next young generation researchers to produce innovative research findings in education and educational leadership contexts.

This second seminar continues the promotion of the first sequel ‘Developing Future Teachers’ Education Model. Therefore, the propose of this second seminar on the transformative education and educational leadership research will trigger the young professional lecturers and educators to compete in the invention of innovative educational teaching and learning strategies, techniques and leadership.

I hope that the scientific attitude and skills through research will promote Unimed to be a well-known university which persists to be developed and excelled in the future.

Thank you the Rector of Unimed who always supports us in organizing the seminar. Thank you all guest and plenary speakers. Special thanks to both steering and organizing committee who have well-coordinated and colaborated in actualizing the seminar.

Director of Postgraduate Unimed

Prof. Dr. Bornok Sinaga, M.Pd
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Students’ Achievement on Reading Comprehension in Narrative Text by Using Think Pair Share Technique (TPS) at SMPN.1 Lubuk Pakam

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Abstract—This paper deals with Students’ Achievement on Reading Comprehension in Narrative Text by Using Think Pair Share Technique (TPS). Think Pair Share Technique is one of cooperative learning that was designed to influence the students’ interaction. This technique was first developed by Professor Frank Lyman which it is main strengths are in building mastery in individually thinking learner to pairs learner in groups to get and discuss about the material. This research was conducted by applying the Experimental Research Method. The population of this research was the second year of SMP NGERI 1 LUBUK PAKAM in the Academic Year of 2016/2017. The sample of this research was the students of Class VIII-E consisting of 30 students in Class VIII-F consisting 30 students. This research was conducted in three steps (pre-test, treatment and post-test). The Data are analyzed by using t-test formula and used observation sheet and interview sheet to show the result of the process in teaching reading comprehension. It is proved that from the result of t-test, (8,6) is higher than t-table (2,0) and df 58 and level of significance (0,05). So, the use of Think Pair Share Technique (TPS) will help the student in improving reading comprehension of Narrative Text.

Keywords—reading comprehension of narrative text, think pair share technique (TPS)

I. INTRODUCTION

Reading comprehension is one of skills that is considered as the best way to get information. People are known that they are better in understanding and remembering what they have read than what they have heard. Without comprehending the written text, learners cannot achieve academically or progress from one learning stage to the next. Students need to learn how to interpret written texts as a way of making sense of their world. [1]; (Nunan 2003) state that reading can be thought of as a way to draw information from a text and to form an interpretation of that information. It brings reading as one of many ways to recognize everything happened in the world. Based on the observation at VIII Grade students of Junior High School in SMP Negeri 1 Lubuk Pakam, the researcher found that, the process of comprehending a reading in narrative text was still a serious problem for the students. The unsatisfactory result of students’ reading comprehension in narrative text is regarding be caused by the following problems. The first, students’ vocabulary is limited. Students were not able to understand the texts when they encounter words that have actually been taught or told to them, not to mention if they find new words. The second, they only reading the text from beginning to the end, they translate the text into Bahasa Indonesia and it makes the students feel bored. The third, they did not focus to find what the text about, consequently, many students failed to comprehend the reading text. That is why it is necessary to have a way in solving the case should be noticed in order to improve their ability so they read the text comprehensively. To master reading skill, the readers need good comprehension in reading activity. It is not only related to know about the code of this reading text but also to full meaning from whole reading text. It means the reading comprehension involves the thinking process. The researcher was expected to find out and apply the suitable technique in order to improve the students’ reading comprehension; there are many techniques that can be used to improve students’ reading comprehension, one of the techniques that can be taught through Think-Pair-Share Technique. [2]; Lyman (1981) state that think pair share is one of a cooperative learning technique that has been used in various classrooms over many years. From early childhood to adulthood, it is known that Think pair share is a good way to create discussions as well as allow for individual thinking. Think pair share was designed to give students the opportunity to process information, formulate ideas (develop thinking) and then share thoughts with others (communication). This technique process is they do not work individually with own limited comprehension or different levels of ability. But, they will share their comprehension to each pair and will complete each other. In this case, this technique emphasize the knowledge thought, sharing the knowledge, and express their thought through pairing interaction with their pair and friend in the real situation. Based on the explanation above, the researcher would like to conduct a study about Students’ Achievement on Reading Comprehension in Narrative Text by Using Think Pair Share Technique (TPS).
II. READING COMPREHENSION

