THE EFFECT OF COGNITIVE STRATEGY INSTRUCTION (CSI) ON THE STUDENTS’ READING COMPREHENSION OF THE TENTH GRADE STUDENTS AT SMA SWASTA MELATI BINJAI IN ACADEMIC YEAR OF 2020/2021

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ABSTRACT

The study deals with an experimental research design which seeks for the effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension in report text. The problems that had been identified by the writer were including that most of the students found difficulties in reading comprehension and needed long time to find main idea in reading text. 60 students at the tenth grade students of SMA Swasta Melati Binjai in the academic year of 2020/2021 were taken as the subject of the study. Reading test in the form of multiple choice consisted of 20 items was used to obtain the data on the variable. The final data then was analyzed by using technique of t-test analysis. Beside the instrument of testing the students’ comprehension in reading the report texts which was analyzed as valid by looking at that coefficient of \( t_{\text{counted}} \) (8.03) was much greater than the \( t_{\text{table}} \) coefficient (1.70113) and also it was analyzed as reliable by looking at that coefficient of reliability (0.907) was much greater than the \( r_{\text{table}} \) coefficient (0.3061); this was also showed through the t-test analysis that the coefficient was high and significant by looking at that coefficient of \( t_{\text{counted}} \) (3.24) was greater than the \( t_{\text{table}} \) coefficient (1.70113). This means that there is a significant effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension in report text of the tenth grade students at SMA Swasta Melati Binjai in academic year of 2020/2021. Therefore, the hypothesis of the study was accepted.

Keywords: Cognitive Strategy Instruction (CSI), Report Text, Reading Comprehension
I. INTRODUCTION

People always use language in their communication. Every country has different language that is used for communication among people. Language is the system of human communication which consists of the structured arrangement of sounds (or their written representation) into large units e.g. morphemes, words, sentences, utterances.

Language can be used in many forms, primarily through oral and written communication as well as using expression of body language. Therefore language has very important role in life because language is a tool for communication. Without language, it is impossible for everyone to gain knowledge, have interaction each other or learn. In this term, people use language as a media of communication.

There are many languages in the world, one of them is English. English as a foreign language is generally taken to apply to the students who are studying general English at school and institute in their own country or as transitory visitor in target language country. It means that although English is not used for communication in their daily lives, there are many people learn English. Nowadays, there are many people study English in formal and non-formal because they realize that English is important for life.

There are four language skills in teaching English. They are listening, speaking, reading and writing. One of the important skills that should be mastered in English is reading. Reading is the most useful and important skill, it is more important than speaking and writing. Reading is one of the key skills in language learning. It reinforces the skills students acquire in speaking, listening and writing. On the other hand, it is really not enough just to put a book or short text in front of students and ask them to read, whether silently or out loud.

Reading is a source of joys. Good reading is that which keeps students regular in reading which provides them both pleasure and profit. It means that reading is the most important activity in language class.

In this research, the writer was observing the students of SMA Swasta Melati Binjai, especially at the tenth grade to know what their obstacles in English. Some of them thought that English is very difficult; they could not understand what the words of the text means, or what the text actually talks about. Other students said that it is so annoying when they have to read an English reading text, especially in report text type that has lot of unfamiliar words.

They have to open the dictionary, search a word, then match the word and find the meaning. The other difficulties are when they have to recognize the words that they read to face the English examination, the word should be the same to the dictionary, the spell should be correct, they have to arrange in good tenses, use the correct grammar etc. That is all really troublesome.

Based on the students’ obstacles in reading that the writer mentioned above, the writer tried to carry out the Cognitive Strategy Instruction (CSI) to help the students’ reading comprehension through the teacher. Cognitive Strategy Instruction (CSI) is an explicit instructional approach that teaches students specific and general cognitive strategies to improve learning and performance by facilitating information processing. CSI embeds metacognitive or self-regulation strategies in structured cognitive routines that
help students monitor and evaluate their comprehension. The ability to identify and utilize effective strategies is a necessary skill for academic success.

