ANALYSIS OF THE INFLUENCE OF READING SPEED AND READING FREQUENCY ON READING COMPREHENSION SKILLS WITH READING STRATEGY AS MEDIATION VARIABLES FOR STUDENTS AT STATE UNIVERSITY OF PADANG

Amril Amir

1) Universitas Negeri Padang
E-mail: amril.amir@fbs.unp.ac.id

Abstract. This study aims to analyze the analysis of the effect of reading speed and reading frequency on reading comprehension skills with reading strategy as a mediating variable for students of Universitas Negeri Padang. This research is a quantitative method with a descriptive type. The sampling technique in this study used the nonprobability sampling method, namely the purposive sampling technique. Data was collected using a questionnaire in the form of a Likert scale with five alternative answers. The data analysis technique used SEM-PLS with SmartPLS version 3 software. The results of the study found that reading speed had a direct and significant effect on reading comprehension skills. Reading frequency has a direct and significant effect on reading comprehension skills. Reading strategy has a direct and significant effect on reading comprehension skills. Reading speed has a direct and significant effect on reading strategy. Reading frequency has a direct and significant effect on reading strategy. There is an effect of reading speed on reading comprehension skills mediated by reading strategy. There is an effect of reading speed on reading comprehension skills mediated by reading strategy.

Keywords: Reading Speed; Reading Frequency; Reading Strategy; Reading Comprehension Skills

I. INTRODUCTION

Education in the national context has been directed to take a role in developing the potential of our nation. Reading is an activity that is very important in building the nation's intelligence in accordance with the demands of the times. This can be interpreted that the intelligence of this nation starts from intelligence towards understanding information obtained from reading skills. Students as candidates for intellectual scientists who will become the backbone of national development must have adequate reading comprehension skills so that they are able to obtain extensive information quickly and accurately.

Reading comprehension skills are needed by students. This will shape their sustainable mindset. In addition, this skill is very important to absorb information and knowledge from various media. These skills will ultimately achieve the function and purpose of education to educate this nation through reading comprehension skills. Students are academic beings who are always trying to find, explore knowledge and technology. They cultivate a scientific and intellectual attitude, and try to master a number of skills, including skilled reading. Therefore, at every opportunity students will use 'glasses' as analytical beings by exerting their logical, intellectual, ethical, aesthetic and practical abilities (Tarigan, 2011). This becomes a bridge for students to form personalities in logical and systematic thinking.

In the world of education, reading activities can be seen as the heart of education. This is important because reading skills in relation to efforts to improve the quality of education are indeed very logical in order to form a systematic mindset to achieve a goal (Femi, 2008). According to data released by the Central Bureau of Statistics (2012), it was found that the Indonesian population has not used reading as a source of information. Indonesian people prefer television and listen to radio in obtaining information. More likely to get information through reading decreased since 2003 to 6.05%. Far when compared to watching television, the percentage increase reached 6.74%. Meanwhile, data for 2012 showed that only 17.66% of Indonesians read to get information from the total population. Meanwhile, watching television was 91.68% and listening to the radio was 18.57%.

Meanwhile, the results of the research by the Ministry of Education and Culture's Balitbang in Program Team of International Student (2011) showed that 15-year-old
children in Indonesia, from the junior high school level, are very concerned about reading. For reading literacy, Indonesia in 2000 was ranked 39th out of 41 countries, in 2003 it was ranked 39th out of 40 countries, in 2006 it was ranked 48th out of 56 countries, and in 2009 it was ranked 57th out of 65 countries. Reading is important for the world of education, because most of the study material comes from reading, at least 85%, the remaining 15% comes from other activities such as attending lectures and discussions (Razak, 2007). In addition, the latest research conducted by Atmazaki, Afrility, and Zufi (2017) show that the reading culture of Indonesian society is still below average.

Reading comprehension skills indicate that students are still low. This was stated in his duties in lectures at Padang State University. The causes of this are various factors, both internal and external. Internal factors that affect reading comprehension skills can be in the form of intelligence, interests, attitudes, talents, motivation, thought processes such as remembering, understanding, differentiating, comparing, finding, analyzing, and so on (Tarigan, 2011). For this reason, reading requires high intellectual abilities. External factors also affect reading comprehension skills, for example infrastructure and background of the community's socio-economic relations.

