The Correlation Between Students’ Reading Speed And Their Reading Comprehension

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Abstract

This research is aimed to find out if there is a significant correlation between the reading speed of the XII grade students at SMA Negeri 3 Banda Aceh with their reading comprehension. The population for this study were all students of class XII at SMAN 3 Banda Aceh. By using the random sampling, the researcher chose 31 students of class XII MIPA 6 as the sample. The data was collected by using reading speed and reading comprehension test. After the data was collected, the correlation data is processed using product moment formula. The \( r_{XY} \) result achieved to 0.74. The result reveals that the \( r_{\text{value}} \), 0.74, was higher than the \( r_{\text{table}} \), 0.355. Referring to the table at significant level 0.05, the result means that there is a significant correlation between students’ reading speed and their reading comprehension.

Keyword: Reading, Reading Speed, Reading Comprehension

1. INTRODUCTION

Reading is one part or component of a form of written communication. Through reading, one can absorb the information submitted by others through writing. According to Zintz (1981, p. 3), “Reading is a thinking process.”. It requires some kind of response on the part of the reader. Pollatsek and Rayner (1989, p. 23) assumes that reading was the ability to extract visual information from the page and comprehend the meaning of the text. By reading we are also required to skim a group of words and are able to know the meaning of the words individually.

Reading speed is a skill to read and understand the letter of the text with high levels. According to Wainwright (2006, as quoted in Setyawardani, 2013, p. 2), reading speed is usually used to describe how fast a reader reads a text that has been known by the number of words per minute. Everyone
also has their own way to find and understand the information communicated by the author through the text which is read by the reader.

Comprehension is as the main important part of reading process. According to Miller (1971, p. 27), “Comprehension is built upon both word recognition and association and cannot effectively take place unless the reader first is efficient in these two aspects of reading”. Reading cannot be separated from comprehension because the purpose or the result of reading activity is to comprehend what has been read. Reading without understanding is useless.

The term of reading speed and comprehension are two inseperable elements. According to Nuttall (1982, as quoted in Arab, 2009, p. 29), reading speed and reading comprehension are two elements that are closely related. This concept in accordance with the research that conducted by Arab (2009). Arab said that there was a moderate positive correlation between reading speed and reading comprehension.

Understanding a text is a way to answer the question referred. Nuttall (1982, as quoted in Arab, 2009, p. 29) explains that, when we read slowly and excessively, the understanding of the text will be hampered. So, if we read slowly, comprehension will also be slow. Especially if we read slowly to excess, there will be regression or repetition, where readers have to repeat what they read. Of course it needs a lot of time and their minds do not focus anymore.

Reading is one of the skills that need to be learned by the students. The Curriculum 2013 notes the interrelated relationship between reading speed and reading comprehension. One of the learning objectives in the Curriculum 2013 of Senior High School for the third grade is that students are urged to read in a high speed to find the main idea (skimming) and specific information (scanning) of a text. The high school level are demanded to master 325 wpm. (Tarigan, 1985, as quoted in Jumaidi, 2013, p. 62).

Pertaining to the theory and the previous research result, the writer was interested to investigate whether there was any correlation between reading speed and reading comprehension in writer context, the XII grade students at SMAN 3 Banda Aceh in academic years 2016/2017. The main question of this research is “Is there a significant correlation between reading speed at the XII grade students in SMAN 3 Banda Aceh and their reading comprehension?”

This research is held to find out if there is a significant correlation between students’ reading speed and their comprehension. In this research, the researcher did not examine the deeper causes of what was causing the reading speed and reading comprehension was low or high. This research just focuses on the correlation between reading speed and reading comprehension of the students. This research is conducted in SMAN 3 Banda Aceh at the XII grade students in Academic Year 2016/2017. The researcher gives one text taken from "3000 BNC Speed Readings for ESL Learners (2013)" compiled by Millet, was written at the School of Linguistics and Applied Language Studies at Victoria University of Wellington, New Zealand. The text contains 400 word passages with ten comprehension questions about stated detail questions. The readings are on general topics and are
written within the British National Corpus 3000 most frequently used words of English. The general topic of texts of this book is about factual report texts which are relevant with the syllabus. The grammar content of texts of this book is also relevant with the syllabus used simple present tense or simple past tense uses scientific terms.