CSI is one of the reading strategies that have been used to improve the students’ ability in reading comprehension by absorbing the text information in phases. When we talk about reading, we also talk about what kind of text that we read. There are several different types of text that have been studied in senior high school level such as descriptive, narrative, recount, etc., and one of them is report text. The students face some obstacles in reading report text, for example some of them are lack of vocabulary mastery. A report text contains such paragraphs and students find some unfamiliar words there so that, it makes them difficult to understand what contain of either the paragraph or the text. The other important thing is the way of how students interpreting the idea of the text. Sometimes the way they interpret the idea of the text is different to the writer’s idea. It shows how important to use strategy which will help students reading the report text.

The problem in this study is formulated as “Is there any significant effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension of the tenth grade students at SMA Swasta Melati Binjai in academic year of 2020/2021?” that the objective of the study is to search for the answer of the problem that has been formulated; therefore the writer of this research does so. The objective of this study is to find out whether there is the effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension.

Through the research, this study expects to give positive contributions and benefits for the teacher, students, school, researcher, and other researcher. The research can be used as information and alternative solution in teaching English, especially in reading comprehension. So that, the teacher will motivate to carry out the strategy to make the leaning activities particularly in reading comprehension become more effective. It also can inspire the teacher to be more creative and innovative in teaching reading by using other English teaching methods or strategies.

By using Cognitive Strategy Instruction (CSI) in learning English reading comprehension, the students will find out not only this strategy but also other methods and strategies to help them develop their reading skill. The other thing is that they can use it not only in English text but also other text types. It helps them become more active and interested in reading, so that it will enhance the result of learning.

The result of this research will become a reference for the school to enhance learning quality especially in reading skill comprehension. Motivate the school to improve a better learning process method, so that it will not only increase the leaning processes but also increase the quality of the school itself continuously.

By doing this research, the writer will get experience, knowledge, and also motivation to improve the teaching-learning activity with other new methods and strategies. So, the teaching-learning activity will not be monotonous and become more interesting in the future.

The writer wishes that this research can be used as a reference for other researcher. By conducting this research, hopefully the other researcher will be motivated to explore more methods and strategies in teaching to make other research and make the education quality better.

Considering the underlying theory, reading comprehension and reading aloud technique,
the hypothesis \((H_a)\) was accepted that there is a significant effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension of the tenth grade students at SMA Swasta Melati Binjai in academic year of 2020/2021.

II. RESEARCH METHODOLOGY

This research was carried out at SMA Swasta Melati Binjai, located at Jalan M.T. Haryono Kelurahan Jati Karya Kecamatan Binjai Utara, Kota Binjai. And the time of the research was in September 2020.

This research was included in quantitative. The characteristic of the quantitative research which is based on the process of observing, then provide and processing the data, and presented in the form of numbers as a result, makes the researcher prefer to choose quantitative research. Considering the purpose and characteristics of the research, the writer was able to choose several design of quantitative research.

Based on the level of understanding of the problems studied, the design is non-experimental resulting in a level of understanding of the issues studied at the surface level, while experimental design produce levels a deeper understanding. Both main designs have more specific subs design. The non-experimental research divided into descriptive research design, correlational research design, while experimental design divided into field experiment (field experiment) and laboratory experiments (laboratory experiment).

The writer conducted the research by using experimental research design. Experimental research is the most productive research method, because the result of this research method can answer the hypothesis if the research is done well. Experimental research needs hard work to select the requirements.

Based on the statement above, the purpose of this research was to know the influence of specific method or treatment toward a group of students or people and the result was compared with a group of people or students who got different treatment. There were two classes that the writer put as the investigated classes. The first class received a treatment namely Cognitive Strategy Instruction (CSI) while another class received conventional treatment. The class that received the treatment of Cognitive Strategy Instruction (CSI) was X-A as the experimental class and the class that received the conventional method was X-B as the control class.