A. Reading Comprehension

Comprehension is a construction process because it involves all of the elements of the reading process working together as a text is read to create a representation of the text in the readers’ mind. Reading comprehension is understanding a text that is read, or the process of constructing meaning from the text [11]; (Nunan 2005). [3]; (Anderson, 2003) state that the goal of reading program should be aimed toward furthering children’s comprehension abilities. The important factor that influenced comprehension is the important of the reader’s background of experience. Some individuals equate decoding with reading. Just because a learner knows how to pronounce written word correctly, it does not mean that he or she can read well. Comprehension involves understanding the vocabulary seeing the relationship among words and concept, organizing idea, recognizing the author’s purpose, making judgment the meaning which is needed to achieve the particular purpose set for or by the readers. It is going to find a particular piece of information, solving problem through reading, working to understand idea, or following a set of directions.

B. Narrative Text

Narration is the telling of a story; the succession of events is given in chronological order. [4]; Siahaan and Shinoda (2008) state that narrative is any written English text in which the writer wants to amuse, entertain people, and to deal with actual or vicarious experience in different ways. The basic purpose of narrative is to entertain, to gain and hold a readers’ interest. However narratives can also be written to teach or inform, to change attitudes and social opinions example: television dramas that are used to raise topical issues. Narratives sequence people or characters in time and place but differ from recounts in that through the sequencing, the stories set up one or more problems, which must eventually find a way to be resolved. The common structure or basic plan of narrative text is known as the "story grammar". Although there are numerous variations of the story grammar, the typical elements are: a) Setting—when and where the story occurs. b) Characters—the most important people or characters in the story. c) Initiating event—an action or occurrence that establishes a problem or goal. d) Conflict or goal—the focal point around which the whole story is organized. e) Events—one or more attempts by the main character(s) to achieve the goal or solve the problem. f) Resolution—the outcome of the attempts to achieve the goal. g) The graphic representation of these story grammar elements is called a story map. The exact form and complexity of a map depends, of course, upon the unique structure of each narrative and the personal preference of the teacher constructing the map. [4]; Siahaan and Shinoda (2008) write that there are five components of narrative test structure, such as: a) Orientation: Sets the scene and introduces the participants. b) Evaluation: A stepping back evaluate the plight. c) Complication: A crisis arises. d) Resolution: The crisis is resolved, for better or for worse. e) Re-orientation: optional.

C. Think-Pair-Share Technique

[5]; Lie (2004:57) says that Think-Pair-Share technique was first developed by Professor Frank Lyman at the University of Maryland in 1981. Think-Pair-Share technique is one of cooperative learning technique that was designed to influence the students’ interaction. It is a cooperative learning technique, involving individual, pairs, and groups of students. According to [6]; Brown (2001:47), cooperative learning is more structured, more perspective for teacher about classroom technique and more directive to students about the way in learning together in groups. Therefore, as one of cooperative learning technique, Think-Pair-Share technique includes the elements of group working so that think-pair-share technique gives chance to the students to cooperate with each other. [7]; Kagan (1994) states that Think-Pair-Share technique requires the students to think about the question or problem, share their ideas in pairs and then share them with the class or a larger group. As in [8]; Slavin (1995:172) says that Think-Pair-Share technique is simple but very useful activity which first teacher present a lesson to the class and students sit in pairs within their teams. Then the teacher poses questions to the class and students are instructed to think of an answer on their own, then to pair with their partner, to reach the result of their thought. Finally, the teacher ask the students to share their thought with the rest of the class. The following are the guidelines of think-pair-share technique:

