A Study on Students’ Metacognitive Awareness and Their Reading Comprehension

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Abstract

This study aimed to find out the correlation between students’ metacognitive awareness and their reading comprehension. The framework of metacognitive awareness is provided by Mokhtari & Reichard (2002). A number of 30 students of SMA Laboratorium Unsyiah Banda Aceh are designated as the sample. In this research the instruments are reading comprehension test and questionnaire. The reading comprehension test and questionnaire were given to the students in order to find the correlation between students’ metacognitive awareness and their reading comprehension. The data was analyzed by using SPSS. The value of correlation of both variables was 0.000 which was less than critical limit of α 0.05 and there was a significant relationship between metacognitive awareness and students’ reading comprehension. There was also a positive correlation between both variables. It means that the more metacognitive awareness the students have the better understanding they have in reading comprehension. In addition, the type of metacognitive awareness strategies which was mostly used by the students was Global Reading Strategies. It is suggested as further studies that another researcher look in depth the cause of Global Reading Strategies applied by the student.

Keywords: Metacognitive, metacognitive awareness, reading comprehension

1. INTRODUCTION

One of the ways to ease the students to understand the information in reading is by using reading strategies. Reading strategies in reading comprehension is very important. Reading strategies make students easier to understand the text and make them to be effective readers. Reading strategies are used by effective readers in understanding what they are reading (Content, et al, 2005). By using reading strategies, the students are able to monitor their own understanding in reading when they lose the meaning of what they are reading, they select and use reading strategies that can help them to reconnect with the meaning of the whole text.
they are reading (Sahardin, et al. 2015). However, there are many students who often do not realize that they have done strategies when reading text meanwhile they need to know the strategies they use in order to be successful in reading comprehension. Learners who use strategies in reading efficiently are usually successful (Karbalaei, 2010).

According to the newest Curriculum of Senior High School revised in 2013, the goal of reading is to prepare the students in order to understand the written information in English and practice it in their daily activities. The students are expected to be able to read the various texts and to be able to understand them well. Metacognitive awareness, Mochtari and Riechard (2002), has three categories: Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP). Learning of metacognitive awareness can be a solution for poor readers to increase their skill in reading comprehension.

In this study, the researcher did an observation in SMA Laboratorium Unsyiah. The researcher observed all students in first grade because they could understand the last semester material and passed the reading KKM standard. Every classroom at this school consists of students with various levels of achievement. The students are equally divided into each class based on their achievement. There is no class that consists of students with high achievement only. The researchers would like to investigate the correlation because after interviewing one of the English teachers, the researcher found that the students were able to analyze the text properly. On the other hand, the teacher was not sure about strategies used by the students in reading comprehension.

Dealing with the problem and situation above, the researcher wants to investigate strategies in teaching reading. These strategies that can be used to help to ease students in reading comprehension called as metacognitive awareness. Metacognitive awareness is one of good ways to assess to what level a student is aware of the various processes involved in reading. Students without metacognitive awareness do not know what they needs during learning process, especially reading comprehension, and how their progress in learning is. A metacognitive awareness of student can manage to solve the problem they face (Anderson, 2002). It shows that metacognitive awareness plays a significant role in reading comprehension.

2. LITERATURE REVIEW
2.1 Reading

Reading is the most important skill in the process of learning English. People read in order to get information, to increase their knowledge, and to entertainment themselves. Reading can be defined as an activity in which reader’s way of thinking and feeling give a great influence (Weaver, 2009). The goal of reading is to get information and knowledge from what they read. In order to get the goals of reading, the students have to use some skills such as purposeful reading, scanning, skimming, finding informative words, phrase reading, analytical reading, marking text, note-taking, managing vocabularies, and reading with others. Without comprehension, reading is nothing more than tracking symbols on a page with your eyes and sounding them out. Reading activity is a combination of text and reader. It mainly consist of comprehension, fluency, and accuracy (Ahmadi, et al. 2013). It means that reading comprehension is connecting the ideas in the text with something that the students are already know and making sense of what the students read.
2.2 Metacognition

Anderson (2002) said that metacognition is defined as re-thinking process. In this process, a learner tried to remember what they have done in learning process and able to manage prior and new knowledge. Metacognitive is part of learners’ cognitive that helps the learner in managing their learning process (Oxford, 1990). It means that metacognitive is the best strategies to help the learner to manage their learning process because metacognitive helps students to reconsider what they already know to help the students in their learning process.

