

THE IMPACT OF METACOGNITIVE STRATEGIES ON STUDENTS' MOTIVATION IN READING COMPREHENSION

YULINA EVA RIANY^{1*}

¹School of Education (Cognitive Psychology and Educational Practices), Faculty of Education, Humanities, and Law, Flinders University of South Australia, Adelaide, South Australia, 5042

ABSTRACT. The purpose of this study was to study the effectiveness of teaching and implementing one of metacognitive strategies, which was generating questions before, during, and after reading on student's motivation and reading performance. This study was looking at how metacognitive strategies could be implemented in reading strategies and how they could change student's motivation, including student's self efficacy, interest, and attribution. Teaching metacognitive strategies were conducted three times to an international university student and the observation was done by using think aloud method and filling a motivational questionnaire. Motivation (self-efficacy, interest, and attribution) changes have revealed after the metacognitive training given. However, there is no difference in reading comprehension performance before and after implementing the metacognitive strategies. It was found that motivation changes did not associate with reading comprehension performance in this study. More comprehensive and explicit metacognitive training in longer time was suggested to see the improvements of the reading comprehension.

Key words: *metacognitive strategies, reading comprehension, students' motivation*

INTRODUCTION

In the era of globalization, the role of education has been identified as the one of crucial factors in developing human resources. It is stated that education now is more than just the structural adjustment of education because it affects the whole economy in the globalization era (Ganderton 1996) and it is available to foster a deeper and more harmonious form of human development and to reduce poverty, exclusion, ignorance, oppression and war (Delors 1996).

Education, which is believed as a fundamental role to play in personal and social development (Delors 1996) and an important aspect since it prepares human resources to be stake holders for developing other aspects, is also directly affected by the school system and the learning methods. Without good educational system and the learning methods, students will not be able to develop themselves in order to be highly qualified human resources in the society that have qualifications for global development. Accordingly, good learning methods should be developed in purpose to improve the students' quality in learning and to prepare

them for being ready to face the globalisation challenges in the globalisation era.

Motivation, which is defined as a complex, multifaceted construct, includes some factors, such as the value students perform a task, expectations to succeed, and students' beliefs has been believed as an important factor to perceive success or failure in the learning processes (Vandergrift 2005). It is also identified that motivation has a key role in the rate and success of second language learning processes. In addition, a motivated student is reported to have low latency and high perseverance with respect to task engagement. Therefore, they can move quickly at the opportunity to learn and they also keep staying in difficult tasks (Artino & Stephen 2009). Further, it is stated that students with high motivation tend to study harder than students with low motivation do (Molden & Dweck 2000).

Motivation is not only important in learning processes, it is also specifically required in reading comprehension since comprehension of challenging text seems to require not only cognition but also motivation (Artino & Stephen 2009). Research reveals that contextualization of reading motivation relates to reading comprehension

performance (Anmarkrud & Braten 2009). This means that motivation is one of key factors for students to succeed in comprehending reading.

Research reveals that motivation, especially self efficacy and intrinsic motivation is also positively associated with metacognitive strategies. This means that metacognitive strategies are found to have positive reinforcements on students' motivation aspects, particularly students' self efficacy (Wang et al. 2009). Schraw (1998) defined metacognition as awareness and monitoring of one's thoughts and task performance. In other words, metacognition is identified as thinking about your thinking (Schraw 1998). It is related to high capacity of mental processes, which is involved in learning processes, such as making plans for learning, using appropriate skills and strategies to solve a problem in learning processes, estimating performance in learning, and also calibrating the extent of learning (Coutinho 2007).

Schraw (1998) has stated that metacognition is consisted of two major components: metacognitive knowledge and metacognitive regulation. Metacognitive knowledge refers to knowledge of cognition, which means that what individuals know about their own cognition or about cognition in general, such as knowledge of skills and strategies that work best for the learners, and knowledge about how and when to use such skills and strategies. In one hand, metacognitive regulation is defined as a set of activities that control learners' thoughts and learning activities, including planning, monitoring comprehension, and evaluation (Schraw 1998).