1. THINK - The teacher poses a question or an issue associated with the lesson and ask students to spend a minute thinking alone about the answer or the issue. Students need to be thought that talking is not part of thinking time. 2. PAIR - The next stage the teacher ask students to sit in pair and discuss what they have been thinking about. Interacting during this period can be sharing answers if a questions has been posed or sharing ideas if a specific issue was identified. Usually with the person next to them, when each explains to the other what they have thought. 3. SHARE - In the final stage, the teacher ask the pairs to share what they have been talking about with the whole class. It is effective to simply go around the room from pair to pair and continue until about a fourth of a half of the pairs have had a chance to report. At this stage, the students need to move into a large group. Finally, each group is given the opportunity to share their information with the rest of the class.

III. METHOD

This study was conducted at Second Grade students of SMP Negeri 1 Lubuk Pakam. The school is located at jln. Kartini Lubuk Pakam. The population of this study was the second grade of students of SMP Negeri 1 Lubuk Pakam consist of eight classes will be choose to be sample. The classes were labeled into experimental group (VIII-E) consist of 30 students
and control group (VIII-F) consist of 30 students. The sample of this study were all students (60 students) of second year SMPN-1 Lubuk Pakam in 2016/2017 academic year. The experimental method was used because the study needed a statistical analysis in analyzing the acquire data. The study involved two classes; the fist class had chosen as an experimental group which will given Think Pair Share technique treatment while the second class will chosen as a control group which will given conventional or non Think Pair Share technique treatment.

### Table 1. The treatment of the group

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Treatment</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Pre-test</td>
<td>Using TPS</td>
<td>Post Test</td>
</tr>
<tr>
<td>Control Group</td>
<td>Pre-test</td>
<td>Without using TPS</td>
<td>Post Test</td>
</tr>
</tbody>
</table>

The table above shows that both classes were gives pre-test and post test, but they receive different treatment. Think-Pair-Share technique as a treatment was only applied in experimental group while the conventional or non Think-Pair-Share was applied in control group. The purpose was to find out whether the students who will give treatment by Think Pair Share technique could achieve a higher score than those of the students who will give conventional or non Think-Pair-Share technique.

### Instruments

In this study the writer used a test as the instrument to obtain the data. The data was collected by giving a multiple choice test. Similair tests was used for pre-test and post-test. Each test consist of 50 items. The test included 5 option, namely a,b,c,d,e. Students were ask to choose the correct answer of narrative text by crossing the right answer.

### Research Procedure

To again the data, reading test was used in this research. It was devided into pre-testand post-test. 

a) **Pre-Test.** A pretest was implemented in experimental group and control group in order to find the students’ reading comprehension before the treatment.Before starting the experiment, a pre-test was administered to the samples both groups with the same items. It was expected that the different of average score between them not too far. In other words, the two groups were in the same level of knowledge. 

b) **Post- Test.** The post-test were given to measure students’ progress on reading after they received the treatment. The posttest items sheets were given to both groups (experimental and control group) at the end of program. The procedure and the items of post-test are similar to the pre-test. The reason was to find out whether or not the students make progress in their reading ability. 

c) **Treatment.** The treatment was conducted after the administration of the pretest. The experimental group was taught by using Think Pair Share technique to improve reading comprehension.

### Scoring the text

In scoring the reading achievement of the students, the research scored it based on the literal and interpretative comprehension. In scoring the test, this research uses score ranging from 0 – 100 by counting the correct answer and applying this formula.

$$S = \frac{x}{100}\%$$

Where:

- $S$ : the score
- $R$ : the number of the correct answer
- $N$ : the number of question

### Validity and Reliability of the Test

The validity and reliability determine how well the test is. These two factors have to be fulfilled by a test before it is used to derive valid data in research. The establishment and procedure of this aspect were discussed in the following parts.