Metacognitive awareness is a helpful strategy for students in determining what, when, where and how they should apply the appropriate learning strategies (Rastakhiz & Safari, 2014). In addition, Balcikanli (2011) defined metacognitive awareness as being aware of one’s own knowledge, processes, cognitive and affective states as well as of the regulation of those states; metacognitive awareness is a condition in which the students realize their ability and understand how they can achieve that ability. Mokhtari & Reichard (2002) mentioned that there are three factors or categories in metacognitive awareness namely Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP). Karbalaei (2010) and Cantrell and Carter (2009) explained the three categories in metacognitive awareness:

<table>
<thead>
<tr>
<th>No</th>
<th>Strategy</th>
<th>Definition</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Global Reading Strategies (GLOB)</td>
<td>Which can be thought of as generalized or global reading strategies aimed at setting the stage for the reading act</td>
<td>Activating prior knowledge, making predictions, previewing text, and analyzing text structure and context clues to aid comprehension.</td>
</tr>
<tr>
<td>2</td>
<td>Problem-Solving Strategies (PROB)</td>
<td>Which are localized, focused problem solving or repair strategies used when problems develop in understanding textual information.</td>
<td>Adjusting reading speed, rereading, reading aloud, reflecting, mental visualizing, and using contextual clues to deduce the meaning of unknown words.</td>
</tr>
<tr>
<td>3</td>
<td>Support Reading Strategies (SUP)</td>
<td>Which involves using the support mechanisms or tools aimed at sustaining responsiveness to reading</td>
<td>Underlining, note taking, paraphrasing, self-questioning, and group discussion</td>
</tr>
</tbody>
</table>

3. METHODS

The methodology used in this research is quantitative research with correlation design. Correlation between variables was examined by using linear correlation coefficient. Linear correlation coefficient refers to Pearson product moment correlation coefficient. Triola (2010) said that the linear correlation coefficient r measures the strength of the linear correlation between the paired quantitative x- and y-values in a sample. In this research, dependent variable (reading comprehension) is symbolized by y and independent variable (metacognitive awareness) is symbolized by x.

A number of 30 second grade students from SMA Laboratorium Unsyiah in Banda Aceh in the academic year of 2015-2016 were selected to participate in this
study by using random sampling. The questionnaire was a close-ended questionnaire. Questionnaire was used to assess students’ metacognitive awareness of reading comprehension using the Metacognitive Awareness of Reading Strategies Inventory (MARSI) which is designed to assess 6th through 12th grade students’ awareness and perceived use of reading strategies while reading academic or school-related materials. The questionnaire was adapted from Mokhtari & Reichard (2002) in which has 30-items related to students’ metacognitive awareness of reading comprehension. The questionnaire measured three board categories of reading strategies including: Global Reading Strategies (GLOB) contained 13 items, Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP) contained 9. This questionnaire evaluated on a five-point Likert scale ranging from 1 to 5. The number indicates the frequency of reading strategies used by the learners.

<table>
<thead>
<tr>
<th>Table 2. The Values of Likert Scale.</th>
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</thead>
<tbody>
<tr>
<td>Statement</td>
</tr>
<tr>
<td>I never or almost never do this.</td>
</tr>
<tr>
<td>I do this only occasionally.</td>
</tr>
<tr>
<td>I sometimes do this “(about 50% of the time).”</td>
</tr>
<tr>
<td>I usually do this.</td>
</tr>
<tr>
<td>I always or almost always do this.</td>
</tr>
</tbody>
</table>

Reading comprehension test was employed to measure reading ability of the students. There were 25 multiple-choice questions that the students had to answer. In this test, there were 3 kinds of text that student have learned before based on syllabus. gain the validity, researcher used table specification and did a try out to see validity and reliability of this test.