In this research, the writer used the true experimental design through pre-test and post-test. By using experimental research, the writer tried to reveal the effect of Cognitive Strategy Instruction (CSI) in teaching report text. The strategy implemented to the students in the experimental group was the way to find out the effectiveness of the strategy then to be compared to the students in control group who was used only the conventional strategy. The design was implemented in randomized pre-test and post-test control group design. The design figured as below:

<table>
<thead>
<tr>
<th>Table 1. Randomized Pre-Test Post-Test Control Group Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
</tr>
<tr>
<td>R O₁ X O₂</td>
</tr>
<tr>
<td>Control Group</td>
</tr>
<tr>
<td>R O₁ - O₂</td>
</tr>
</tbody>
</table>

Source: adapted from the primary data

Note:

R = Randomized subjects were randomly selected and randomly assigned to the treatment group.
X = Treatment for the experimental group class (using Cognitive Strategy Instruction)
- = No treatment for the control group class (using conventional strategy)
O₁ = Observation (Pre-test)
O₂ = Observation (Post-test)

On the population, this can be defined as all members of any well-defined class of people, events or objects. The population of this research was the tenth grade students of SMA Swasta Melati Binjai in the academic year of 2020/2021. The total number of the population in this research was 119 students divided into 4 classes, X-A, X-B, X-C, and X-D.

Table 2. The Number of the Tenth Grade Students at SMA Swasta Melati Binjai

<table>
<thead>
<tr>
<th>No.</th>
<th>Class</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>X-A</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>2.</td>
<td>X-B</td>
<td>12</td>
<td>18</td>
<td>30</td>
</tr>
<tr>
<td>3.</td>
<td>X-C</td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>4.</td>
<td>X-D</td>
<td>16</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>54</td>
<td>65</td>
<td>119</td>
</tr>
</tbody>
</table>

Source: adapted from the primary data

Sample is a set of data collected and/or selected from a population by a defined procedure. According to Ary (2016) sample is a portion of a population and the small group that is observed. The samples of this research were X-A as the experimental group class and X-B as the control group class. The experimental class was taught by using Cognitive Strategy Instruction (CSI) whereas the control group was taught by using conventional strategy.

Table 3. Distribution of the Treatment

<table>
<thead>
<tr>
<th>Group</th>
<th>Class</th>
<th>Treatment</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>X-A</td>
<td>Cognitive Strategy Instruction (CSI)</td>
<td>30</td>
</tr>
<tr>
<td>Control</td>
<td>X-B</td>
<td>Conventional Strategy</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: adapted from the primary data

Sampling is the process of taking sample. Ary (2016) states “the purpose of sampling is to obtain information concerning the population”. In getting the sample from population, the writer used cluster random sampling technique. The selection of groups, or clusters, of subjects rather than individuals is known as cluster random sampling. The writer conducted the research at the tenth grade consists of four classes. The steps in determining the experimental class and control class as follows:

a. The first, the writer made a kind of lottery.
b. Second, the writer provided nine pieces of small paper which each piece is the name of each class then the writer rolled them up and put them into a glass.
c. Third, the writer shook the glass and took two pieces of the paper.
d. Next, the first paper was X-A as the experimental class and the second paper was X-B as the control class.

To score the reading comprehension in this study, the researcher used this scoring rubric:

Table 4. Rubric of Scoring Reading Ability

<table>
<thead>
<tr>
<th>No.</th>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
</table>
Excellent: main ideas, vocabulary and details information from the text accurate, all connected to each other and to the task sufficient to support.

Good: main ideas, vocabulary and details information from the text accurate, all connected to each other and to the task, but are insufficient or inappropriate support.

Average: the response does not address the task. The response is few or not accurate details from the text and these details are not relevant to the task.

Fair: the response provides no accurate details from the text and these details are not relevant to the task.

Source: Brown (2015)

To find out the effect of the using Cognitive Strategy Instruction (CSI) toward student’s comprehension in reading report text, the writer used some techniques in collecting the data namely pretest and post-test.

The pre-test that had been done was to test the students’ knowledge about the report text. How much did they know about report text and the results of this pre-test were used by the writer as a data to analyze and become a basic to answer the research question. The test instrument that writer spread to the students was utilized with a multiple choice series of test in 20 numbers to evaluate the students’ reading comprehension in report text.