2. LITERATURE REVIEW

2.1 Reading

Reading is a very important activity performed by humans. Without reading, we will not know what information is happening. Reading skills must be mastered by students, teachers, and other public circles. With the skills of reading, we can also receive information quickly. Therefore, there will be no repetition in reading information that will only be wasting our time.

According to Kamus Besar Bahasa Indonesia (2008, p. 72), reading is to see and to understand the contents of the written and recite what is written. Nurhadi (1987, p. 13) also said that, reading is a complex and complicated process. Complex means in the reading process involved various internal factors (IQ, interest, attitude, aptitude, motivation, purpose of reading, etc.) and external factors (possibly in the form of a means of reading, reading text, environmental factors, socioeconomic backgrounds, customs, traditions reading, etc.) reader. While complicated is the internal factors and external factors that is related or unrelated, forming a kind of complicated coordination to support the understanding of reading.

According to Thorndike (as quoted in Nurhadi, 1987, p. 13), Reading as thinking and reading as reasoning. It means that the process of reading is actually not different with the process when a person think and reason. In the reading process is involved thinking aspects such as remembering, understanding, discriminate, compare, finding, analyzing, organizing, and ultimately applying what is contained in the reading.

According to Anderson (1972, as quoted in Tarigan, 2008, p. 8), reading is a process for understanding implicit in the lines. It means reading is a process for understanding the meaning contained in the written word. Frank Smith (2004, p. 68), reading is the “acquisition of information” from the text or, even more specifically, reading is a problem of receiving a particular message or a fact incorporated into the text by author. It can be understood that reading is a form of communication in which the text was the information conveyed by the writer to the reader. In short, reading is a complex thought process that involves internal and external factors in understanding the content is written, express or implied in order to obtain information.

2.2 Reading Comprehension

According Yoakam (1951, as quoted in Ahuja, 2010, p. 50), reading comprehension is read by understanding the reading material involving the association is right between the meaning and symbols word, the assessment context of meaning are suspected to exist, the selection of the correct meaning, organization of ideas when the material is read, safe ideas, and its use in a variety of current or future activities. So, the meaning of
comprehension itself is to understand and interpret the word symbols correctly, so that the ideas will appear and be used for various activities.

According to Tampubolon (1990, p. 8) reading comprehension is a reading activity to develop the power of reason. Reading in the power of reason coaching is an activity undertaken reading person to understand an implied meaning in terms of writing, because it is to understand the meaning of a person must exercise the power of reason in order to catch the implied meaning in terms of writing.

2.3 Reading Speed

Reading speed is understood as the speed of understanding the materials printed and written. Nani (2006, p. 78) said that speed reading is more priority reading speed and reading comprehension should not be ignored. If someone wants reading quickly, then it must be adjusted the place so that the objectives and aspects of reading is reached.

According to Wiryodijoyo (1989, p. 123) reading speed is a development through the reading skills at students interested in reading high and they get sufficient reading like reading books, magazines and newspapers. The term reading speed and understanding of the readings are inseparable elements. As according to Nuttall (Arab, 2009, p. 29), reading speed and reading comprehension are two elements that are closely related.

Alderson (2000, p. 3) totally agrees on the fact that comprehension is the final goal of reading. It can be said that after we read, there is information that obtained. Itzkoff (1996, p. 38), assumes that when we read an article, our mind are also looking for meaning. Dechant and Smith (1961, as quoted in Arab, 2009, p. 46) added that the reading speed should require a reading level that is concerned with the comprehension because the reading speed is nothing without the comprehension what is being read. They also explained that the reader can not read in a high speed than they can understand; However, a large number of readers indicate excessive slowness reading than their understanding. According to Tampubolon (1987, p. 7) that is meant by the ability to read is the reading speed and understanding the contents as a whole. So, between the reading speed and comprehension both are interrelated.