In this study, the researcher analyzed and evaluated the answers of the questionnaire by using descriptive statistic to find the mean and standard deviation. The researcher used SPSS version 18 to analyze, evaluate the scores of reading test and questionnaire, and find the significance correlation between metacognitive awareness and students’ reading comprehension. Since this research was conducted to find out the linear correlation between metacognitive awareness (variable x) and students’ reading comprehension (variable y) of X IPA 2 students of SMA Laboratorium Unsyiah Banda Aceh, the data that have been collected was calculated by using Pearson’s product-moment correlation coefficient $r$. Pearson’s formula can be used in calculating the strength of a linear correlation (King & Minium, 2003). The researcher calculated the data by using Statistical Package for Social Science (SPSS) version 18 software.

The correlation between variables can be interpreted by seeing the value of $r$. When the $r$-value is between -1 and 0, variable x and variable y are in negative correlation. When the $r$-value is 0, there is no correlation between variables. When the $r$-value is between 0 and 1 inclusive, variable x and variable y are in positive correlation (Triola, 2010). This is when a linear correlation or a linear correlation exists between variables. In order to interpret the strength of the correlation based on these $r$ values, the guidelines of Cohen (1988), as cited in (Pallant, 2005), were used.
Table 3. Cohen’s Guidelines of r Values’ Interpretation.

<table>
<thead>
<tr>
<th>Ranges of r Values</th>
<th>Correlational Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>( r = .10 ) to ( .29 ) or ( r = -.10 ) to ( -.29 )</td>
<td>Small</td>
</tr>
<tr>
<td>( r = .30 ) to ( .49 ) or ( r = -.30 ) to ( -.49 )</td>
<td>Medium</td>
</tr>
<tr>
<td>( r = .50 ) to ( 1.0 ) or ( r = -.50 ) to ( -1.0 )</td>
<td>Large</td>
</tr>
</tbody>
</table>

After being calculated, the significant of \( r \) value is tested by comparing the value of significant and the value of alpha (Trihendradi, 2011). In this research, the researcher used 0.05 as alpha (\( \alpha \)) by means of critical region of the test is 5\% (Suparto, 2009). It is because there is other factor that increases the dependent variable.

4. FINDINGS AND DISCUSSION

4.1 Findings

The researcher gave 2 point of score for each correct answer. It is evidenced that the score of reading comprehension test (variable \( Y \)), there were two students who got the score which was in the lowest range (61-65 points), and there were three students who achieved the score which was in the higher range (91-95 points). Most of the students got score between 76-80 points (8 students).

After the researcher scored students’ reading comprehension test, there were the distribution of the result of reading comprehension test based on criterion table above. Based on students’ score in the test, it can be seen that 19 students were in good category, three students were in excellent category, and eight students were included in average category. Those result showed that most of the students were in good category for their abilities in reading comprehension.

Table 5. Score Distribution of the Test.

<table>
<thead>
<tr>
<th>Test Score</th>
<th>Probable Performance</th>
<th>( N = 30 )</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>91-100</td>
<td>Excellent (A)</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>76-90</td>
<td>Good (B)</td>
<td>19</td>
<td>63%</td>
</tr>
<tr>
<td>61-75</td>
<td>Average (C)</td>
<td>8</td>
<td>27%</td>
</tr>
<tr>
<td>( \leq 60 )</td>
<td>Poor (D)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

After scoring the questionnaires, the researcher figured out the score of students’ metacognitive awareness. These scores were found by calculating the converted values of the questionnaires that were filled in by the students. The distribution of students’ metacognitive awareness (variable \( X \)), from 30 students, there were 2 students who were in the lowest range of score (76-85 points) and there was only 1 student who got the score which was in the highest range of score (136-145 points). The most scores frequent obtained by students were the scores in range (106-115 points) which were achieved by 13 students.

Pearson Product Moment Correlation was applied to see whether there was a significant correlation between metacognitive awareness and students’ reading comprehension of the tenth grade students of SMA Laboratorium Unsyiah Banda Aceh. After the researcher analyzed the students’ reading comprehension test and questionnaire of their metacognitive awareness, the researcher entered the data into SPSS program to find the descriptive statistics (the mean and the standard deviation) of the data.
Based on the analysis in the table 6, the variable of students’ reading comprehension (variable Y) had a minimum value of 60 and a maximum value of 92. The minimum and the maximum value on the variable of metacognitive awareness (variable X), respectively, were 76 and 137. The average value of the variable Y at 78.67, meanwhile, the variable X had an average value of 110.13. The value of standard deviations for the variables Y and X is respectively 8.360 and 14.080.