- The Validity of the Test

In a study, a good instrument will have to require both valid and reliable conditions. Therefore before utilizing the instruments, it will be necessary to have the instrument validation for making it valid and exact to measure the provided variable. In general, validity is kind of measurement that will show the validity levels of instruments where a valid instrument will have high-leveled validity and a less valid instrument will have low-leveled one on the other way. Validity will refer to the appropriateness of a given test of its components part as a measurement of what is supposed to measure and nothing else. A test will say to be valid if it will measure what intend to measure.

The first step for testing the validity of instrument is by calculating the coefficient of validity of each question items by using Pearson Product Moment formula.

$$r_{xy} = \frac{|(N.\sum xy) - (\sum x)(\sum y)|}{\sqrt{(N.\sum x^2 - (\sum x)^2)} \sqrt{(N.\sum y^2 - (\sum y)^2)}}$$

In which:

- $r_{xy}$ = the coefficient of validity of one item against total items
$N$ = the number of samples

$\sum X$ = sum of scores in each item

$\sum Y$ = sum of total scores in all items

$\sum X^2$ = sum of the squared scores in each item

$\sum Y^2$ = sum of the squared total scores in all items

The second step is by calculating the coefficient of $t_{counted}$ (t-test) by using the following formula.

$$t_{counted} = \frac{r \sqrt{N - 2}}{\sqrt{1 - r^2}}$$

In which:

$t_{counted}$ = the correlation significance test

$r$ = the correlation coefficient

$N$ = the number of samples

The product of $t_{counted}$ was later then consulted to the $t_{table}$ coefficient with significance level $(\alpha) = 0.05$ and degree of freedom $(df) = N - 2$. Comparing the coefficient of $t_{counted}$ and $t_{table}$. If $t_{counted} > t_{table}$ thus the item would be valid.

- The Reliability of the Test

Reliability is one of the characteristics of a good test. Reliability will refer to consistence of test scores. Brog defines reliability as the level of internal consistency or stability thzt can be obtained by using the split-half formula.

The first step for testing the reliability of instrument is by calculating the differedenced variance score by using the following formula.

$$V_d = \frac{\sum d^2 - (\sum d)^2}{N}$$

In which:

$V_d$ = the differenced variance score

$\sum d^2$ = sum of the squared differences

$(\sum d)^2$ = the squared of differences’ summing

$N$ = the number of samples

$\sum t^2$ = sum of the squared total correct answers

$(\sum t)^2$ = the squared of total correct answers

$N$ = the number of samples

The final step is by calculating the coefficient of reliability by using Rulon formula.

$$r_{11} = 1 - \frac{V_d}{V_t}$$

In which:

$r_{11}$ = the coefficient of reliability

$V_d$ = the differenced variance score

$V_t$ = the total variance of correct answers

The product of $r_{11}$ was later then consulted to the $r_{table}$ coefficient with significance level $(\alpha) = 0.05$ and degree of freedom $(df) = N - 2$. Comparing the coefficient of $r_{11}$ and $r_{table}$. If $r_{11} > r_{table}$ thus the item would be reliable.

- The Technique of Data Analysis

The data then was analyzed by using $t$-test. But before calculating the mean score of experimental and control group. After that, the writer calculated the coefficient of standard deviation score of experimental and control group before later then seeking for the score of $t_{counted}$ by using this following formula.
Where:
\( \bar{X}_1 \) = the mean of experimental group \\
\( \bar{X}_2 \) = the mean of control group \\
\( X_1^2 \) = the deviation of experimental group \\
\( X_2^2 \) = the deviation of control group \\
\( n_1 \) = the total sample of experimental group \\
\( n_2 \) = the total sample of control group

III. RESULTS AND DISCUSSIONS

After collecting and checking the students’ answer sheet, the writer gave scores on each test. From the data, it was obtained that the scores of students’ pretest and posttest in the testing of reading comprehension for experimental group that was taught by applying Cognitive Strategy Instruction (CSI) were different. The mean score of students in the pretest \( (X_1) \) was 64.83 with the lowest score = 35 and the highest score = 95. Meanwhile, the mean score of students in the posttest \( (X_2) \) was 72.83 with the lowest score = 40 and the highest score = 95. Then it could also be seen that the scores of students’ pretest and posttest in the testing of reading comprehension for control group that was taught conventionally through a small group discussion were different. The mean score of students in the pretest \( (Y_1) \) was 45.83 with the lowest score = 20 and the highest score = 90. Meanwhile, the mean score of students in the posttest \( (Y_2) \) was 47.33 with the lowest score = 20 and the highest score = 90.