Students' reading comprehension skills are related to their activities in the national exam in high school. National exams in senior high schools are considered important for several reasons, namely: a) national exams encourage the improvement of the quality of education in schools; b) the national exam is an entry point to improve the quality of human resources and the nation's competitiveness; c) the national exam is an instrument for equal distribution of educational quality; and (d) description of national education quality standards (Tjalla, 2010). One of the subjects included in the national exam, namely Indonesian, lecture activities are more on reading activities. The condition of the low scores on the Indonesian national exam in high school is not only due to the inability to answer questions, but because they are unable to take advantage of the allotted time. They collided with reading comprehension skills. They were not fast enough to read the texts in each question, so the time to answer the questions was spent on reading the text. This is due to the lack of students' reading comprehension skills.

Based on this, it can be assumed that the high or low scores on the Indonesian national exam in high school are not only caused by a lack of mastery of the context of Indonesian lessons according to the curriculum, but also a lack of students' reading comprehension skills. In addition, in college, new students are generally not skilled at reading and are not able to read quickly. The situation is based on the results of the researcher's observations in the Indonesian language course at Padang State University. There are many factors that cause students not to understand what they read, including the strategy and methods used by the teacher that do not attract students' interest in learning (Mair, 2015). Meanwhile, Tarigan (2000) found that there were two factors that became reading problems for students, namely misconceptions due to a lack of interest and reading habits.

Based on the problem factors of understanding the reading level, other factors related to other students' reading comprehension problems are still many and varied, according to variations in linguistic intellectual abilities such as vocabulary mastery, sentence structure mastery, paragraph structure mastery, and discourse structure mastery, as well as those that are non-linguistics such as intelligence, gender, reading interest, mastery of reading strategy, and reading frequency (Savage & Pace, 2017). However, it is impossible for researchers to examine all of these factors at once. The factors to be researched and interesting are reading strategy, reading speed and reading frequency are factors that affect students' reading comprehension skills.

The students' mastery of reading strategy is still not varied. Even though the role of mastery of reading strategy is a determining factor for reading success. Tampubolon, (2008) suggests that maximum reading ability is related to certain reading strategy, both eye movements (fixation), motivation, habits, and interest in reading. In addition to the factors above, it is necessary to study the achievement of reading comprehension caused by mastery of strategy, reading speed and frequency. The speed of reading between one student and another is sometimes different, some are slow, some are moderate, and some are able to read at high speeds. Student reading frequency is still in the low category. In fact, the frequency of reading is important because the more often a person reads, the more often he or she does logical and systematic thinking. Experts strongly support the importance of reading frequency in order to improve reading comprehension skills. In addition, reading ability can be maximized through the high frequency of reading through readings that use standard language (Tampubolon, 2008).

Research that examines reading comprehension skills has been carried out before. However, the factors that address reading comprehension skills are still far from conclusive. Several previous studies revealed that the factors that determine reading comprehension skills include vocabulary knowledge, home environment, and cultural environment (Rojas, 2022); grammar, vocabulary, comprehension, personal experience and student attitudes (Suwanaroa, 2021); and environment, motivation, learning preference and teaching technique (Wuthisingchai & Stoppes, 2015).

This research also fills in the gaps in the relationship between concepts, both as exogenous, mediating and endogenous variables. The novelty of this study is the mediating variable of reading strategy. Previous research was still very limited in placing the reading strategy variable as a mediating variable, especially in the effect of reading speed and reading frequency on reading comprehension skills. The relationship between reading frequency and reading comprehension ability is mediated by other variables, namely vocabulary knowledge and semantic decoding ability (Chen & Meurers, 2016).
II. METHODS

This research uses a quantitative method with a descriptive type. According to Yusuf (2013) descriptive research is a type of research that aims to describe systematically, factually, and accurately about certain facts and characteristics or tries to describe phenomena in detail. This study will describe the effect of reading speed and reading frequency on reading comprehension skills with reading strategy as mediating variables in Padang State University students. The population in this study is a limited population which is all students of Padang State University, totaling 39,214 people.

Sampling was carried out using proportional random sampling technique. This technique is used for taking samples from members of the population randomly and proportionally stratified because the members of the population are heterogeneous (not the same). The sample in this study was 396 students at Padang State University. Data collection techniques in this study using a questionnaire. The questionnaire in this study uses a Likert scale with five alternative answers. Respondents can answer the questionnaire statements by ticking (✓) on the available answers with the five available possibilities.