In conclusion, reading speed and reading comprehension are two elements that are closely related. When we are reading, we certainly look for the information contained in the text, which makes understanding grows. When we are reading we also have to read it quickly so that there is an adequate understanding, because the more we read slowly, then the slower the understanding gained.

3. METHODS

This correlational study used ex post facto design which was used to explain or find how the variables in the study interconnected or influential. The variables of this study are X as a reading speed (independent variable) and Y as a reading comprehension (dependent variable).

This study used descriptive quantitative method. The quantitative descriptive method was used to provide a systematic and factual description
of the correlation between reading speed and reading comprehension at the XII grade students in SMAN 3 Banda Aceh.

4. FINDINGS AND DISCUSSION

The research data was collected using test. There are two kinds of tests used by the researcher, those are reading speed test and reading comprehension test in class XII MIPA 6, SMAN 3 Banda Aceh.

The number of sample taken as a source of research data were 31 students. The values obtained from the two types of test are as follows. Reading speed test is a test to measure how fast the students read the report text given by the researcher. In this reading speed test, besides measuring the reading speed of students, the researcher also measured whether or not reading speed level of students at the level of elementary, junior, senior or college students. The following graph shows the students’ reading speed achievement.
Tabel 1. The Students Reading Speed Achievement

<table>
<thead>
<tr>
<th>No</th>
<th>The Number of Students</th>
<th>Percentages (%)</th>
<th>Wpm</th>
<th>Category</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9</td>
<td>29.03</td>
<td>345</td>
<td>Senior High Students</td>
<td>29.03</td>
</tr>
<tr>
<td>2.</td>
<td>10</td>
<td>32.26</td>
<td>300</td>
<td>Junior High Students</td>
<td>45.16</td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>12.90</td>
<td>265</td>
<td>Elementary Students</td>
<td>25.81</td>
</tr>
<tr>
<td>4.</td>
<td>8</td>
<td>25.81</td>
<td>240</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table describes that 9 out of 31 students or 29.03% can accomplish the highest number of word per minutes, that is 345 wpm which is at senior high students’ category. 14 out of 31 students or 45.16% read at junior high students’ category; 10 out of 31 students or 32.26% read with 300 wpm and the other 4 students or 12.90% read at 265 wpm. 8 out 31 students or 25.81% can accomplish 240 wpm which is at elementary students’ category. To calculate the average reading speed of students, the researcher multiplied the reading speed achievement with the number of students. After the researcher got the multiplying result of reading speed achievement and the number of students, the researcher divided the result with the total of students. In conclusion, the average reading speed of students was 293 wpm. According to Tarigan (1985, as quoted in Jumaidi, 2013, p. 62), Standardize Effective Reading Speed are:

Table 2. Standardize Effective Reading Speed by Level of Education

<table>
<thead>
<tr>
<th>No</th>
<th>Level of Education</th>
<th>Reading Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Elementary students</td>
<td>200 wpm</td>
</tr>
<tr>
<td>2.</td>
<td>Junior high students</td>
<td>250 wpm</td>
</tr>
<tr>
<td>3.</td>
<td>Senior high students</td>
<td>325 wpm</td>
</tr>
<tr>
<td>4.</td>
<td>College students/postgraduate</td>
<td>400 wpm</td>
</tr>
<tr>
<td>5.</td>
<td>Adults</td>
<td>200 wpm</td>
</tr>
</tbody>
</table>