Furthermore from the calculation of \( t \)-test on the validity test, it was got that coefficient of \( t_{\text{counted}} \) was 8.03. Then to find out the validity of the instrument, the coefficient of \( t_{\text{counted}} \) was consulted to the \( t_{\text{table}} \) coefficient with significance level \( (\alpha) = 0.05 \) and degree of freedom \( (df) = 28 \). So it could be seen that coefficient of \( t_{\text{counted}} \) (8.03) was much greater than the \( t_{\text{table}} \) coefficient (1.70113). It means that the instrument of testing was valid.

And from the calculation by using Rulon formula on the reliability test, it was got that coefficient of reliability was 0.907. Then to interpret the reliability of the instrument, the coefficient of reliability was consulted to the \( r_{\text{table}} \) coefficient with significance level \( (\alpha) = 0.05 \) and degree of freedom \( (df) = 28 \). So it could be seen that coefficient of reliability (0.907) was much greater than the \( r_{\text{table}} \) coefficient (0.3061). It means that the instrument of testing was reliable.

Importantly, the writer applied the technique of \( t \)-test analysis to find out the effect of using Cognitive Strategy Instruction (CSI) on students’ reading comprehension in report text. The formula was displayed below.

\[
t_{\text{counted}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(X_1^2 + X_2^2)}{n_1 + n_2 - 2} - \frac{1}{n_1} + \frac{1}{n_2}}}
\]

From the calculation of \( t \)-test above, it was got that coefficient of \( t_{\text{counted}} \) was 3.24. Then to find out the effect of the variable \( X \) on \( Y \), the
coefficient of \( t_{\text{counted}} \) was consulted to the \( t_{\text{table}} \) coefficient with significance level (\( \alpha \)) = 0.05 and degree of freedom (\( df \)) = 28. So it could be seen that coefficient of \( t_{\text{counted}} \) (3.24) was greater than the \( t_{\text{table}} \) coefficient (1.70113). This information indicated the hypothesis of the study was accepted that there is a significant effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension in report text of the tenth grade students at SMA Swasta Melati Binjai in academic year of 2020/2021.

IV. CONCLUSION

From the result of this study, the writer concluded that there is a significant effect of Cognitive Strategy Instruction (CSI) on the students’ reading comprehension in report text of the tenth grade students at SMA Swasta Melati Binjai in academic year of 2020/2021. Beside the instrument of testing the students’ comprehension in reading the report texts which was analyzed as valid by looking at that coefficient of \( t_{\text{counted}} \) (8.03) was much greater than the \( t_{\text{table}} \) coefficient (1.70113) and also it was analyzed as reliable by looking at that coefficient of reliability (0.907) was much greater than the \( r_{\text{table}} \) coefficient (0.3061); this was also showed from the \( t \)-test coefficient which was high and significant by looking at that coefficient of \( t_{\text{counted}} \) (3.24) was greater than the \( t_{\text{table}} \) coefficient (1.70113).

V. SUGGESTIONS

From the conclusion stated above, the writer would like to offer suggestions dealing with the result of this study. The suggestions are:

a. Understanding the report texts through Cognitive Strategy Instruction (CSI) brings an important role in achieving language skills; therefore the students should improve their reading comprehension on texts.

b. The students also should do more reading exercises of many kinds of text genres in order to enhance their ability in comprehending the text while mastering the reading strategy and to give motivation for the students to improve their intensity in vocabulary mastery.

c. The teacher will be to give the students the possible ways to overcome the problems in reading comprehension.

d. The researchers who want to be observing the similar problems yet different location of the study in teaching English, especially the students’ comprehension in reading the recount texts will have some beneficial inputs.

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