Then the data were analyzed using SEM-PLS analysis using the Smart PLS version 3 application. For data processing, this technique was used to cover the weaknesses of the regression method (Ghozali, 2006). SEM-PLS analysis is a causal modeling approach that aims to maximize the variance of the criterion latent variables that can be explained by predictor latent variables. PLS (Partial Least Square) is an analysis method that does not assume certain data and uses the Bootstrapping method or random multiplication where the assumption of normality will not be a problem.

III. RESULTS AND DISCUSSION

Characteristics of Respondents

This study uses grouping characteristics of respondents based on gender, age, major and level of student lectures. This is done because of the variety of respondents, so that by grouping the characteristics of the respondents. The characteristics of the respondents can be seen in table 1.

<table>
<thead>
<tr>
<th>No</th>
<th>Characteristics of Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lecture Level</td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 1, it is obtained that the distribution of the number and percentage of research respondents is based on gender, age, major and class level. First, based on gender, the number of female students (54%) was higher than male students (46%). Based on age, it was found that there were more respondents aged 20 years (27%) than respondents aged <20 years, 21 years and >21 years. Furthermore, based on the recording level, more research respondents came from level I, namely 32%. Finally, based on the level of education attained, 92% more respondents with bachelor's degree level of education compared to other levels of education.

Validity test

Validity test is conducted to prove that all variables are different from each other. Hair et al. (2017) revealed that a measurement can be said to be valid if it meets the criteria for an AVE value equal to or more than 0.5. The following is the Average Variance Extracted (AVE) value:

<table>
<thead>
<tr>
<th>Reading speed</th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.935</td>
<td>0.935</td>
<td>0.944</td>
<td>0.605</td>
<td></td>
</tr>
<tr>
<td>0.918</td>
<td>0.919</td>
<td>0.942</td>
<td>0.803</td>
<td></td>
</tr>
<tr>
<td>0.970</td>
<td>0.971</td>
<td>0.972</td>
<td>0.686</td>
<td></td>
</tr>
<tr>
<td>0.837</td>
<td>0.840</td>
<td>0.891</td>
<td>0.673</td>
<td></td>
</tr>
</tbody>
</table>

Reliability Test

The reliability test was carried out to see to what extent the measurement results using the same object will produce the same data (Sugiyono, 2017). The variable is said to be reliable if the value of Cronbach's alpha and composite reliability is > 0.6, the results of the reliability test can be seen in Table 3:
Based on the information in Table 3, it can be seen that the four constructs have Cronbach's alpha values and composite reliability above 0.6, which means that the indicators set have been able to measure each construct well, which consists of variables of reading speed, reading frequency, reading strategy and reading comprehension skills have been reliable.

**Hypothesis Verification (Structural Model Evaluation)**

The complete structural model is then estimated based on the indicators previously tested in the measurement model analysis. The next stage is that indicators that pass the pre-test will undergo bootstrapping to predict whether there is a relationship between latent variables, in which this process is called the process of proving the hypothesis. The hypothesis is accepted or rejected can be seen in the value of the critical ratio (critical ratio) and the level of significance contained in the regression weight and structural model. The hypothesis will only be accepted if the C.R is 1.96 and the P value is 0.05. The results of the structural model analysis in this study can be seen in Table 4.

**Table 3. Average Variance Extracted**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading speed</td>
<td>0.935</td>
<td>0.935</td>
<td>0.944</td>
<td>0.605</td>
</tr>
<tr>
<td>Reading frequency</td>
<td>0.918</td>
<td>0.919</td>
<td>0.942</td>
<td>0.803</td>
</tr>
<tr>
<td>Reading strategy</td>
<td>0.970</td>
<td>0.971</td>
<td>0.972</td>
<td>0.686</td>
</tr>
<tr>
<td>Reading comprehension skills</td>
<td>0.837</td>
<td>0.840</td>
<td>0.891</td>
<td>0.673</td>
</tr>
</tbody>
</table>

*Source: Processed research data (2023)*

Based on Table 4, it can be obtained that the research hypothesis can be proven. The direct effect is the influence that can be seen from the coefficient of one variable to another, while the results can be explained as follows. The results of the analysis show that reading speed affects reading comprehension skills. The coefficient obtained from data analysis was 0.149 and a significance of 0.044 (p<0.05). This means that the research hypothesis is accepted. The results of this analysis provide an understanding that increasing reading speed will affect the improvement of reading comprehension skills in Padang State University students.