Referring to Table 4.2, the average reading speed of students at the XII grade students in SMAN 3 Banda Aceh was in the Junior High Students’ category. Reading comprehension test is a test to measure how students’ comprehend the text given by the researcher. There were 10 multiple questions asked in the test. The score for each correct answer was 1. The results of this test are described by the following table.
Table 3. The Students Reading Comprehension Achievement

<table>
<thead>
<tr>
<th>No.</th>
<th>Number of Students</th>
<th>Correct Answers</th>
<th>Incorrect Answers</th>
<th>Score</th>
<th>The Correct Answer Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>48.38</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>8</td>
<td>32.26</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>19.36</td>
</tr>
</tbody>
</table>

Table 4.2 describes that 15 out of 31 students or 48.38% of the class can answer 9 questions correctly; 10 out of 31 students or 32.26% of the class can answer 8 questions correctly; and 6 out of 31 students or 19.36% of the class can answer 7 questions correctly. To calculate the average reading comprehension of students, the researcher multiplied reading comprehension achievement with the number of students. After the researcher got the multiplying result of reading comprehension achievement and the number of students, the researcher divided the result with the total of students. In conclusion, the average reading comprehension score of students was 82.90%, which is above the minimum value of 70% (Tampubolon, 1987, p. 7).

In finding the correlation between reading speed and reading comprehension, the researcher used Product Moment Formula. It was found that the value \( r_{XY} \) is 0.74. The result reveals that there is a strong correlation between reading speed and reading comprehension. It is described in the value interpretation of “\( r \)” Product Moment \( (r_{XY}) \), as proposed by Arikunto (1997, p. 245).

To see the significant correlation, the researcher compared the \( r_{value} \) and \( r_{table} \). Referring to the table at significant level 0.05 with the number of subjects are 31, it was found that \( r_{value} \) is greater than \( r_{table} \), that is 0.74 > 0.355. In conclusion, there is a significant correlation between reading speed at the XII grade students in SMAN 3 Banda Aceh and their reading comprehension.

4.2 Discussion

The result reveals that there is a significant correlation between reading speed and reading comprehension. The value also shows the strong correlation between reading speed and reading comprehension. It is in line with Nuttal (1982, as quoted in Arab, 2009, p. 29) who stated that reading speed and reading comprehension are two elements that are closely related. The students reading speed affects the students comprehension achievement. If we read slowly and excessively, the understanding of the text will be hampered. The faster we read, the more we comprehend.

The result of this research brings some insights to the teaching reading process in the classroom. The teacher has to consider that the each student’s level of reading might be different. Therefore, the teacher must train students’
reading speed. The teacher also should be able to create teaching reading skills of students creatively. The teachers are expected to adjust teaching strategies to their student level of reading and apply appropriate strategies to boost the students’ reading performances.

5. CONCLUSION AND SUGGESTIONS

Having conducted the study, it was found that $r_{value}$ is greater than $r_{table}$, that is $0.74 > 0.355$. At significant level 0.05 with the number of subjects are 31, the researcher concludes that there is a significant correlation between students' reading speed and their reading comprehension. From the conclusion itself, there are some suggestions that are suggested by the researcher as follow. For the teacher, the researcher expects that the result of this study can help the teacher in teaching reading skill. The teachers are expected to consider that the each student’s level of reading and their comprehension might be different. Therefore, the teachers must train students' reading speed and their reading comprehension. The teachers are also expected to be able to create teaching reading skills of students creatively. The teachers are expected to adjust teaching strategies to their student level of reading and apply appropriate strategies to boost the students’ reading performances and their comprehension.

For other researchers, this study is limited to reading comprehension in detail information. The researcher suggested that the future research can look into other skills of reading, i.e main idea, vocabulary, and inference. The researcher also expects for the next researcher to examine the external and internal factors of students if the reading speed and reading comprehension of students classified as low or high.