### Validity of the Test

It is important to measure the validity of the test. If the test is valid, we can use our instruments but if it is not valid, we cannot use it as our instruments. Validity is a measure that shows the correct degree of instruments a test is said to have good content validity, if each part of test is used to collected data has relevancy to aim and cover representative. To measure the validity of the test, the formula is as follow:

$$\gamma_{pbi} = \frac{M_p - M_i}{S_i} \sqrt{\frac{p}{q}}$$

Where:

- $\gamma_{pbi}$ = the point biserial correlation coefficient. 
- $M_p$ = mean score of the total of students who answer the item correctly
- $S_i$ = standard deviation of the total score
- $p$ = proportion of students who answer the item correctly
- $q$ = proportion of students who answer the item incorrectly

Notes : If $\gamma_{pbi} \geq \tau_{table}$ : valid. If $\gamma_{pbi} \leq \tau_{table}$ : not valid

### Reliability of the Test

Reliability show what extent is an instrument can be believed. The instrument of reliability test is suitable with the curriculum of agreement of many people, not individual judgment. Reliability show meaning that an instrument is enough to be trusted to use as a collection means because it is
good. The researcher used the formula spearman to measure the validity all question in the test:

\[ r_{11} = \frac{\gamma}{\sqrt{\frac{N_x}{N_y}}} \]

Where:

\[ r_{11} = \text{correlation between the score of each hemisphere test} \]

\[ \gamma = \text{coefficient of reliability has been adjusted the value of reliability standard as the following:} \]

- 0.0 - 0.20 = the reliability is very low
- 0.21 - 0.40 = the reliability is low
- 0.41 - 0.60 = the reliability is fair
- 0.61 - 0.80 = the reliability is high
- 0.81 - 1.00 = the reliability is very high

**Analysis Data**

In this study the data are obtained from experimental and control group. The data were analyzed by using t-test formula, as follows:

\[ t = \frac{M_x - M_y}{\sqrt{\frac{dX^2 + dY^2}{N_x + N_y - 2}} \left( \frac{1}{N_x} + \frac{1}{N_y} \right)} \]

Where:

- \( t \) = total score
- \( M_x \) = means of experimental group
- \( M_y \) = means of control group
- \( N_x \) = number of students in experimental group
- \( N_y \) = number of students in control group
- \( dX \) = standard deviation of experimental group
- \( dY \) = standard deviation of control group

**Procedure of Analysis Data**

To analyze the data, the steps are doing as following:

1. Collect the data from the scoring of the experimental.
2. Identifying the score of the students who are being treated and who are not.
3. Compare the score.
4. Analyze some students who are not being treated.
5. Draw the CONCLUSION and answer the hypothesis.
6. Write some finding.

**IV. RESULT AND DISCUSSION**

The data in this study was the scores of the students both in control group and experimental group. The following tables are the result of the pre-test and post-test of the two groups, control group and experimental group.

<table>
<thead>
<tr>
<th>Table 2. The Score of the Pre-test and Post-test by the students of the Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1566</td>
</tr>
<tr>
<td>52.2</td>
</tr>
</tbody>
</table>

The table above shows that the total scores of control group in the pre-test was 1566 with the mean score was 52.2 and the total score in post-test was 1963 with the mean score was 65.43. The lowest score of pre-test in control group is 40 and the highest score is 66. The lowest score of post-test in control group is 57 and the highest is 80.

<table>
<thead>
<tr>
<th>Table 3. The Score of the Pre-test and Post-test by the students of the Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1648</td>
</tr>
<tr>
<td>54.93</td>
</tr>
</tbody>
</table>

The table above shows that the total scores of experimental group in the pre-test was 1648 with the mean score was 54.93 and the total score in post-test was 2315 with the mean score was 77.16. The lowest score of pre-test is 40 and the highest score is 78. The lowest score of post-test is 63 and the highest is 90.

**Data Analysis**

The writer applied student’s think-pair-share technique on this research in improving student’s achievement on reading comprehension in narrative text as a guides students work in individually then collaborate on group in worksheet designed to expand and reinforce the material taught by teacher after they finish to discuss the material and participants on the material they have been studying. After applying the technique, the writer gives the students post-test for their achievement in reading would be affected by this technique the writer gives the students post-test whether their achievement in reading would be affected by this technique. The number of the test was 50 in the form multiple choice.

