

# **The Impact of Metacognition and Vocabulary Mastery on Reading Comprehension in Elementary Student : A Path Analysis**

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*The objective of the research is to find out the empirical information of the effect of metacognition and vocabulary mastery on the reading comprehension. This research conducted for 10 (ten) months. The research used a quantitative approach, with path analysis techniques. The research conducted at 8 year-old children. The multistage cluster random sampling technique is applied, which 154 children involved as the research sample. Empirical findings of the research revealed that: 1) There is direct positive effect of metacognition to the reading comprehension; 2) There is direct positive effect of vocabulary mastery to the reading comprehension; 3) There is direct positive effect of metacognition to vocabulary mastery.*

*Keywords: metacognition, vocabulary mastery, reading comprehension.*

## **INTRODUCTION**

Language is an important tool for every child. It helps developing children's ability to socialize with others. Mastering the ability to socialize started by mastering language.

*The International Reading Association (IRA)* and *The National Association for the Education of Young Children (NAEYC)* stated that one of the reading objectives for pre-school until 3 graders was that children can explore their environment and build a foundation for learning to read. Children love listening to and discussing storybooks, understand the messages in the reading texts, and involve in the effort to read.

In addition, Özdemir (2009) said the early grades of elementary school students revealed that there are no significant effects between reading

comprehension and students' problem solving ability. He also added reading comprehension is very helpful in learning mathematics.

*Progress in International Reading Literacy Study (PIRLS)* which examined elementary school students in 2011 showed that Indonesian students' reading achievement were very low. It was in rank 45 from 49 countries studied.

Tseng and Schmitt (2008) stated that motivated learning vocabulary follows the development mode and its function as a cyclic process. This model supports the importance of motivation in learning vocabulary and sharing behavior. Metacognition also focuses on the individual's mastery strategy based on the frequency to master the vocabulary.

Study of Callaghan and Madeleine cited from the National Institute of Child Health and Human Development (2012) suggested a language-rich environment helps children acquire vocabulary in the preschool years. While in school, reading text becomes increasingly more complex as students find words more difficult. A good oral vocabulary is very necessary for students to make the transition to understand the written vocabulary.

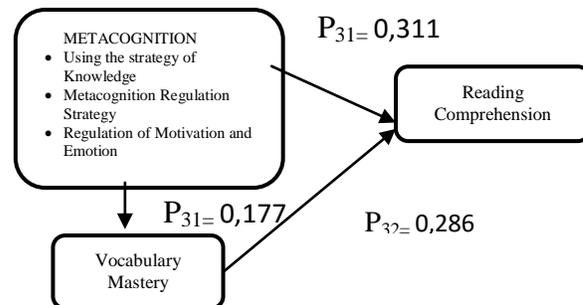
Callaghan and Madeleine (2012) also add that if a student has a limited vocabulary at the beginning of school but he/ she develops decoding skills well, he/ she might be able to read text easier or he/ she can master vocabulary in the early years; however, having limited vocabulary will eventually obstruct reading understanding of a complex text. Moreover, Callaghan and Madelaine cited the research results of Walker et al., They found that children with poor language and vocabulary skills during the early years are the lowest achievers in reading and literacy skills, and vocabulary skills in seven years later.

## 1. METHODS

The study was conducted on 3<sup>rd</sup> grade students in Limpung Batang district, Central Java. Multistage random sampling techniques are applied, in which 154 students were involved as research samples. Data collection technique for metacognition variable used the attitude scale, essay used to collect reading comprehension variable, and multiple-choice for vocabulary mastery variable.

## RESULTS

### Path Analysis



Picture 1

### 1. Direct positive effect of Metacognition ( $X_1$ ) to Reading Comprehension ( $X_4$ )

Based on the calculation results obtained by the coefficients  $X_1$  to  $X_4$  ( $P_{41}$ ) of 0,311 with  $t_{\text{count}} = 4.225$  and  $t_{\text{tabel}} (\alpha = 0.05) = 1,960$ . Therefore,  $t_{\text{count}} > t_{\text{tabel}}$ , which means that  $H_0$  rejected and  $H_1$  accepted; the coefficient was significant. Based on these findings, it can be interpreted that there was a direct positive effect of metacognition on the 3<sup>rd</sup> grade students' reading comprehension.

### 2. Direct positive effect of Vocabulary Mastery ( $X_3$ ) to Reading Comprehension ( $X_4$ )

Based on the calculation results obtained by the coefficients  $X_3$  to  $X_4$  ( $P_{43}$ ) of 0.286 with  $t_{\text{count}} = 3.966$  and  $t_{\text{tabel}} (\alpha = 0.05) = 1,960$ . Therefore,  $t_{\text{count}} > t_{\text{tabel}}$ , which means that  $H_0$  rejected and  $H_1$  accepted; the coefficient was significant. Based on these findings, it can be interpreted that there was a direct positive effect of vocabulary mastery on the 3<sup>rd</sup>

grade students' reading comprehension.