The results of this study are supported by the findings made by Puspita (2018) that there is an influence between reading speed on students' reading comprehension skills. Reading speed places more emphasis on the number of words that can be read in a certain period of time (usually in minutes) which is converted to the level of reading comprehension that can be achieved by readers through a set of tests (Razak, 2007). Seabra (2017) found that reading speed can contribute to comprehension of reading content beyond the division of variance with listening ability, especially in word recognition (Armaga & Genc, 2017).

The reading speed of students must be in line with the speed of understanding the reading material that has been read. Students' reading speed depends on the material and purpose of reading. In reading speed itself there are two kinds of behavior called skimming and scanning. Asmawati (2015) also found that with skimming and scanning behavior, students' reading comprehension skills also increased. The use of skimming and scanning as indicators of reading speed is an effective strategy to improve students' reading comprehension. These results are also the same as the findings made by Fatmawati (2014).

However, research conducted by Ekasari (2021) found that there was a very low correlation between reading speed and comprehension. Fast readers are not equal with efficient readers or that slow readers are inefficient readers. The students’ background information and text difficulty are some aspects which can affect their reading speed and comprehension.

The results of the analysis show that reading frequency has an effect on reading comprehension skills. The coefficient obtained from data analysis was 0.451 and a significance of 0.000 (p<0.05). This means that the research hypothesis is accepted. The results of this analysis provide an understanding that the increasing the frequency of reading,
it will affect the improvement of reading comprehension skills in Padang State University students.

The results of this study are supported by the findings by Mair (2015) that the frequency of reading newspapers has a significant effect on reading comprehension skills. The more frequently/frequently/frequently students read books, magazines/tabloids/other sources of information, the better their reading comprehension tendencies will be. The frequency with which a person reads will be followed by the more knowledge he acquires, the faster his reasoning power and the more vocabulary or new terms he acquires.

Reading frequency is important because the more often a person reads, the more often he or she does logical and systematic thinking. Experts strongly support the importance of reading frequency in order to improve reading comprehension skills. In addition, reading ability can be maximized through the high frequency of reading through readings that use standard language (Tampubolon, 2008).

As a skill, reading requires practice like any other skill (Yıldız & Çetinkaya, 2017). Wotschack & Klieg (2013) revealed that reading continuously or repeatedly can add to the understanding of the reader. The more often/frequently students read books, magazines/tabloids/other sources of information, the tendency to read will be better.

Another expert who supports the importance of reading frequency in order to improve reading skills is Sadeghi et al. (2016) who say that reading is a language skill, as a skill, reading requires practice like other skills. The more a person reads, the more his ability increases. Someone will read a lot if his interest in reading is high. The more often a person reads means the more often he does thinking activities and the more experienced he is in solving problems, thus his reading ability will also increase (Savage & Pace, 2017).

The results of the analysis show that reading strategy have an effect on reading comprehension skills. The coefficient obtained from the data analysis was 0.539 and a significance of 0.000 (p<0.05). This means that the research hypothesis is accepted. The results of this analysis provide an understanding that increasing reading speed will affect the improvement of reading comprehension skills in Padang State University students.

The results of this study are supported by the findings in the research by Anggreni et al. (2013), Hidayana et al. (2021) and Sun et al. (2021) who found that reading strategy have a significant effect on reading comprehension skills. Reading strategy in the learning process can optimize all students' abilities in learning such as understanding, writing, identifying, reading and describing learning. Reading comprehension requires readers to interpret the mental image from the given text through the interaction between both conceptual knowledge (e.g., vocabulary knowledge, metalinguistic knowledge) and procedural knowledge (e.g., reading strategy) and reading the text (Dauggaard et al., 2017; Sun et al., 2021).

The use of strategies in reading will have an impact on good skills in reading comprehension (Kasimi, 2010). This means that the strategies used in reading will affect the results of reading comprehension (Ahmadi et al., 2013; Ditzel, 2010).

Anggreni et al. (2013) found that DRTA (Directed Reading Thinking Activity) reading strategy are effective learning and do not take up time for reading comprehension activities because students use appropriate reading strategy to get information from reading. Reading requires symbols (words) which are a summary of the ideas or concepts produced by the author. So, reading requires the reader to use his experience and knowledge to reconstruct the ideas or concepts generated by the author. The process of this reconstruction will always change during the reading process.