<table>
<thead>
<tr>
<th>Table 4. Level of achievement based on Brown (2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>80-100</td>
</tr>
<tr>
<td>70-79</td>
</tr>
<tr>
<td>60-69</td>
</tr>
<tr>
<td>50-59</td>
</tr>
<tr>
<td>0-50</td>
</tr>
</tbody>
</table>

The score of the students’ are increase. It can be seen that the total score of the control group in the pre-test is 1566 and in the post-test 1963. The mean in the pre-test is 52.2, meanwhile in the post test is 65.43. The lowest score of pre-test is 40. Based on level of achievement the score are still low. It can be seen that the total score of experimental group in the pre-test is
1648 and in the post-test 2315. The mean in the pre-test 54.93, while in the post-test is 77.16. The lowest score of pre-test is 40. Based on level of achievement according to Brown, 77.16, is one of the ranges of 70 – 79 which categorized is good.

Testing the Reliability of the Test
The result of the reliability computation is $r = 0.93$. Based on the level of reliability above, it can be concluded that reliability of the test is very high.

Testing Hypothesis

\begin{align*}
M_x &= 22.23 \\
Dx^2 &= 1914.29 \\
N_x &= 30 \\
M_y &= 13.23 \\
M_y^2 &= 853.296 \\
N_y &= 30
\end{align*}

The result of computation of by using t-test is called $t_{obs}$. In this study, the result of computation by using t-test is 8.6 and the calculation by using $t$-test for degree of freedom (df) 58 ($N_x+N_y-2=30+30-2$) at the level of significance 0.05 that critical value is 2.000. The result of computation by using $t$-test showed that $t_{obs}$ is higher than $t_{table}$. It can be seen as follows

\begin{align*}
t_{obs} &> t_{table} (p = 0.05) \text{ with df 58} \\
8.6 &> 2.000 (p = 0.05) \text{ with df 58}
\end{align*}

It means that alternative hypothesis (Ha) is accepted.

Research Findings
After analyzing the data, it was found that the lowest score of pre-test in control group is 40 and the highest score is 66. The lowest score of post-test is 57 and the highest is 80. The lowest score improves significantly, the 40 improves to 66 (66–40=26), it means that the difference of the score is 26. It also happened to the highest score, the 57 improves to 80 (80–57=23). It can be concluded that the students in the control group which is taught by using conventional technique is not significantly different. The lowest score of pre-test in experimental group is 40 and the highest score is 78. The lowest score of post-test is 63 and the highest is 90. The lowest score improves significantly, the 40 improves to 78 (78–40=38), it means that the difference of the score is 38. It also happened to the highest score, the 63 improves to 90 (90–63=27). It means that the difference of the score is 27. The mean of the pre-test is 52.2 and the post-test is 65.43 (65.43–52.2=13.23). It can be concluded that the students in the control group which is taught by using conventional technique is not significantly different. The lowest score of pre-test in experimental group is 40 and the highest score is 78. The lowest score of post-test is 63 and the highest is 90. The lowest score improves significantly, the 40 improves to 78 (78–40=38), it means that the difference of the score is 38. It also happened to the highest score, the 63 improves to 90 (90–63=27). It means that the difference of the score is 27. The mean of the pre-test is 52.2 and the post-test is 65.43 (65.43–52.2=13.23). It can be concluded that the students in the experimental group which is taught by using Think-Pair-Share Technique is significantly different, since 22.23 > 13.23. Based on the explanation above, it can be concluded that the students are quite good at reading comprehension in narrative text by using Think-Pair-Share Technique.

V. CONCLUSION
Based on the research findings, the writer conclude it was found that think-pair-share technique significantly improve the students’ Reading Comprehension. Since the $T_{obs} > t_{table}$ (p = 0.05) with df 58, or $8.6 > 2.000$ (p = 0.05) with df 58. This indicates that alternative hypothesis (Ha) is accepted. The writer concludes that using Think-Pair-Share Technique can improve significantly the reading comprehension of students’ in narrative text.

REFERENCES