REFERENCES


APPENDICES

APPENDIX 1:
Reading Speed Test Using Factual Report Text

12 Malaria

Malaria is a disease that is common throughout tropical and sub-tropical areas of the world. It occurs in a wide belt around the equator which stretches from Africa, Asia and Central and South America. Malaria has been in existence for 50,000 to 100,000 years, the origins of the disease in man is associated with the development of farming around 10000 BC. The disease is carried by various species of the Anopheles mosquito. These mosquitoes bite standing water, generally during the day. The disease is transmitted to the human being by the female mosquito. It takes about 30 days for the parasite to develop in the liver before the first symptoms appear. Malaria is a serious disease and in areas where it occurs, a large number of people die from it. The symptoms include: fever, chills, headache, weakness and fatigue. The disease is treated with medicines such as chloroquine, primaquine or quinine. The preventative measures include clothing that covers the skin, insect repellents and using mosquito nets. The disease is spread by mosquitoes which bite at night and during the day. The disease is common in areas where there is a lot of standing water.

APPENDIX 2:
Reading Comprehension Test Using 10 Multiple Choice Stated Detailed Questions

APPENDIX 3:
Progress Graph for Reading Speed and Reading Comprehension

APPENDIX 4:
The Table at Significant Level
APPENDIX 5:
The Correlation Between Reading Speed and Reading Comprehension

The columns are referred to as follows:
1. Column serial number of the subject
2. Column X for the value of students’ reading speed
3. Column Y for the value of students’ reading comprehension
4. Column X² for the value of students’ reading speed squared
5. Column Y² for the value of students’ reading comprehension squared
6. Column XY for the multiplication value of X and Y

To analyze the value is to look for a correlation between reading speed and reading comprehension by using product moment correlation formula. The data is as shown by the following table.

<table>
<thead>
<tr>
<th>No.</th>
<th>Student Number</th>
<th>X</th>
<th>Y</th>
<th>X²</th>
<th>Y²</th>
<th>XY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16065</td>
<td>345</td>
<td>90</td>
<td>119025</td>
<td>8100</td>
<td>31050</td>
</tr>
<tr>
<td>2</td>
<td>16114</td>
<td>345</td>
<td>90</td>
<td>119025</td>
<td>8100</td>
<td>31050</td>
</tr>
<tr>
<td>3</td>
<td>16164</td>
<td>345</td>
<td>90</td>
<td>119025</td>
<td>8100</td>
<td>31050</td>
</tr>
<tr>
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<td>345</td>
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<td>119025</td>
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<td>31050</td>
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<tr>
<td>6</td>
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<td>345</td>
<td>90</td>
<td>119025</td>
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</tr>
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<td>90</td>
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<td>9000</td>
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<td>4900</td>
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<td>240</td>
<td>80</td>
<td>57600</td>
<td>6400</td>
<td>19200</td>
</tr>
</tbody>
</table>
Based on the results of table above is obtained:

\[
\begin{align*}
N &= 31 \\
\Sigma X &= 9085 \\
\Sigma Y &= 2570 \\
\Sigma X^2 &= 2712925 \\
\Sigma Y^2 &= 214900 \\
\Sigma XY &= 760350
\end{align*}
\]

Next will be calculated the coefficient between the variables X and Y, as follows:

\[
\begin{align*}
r_{XY} &= \frac{N(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{N(\Sigma X^2) - (\Sigma X)^2}(N(\Sigma Y^2) - (\Sigma Y)^2)}} \\
r_{XY} &= \frac{31(760350) - (9085)(2570)}{\sqrt{[31(2712925) - (9085)^2][31(214900) - (2570)^2]}} \\
r_{XY} &= \frac{23570850 - 23348450}{\sqrt{[84100675 - 82537225][6661900 - 6604900]}} \\
r_{XY} &= \frac{222400}{\sqrt{1563450}(57000)} \\
r_{XY} &= \frac{222400}{\sqrt{89116650000}} \\
r_{XY} &= \frac{222400}{298524,11962854} \\
r_{XY} &= 0.74
\end{align*}
\]