Before correlating the variables of students’ reading comprehension (variable Y) and their metacognitive awareness (variable X), the researcher had to see in advance whether the variable was normally distributed or not. The variable is normally distributed if the value of Significance for each variable is greater than α (0.05). In this study, the researcher use 0.05 alpha (α) by means of critical region of test is 5% (Suparto, 2009).

Table 7. Significance Correction.

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnova</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Students’ Reading</td>
<td>.158</td>
<td>30</td>
</tr>
<tr>
<td>Comprehension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metacognitive Awareness</td>
<td>.118</td>
<td>30</td>
</tr>
</tbody>
</table>

a. Lilliefors Significance Correction
* This is a lower bound of the true significance.

The table above showed that the value of Significance for each variable is higher than 0.05. Students’ reading comprehension got 0.53 of the value of Sig. and students’ metacognitive awareness has .200 of the value of Sig. Both of variables have <0.05 of the value of Sig., it can be concluded that both of variables were normally distributed. After that, the researcher calculated correlational data of students’ reading comprehension and their metacognitive awareness by using Pearson-Product Moment.

Based on the analysis of the data, the correlation coefficient between the variables Students’ Reading Comprehension (variable Y) and Metacognitive Awareness (variable X) is 0.966. Based on Cohen’s Guidelines of r Values’ Interpretation this value was in range, r = .50 to .1.0 (r = 0.966), this value indicates that the correlation (correlation) between the variables Students’ Reading Comprehension and Metacognitive Awareness are very strong. While the direction of the correlation is positive, it means that the higher the value of the variable X, the higher the value of variable Y.

It is evidenced that metacognitive awareness has three categories of strategies; Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP). Each strategy has different characteristics and
advantages in influencing students' reading comprehension. After calculating the data of questionnaire, the researcher found the score of students' metacognitive awareness. The data showed the total score of each categories based on students’ questionnaire sheets. It is showed that the students determined Global Reading Strategies as the most strategies used by the students with total score of 1403 (42%), followed by Problem-Solving Strategies with total score of 926 (28%), and Support Reading Strategies used by total score of 975 (30%). Based on explanation above, it can be concluded that metacognitive awareness that is mostly used by the students is Global Reading Strategies.

4.2 Discussion
The finding of this study indicated that the students were aware of metacognitive strategy use in reading comprehension. Based on the questionnaire analyzed, the Global Reading Strategy (GLOB) had the highest correlation with reading achievement, the Support Reading Strategy (SUP) ranked the second, Problem-Solving Strategy (PROB) ranked the last. It can be concluded that the students preferred to use global reading strategy rather than support reading strategy and problem-solving strategy. Teacher performed ways to develop students’ skill with high spirit and motivation (Ningsih & Fata, 2015).

This study's results also supported the result of the study conducted by Mokhtari and Reichard (2002). This study found that the mostly used strategies by the students were Global Reading Strategy (GLOB) and Support Reading Strategy (SUP). Both studies’ result shown that the mostly used strategy that used by students is Global Reading Strategy (GLOB).

Based on this research study, the researcher found that the students are aware of metacognitive awareness and it has good impact to increase their reading comprehension. Therefore, it is good for the students to be aware of metacognition, because metacognitive awareness plays the important role to help them, in their learning process in order to help them increase their ability in reading comprehension.

5. CONCLUSION AND SUGGESTIONS
In conclusion, metacognitive awareness plays the important role to help the students to manage their learning process, support students’ reading awareness in order to increase students reading achievement, and the mostly used strategy is Global Reading Strategies (GLOB).

The researcher offered some suggestions that are adressed to students, teachers and other researchers. It is better if they keep using metacognitive as the first important step to help them increase awareness of their own reading strategies. Besides, the teacher can help the students to be aware of metacognitive awareness. The teacher can get the information about the type of metacognitive awareness used by students with monitoring by using the MARSI. In addition, it is suggested to investigate deeply about why certain categories of metacognitive awareness are used or not used in learning process.

REFERENCES
A Study on Students' Metacognitive Awareness and Their Reading Comprehension by Fatima Zahra, Endang Komariah and Diana Fauzia Sari