### **3. Direct positive effect of Metacognition (X<sub>1</sub>) to Vocabulary Mastery (X<sub>3</sub>)**

Based on the calculation results obtained by the coefficients X<sub>1</sub> to X<sub>3</sub> (P<sub>31</sub>) of 0.177 with  $t_{\text{count}} = 2.169$  and  $t_{\text{tabel}} (\alpha = 0.05) = 1, 960$ . Therefore,  $t_{\text{count}} > t_{\text{tabel}}$ , which means that H<sub>0</sub> rejected and H<sub>1</sub> accepted; the coefficient was significant. Based on these findings, it can be interpreted that there was a direct positive effect of metacognition on the 3<sup>rd</sup> grade students' vocabulary mastery.

## **DISCUSSIONS**

### **1. Direct positive effect of Metacognition (X<sub>1</sub>) to Reading Comprehension (X<sub>4</sub>)**

The study found that there was a significant relationship between metacognition (X<sub>1</sub>) and reading comprehension (X<sub>4</sub>). The significance relationship between X<sub>1</sub> and X<sub>4</sub> affirmed by the results of testing the hypothesis proposed in this study that there is a direct positive effect of metacognition (X<sub>1</sub>) to reading comprehension (X<sub>4</sub>) of early grades elementary school students.

These research findings were also supported by some experts. Language awareness is very important in reading comprehension for children. Children must learn to identify not only the letter, but also linguistic units like phonemes, syllables, and words. (Bjorklund, 2013).

Woolfolk (2013) added students' understanding the language and how it

works becomes explicit. They have knowledge of the language itself. They are ready to learn and expand the rules that were previously implicit (understood but not expressed consciously).

According to El-Koumy (2004), that (a) Ability to read and background knowledge of the text will affect reading comprehension; (b) Knowledge of the tasks purposes and characteristics influence the behavior of students' reading and their reading comprehension; (c) Explicit teaching of reading cognitive strategies improves students' reading comprehension; (d) There is some evidence suggested that a good reader is preparing, monitoring and assess their own reading comprehension; (e) Direct instruction in monitoring comprehension strategies improves students' reading ability.

Moreover, McLaughlin and De Voogd (2004) stated that reading is a thinking process. A person needs a comprehensive point of view to choose thinking process strategy and social constructivist process.

The findings of this study provide an explanation of the importance of students' metacognition program development activities. Good metacognition ability will give a positive impact on students' reading comprehension. It becomes a reference that children's metacognition development strategy is an important factor. Stimulation through learning and playing activities and children's metacognition development are absolutely necessary for educators to increase children's metacognition abilities.

## **2. Direct positive effect of Vocabulary Mastery (X<sub>3</sub>) to Reading Comprehension (X<sub>4</sub>)**

The study found that there was a significant relationship between vocabulary mastery (X<sub>3</sub>) and reading comprehension (X<sub>4</sub>). Choosing words according to the meaning is one indicator of vocabulary mastery. It influences children's ability to identify main ideas in a reading text. The sensitivity of children in selecting appropriate words to their meanings also affects their ability to answer questions related to the reading text.

The research findings above are also supported by some experts. Sternberg and Sternberg (2012) stated that vocabulary can help in adding new information about a concept. This occurs when children can understand a concept. Vocabulary becomes important to understand a new concept for students.

Santrock (2007), in terms of language learning, added that learning to read should parallel with the children's natural language learning. Santrock recommend reading is taught to recognize words and to guess the meaning of difficult words (unfamiliar words) from the reading text. This indicates the importance of vocabulary in reading comprehension for students.

In addition, Hammer and Adams (2006) also stated that it is important to understand the content of a text and to master the vocabulary contained in the text. Machado (2013) also supported that students' vocabulary mastery effected on their comprehension and facilitate them in learning to read.

## **3. Direct positive effect of Metacognition (X<sub>1</sub>) to Vocabulary Mastery (X<sub>3</sub>)**

The study found that there was a significant relationship between metacognition (X<sub>1</sub>) and vocabulary mastery (X<sub>3</sub>). The significance relationship between metacognitive and vocabulary mastery can be seen from the result of the 4<sup>th</sup> hypothesis test proposed in this study that there is a positive effect of metacognition (X<sub>1</sub>) to students' vocabulary mastery (X<sub>3</sub>). Therefore, the improvement of metacognition can affect students' vocabulary mastery.

Otto (2010) said children aged 8 years' metacognition develop well. It can influence the development of semantic. This semantics is closely associated with vocabulary, since semantic is study about the meaning of language.

Papalia and Feldman (2014) also added that a quick vocabulary mastery could occur through fast mapping, which allows children to guess the meaning of new words once they heard from a conversation. Mapping is their strategy to form a quick hypotheses about the meaning of a word.

## **Conclusions**

Based on the research findings, data analysis, and discussion, it can be concluded that: There is a direct effect of metacognition to reading comprehension; there is a direct effect of vocabulary mastery to reading comprehension; there is a direct effect of metacognition to vocabulary mastery. Therefore, to increase students' reading skill can be done by

improving metacognition and students' vocabulary mastery.

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