Ahmadi et al. (2013) who showed that the use of reading and writing strategy can improve students' reading comprehension. The strategy used in reading will affect the results of reading comprehension. Reading comprehension strategy have a very close influence on reading comprehension skills, because without reading comprehension strategy it will be difficult to understand the reading text properly. If the reading comprehension strategy has been used and applied, then the ability to understand reading texts will be good or will get a high score (Irfadila, 2022).

The results of the analysis show that reading speed has an effect on reading strategy. The coefficient obtained from data analysis was 0.505 and a significance of 0.000 (p<0.05). This means that the research hypothesis is accepted. The results of this analysis provide an understanding that increasing reading speed will affect the improvement of reading strategy for Padang State University students. The speed, method, technique and style of reading are also called reading strategy. Such readers must be able to set the pace, determine methods, techniques, reading styles according to factors related to reading (Tampubolon, 2008).

The results of the analysis show that reading frequency has an effect on reading strategy. The coefficient obtained from data analysis was 0.303 and a significance of 0.000 (p<0.05). This means that the research hypothesis is accepted. The results of this analysis provide an understanding that the increasing frequency of reading, it will affect the improvement of reading strategy in Padang State University students. Low reading frequency is those who read on average about 14 times per week (Macalister, 2010). Students who don't often do reading activities mean they don't practice, repeat, and make time to read because when someone is reading at the same time that person is practicing (Smith, 1982).

The indirect effect (mediation effect) obtained from the processed data shows that there is a mediating effect from reading strategy, so that reading strategy mediate the effect of reading speed on school choice. Based on the results of the analysis performed, a coefficient of 0.346 and a significance of 0.000 (p<0.05) were obtained. This means that the research hypothesis is accepted. These results indicate that reading strategy mediate the effect of reading speed on reading comprehension skills in Padang State University students. Reading speed with reading strategy will be able to improve students' reading comprehension.
skills. Reading speed is not something innate, but something that can be improved with various efforts. A person’s reading speed can be increased if he is constantly trained with reading strategies (Soedarso, 2005). It can also improve students’ reading comprehension skills.

The results of processed data show that there is a mediating effect of reading strategy, so that reading strategy mediates the effect of reading frequency on reading comprehension skills. Based on the results of the analysis performed, a coefficient of 0.253 and a significance of 0.000 (p<0.05) were obtained. This means that the research hypothesis is accepted. These results indicate that reading strategy mediates the effect of reading frequency on reading comprehension skills in Padang State University students.

Reading frequency with reading strategy will be able to improve students’ reading comprehension skills. The level of frequency students read, each skill given must be accompanied by sufficient exercises, because students will tend to be trained to do something if they are given exercises about what they have learned. If they are trained to use the reading strategies that have been taught in reading comprehension, then they will be trained to use them, so that by using these strategies they will be able to develop themselves in improving their reading skills with comprehension (Mokhtari & Sheorey, 2002).

IV. CONCLUSION

Based on the research results found in this study, it can be concluded that:

1. The first conclusion describes the direct effect of the variables studied including:
   a. Reading speed has a direct and significant effect on reading comprehension skills. This means that if reading speed increases, reading comprehension skills will also increase.
   b. Reading frequency has a direct and significant effect on reading comprehension skills. This means that if the frequency of reading increases, reading comprehension skills will also increase.
   c. Reading strategy has a direct and significant effect on reading comprehension skills. This means that if the reading strategy increases, then reading comprehension skills will also increase.
   d. Reading speed has a direct and significant effect on reading strategy. This means that if reading speed increases, reading strategy will also increase.
   e. Reading frequency has a direct and significant effect on reading strategy. This means that if the frequency of reading increases, the reading strategy will also increase.

2. The second conclusion describes the indirect effect (mediation test) including:
   a. The effect of reading speed on reading comprehension skills is mediated by reading strategy. This means that reading strategy can strengthen the effect of reading speed on reading comprehension skills.
   b. The effect of reading frequency on reading comprehension skills is mediated by reading strategy. This means that reading strategy can strengthen the effect of reading frequency on students’ reading comprehension skills.

V. SUGGESTION

The research results are expected to be useful for various parties. As for suggestions that researchers can put forward for teachers of any subject at school, the results of this research can be used as motivation in carrying out learning to read.

ACKNOWLEDGMENT

We would like to thank Causal Productions for permits to use and revise the template provided by Causal Productions. Original version of this template was provided by courtesy of Causal Productions (www.causalproductions.com). Researchers would like to thank all parties involved in this research so that this research can be published.

REFERENCES