According to Wang et al. (2009), strong metacognitive strategies and beliefs can empower second language learners. Another research also reveals that students with a greater use of metacognitive strategies are reported to be more motivational intensity with some evidence of a self determination continuum evident in the respond patterns (Vandergriff 2005).

In addition, metacognitive strategies are not only believed as factors that can strengthen one's motivation in learning, but also one's performance in comprehending reading. This is because reading as a multi componential and multi layered activity requires not only cognition, but also number of motivation and metacognitive strategies to investigate and to perform the reading texts

comprehensively (Sporer et al. 2007). Moreover, it is also stated that when students are more metacognitively aware during reading, their comprehension in reading will enhance (Israel et al. 2005). Accordingly, this study was observing and exploring the effectiveness of implementing metacognitive strategies on students' motivation and reading comprehension performance. This study was also observing the association between motivation changes and reading comprehension performance.

In order to identify the effectiveness teaching, modeling and implementing metacognitive strategies on student's motivation and reading comprehension performance, there are research questions addressed. This practical project will address the following research questions:

1. How students can implement metacognitive strategies within their reading strategies?
2. What is the impact of implementing metacognitive strategies within students' reading comprehension strategies on their reading comprehension performance?
3. What is the impact of implementing metacognitive strategies within students' reading comprehension strategies on their motivation?
4. What is association between motivation change and students' reading comprehension performance?

Generally, this study aims to determine the effectiveness teaching and implementing one strategy of metacognitive strategies, which was generating questions, on student's motivation and performance in reading comprehension. This research was looking at how the metacognitive strategies were implemented in reading strategies and also how they could change student's motivation in reading, including student's self efficacy, interest, and also attribution.

METHODS

Participant Details

In this study, a case study was applied by observing and conducting the intervention on one participant. A convenience sampling was applied by selecting participants because they are willing and available to participate in the study (Creswell 2008). One postgraduate female student with age 30

years old attending university in Adelaide, South Australia was recruited in this study.

Design

A mix method observational study design was conducted in this study. The observational study design has been chosen as a method in this study because this research engaged in intensive data collection, spending a great deal of time at the site where participants engaged in reading processes, so detailed information was able to be gathered by observation of each participant (Silverman 2005). This observational study engaged in the intensive data collection of participants' reading comprehension strategy (including concurrent and retrospective think-aloud and data from questionnaire).

In addition, mixed method study design has been defined as procedure for collecting, analysing, and mixing both qualitative and quantitative data in a single study or in a multiphase series of studies (Creswell & Clark 2005). Accordingly, this study gathered both qualitative data (think-aloud data) and quantitative data (scale scores from the motivational questionnaire).

Instrumentation

There were two instrumentations used in this study, a motivational questionnaire and IELTS reading comprehension texts (pre test and post test) (Appendix 1). A motivational questionnaire was given in pre test and post test to identify participant's motivation changes.

In addition, IELTS reading comprehension texts were used in this study as materials for reading and the questions provided were used to assess participant's reading comprehension performance. The reason why these topics were chosen from the IELTS test was because IELTS test had been used as an International English academic comprehension test. Therefore, the topic would be familiar to all second language (L2) students, so it was expected to be easily performed by participant, who has English as their second (L2) or foreign language. It was found that topic familiarity would enhance students' degree of involvement in the task (Roca de Larios et al. 2008). It was expected that the tasks would also be of similar difficulty.

Furthermore, this study was using two data collecting methods. First, participant was asked to do think aloud, which was

recording her voice while she was reading and comprehending the reading texts. Think aloud instruction was asking participant to say everything that come to her mind while reading a text. This method is important to observe participant's working memory while doing reading comprehension. After she did think-aloud, she was also asked for retrospective interview. In this interview, participant was asked some questions related to her strategy in reading (before and after the metacognitive training). Participant's respond was also recorded to know the information about her strategy in reading.

The other method was giving participant a motivational questionnaire to fill. This questionnaire was used in order to identify her motivation in reading. The questionnaire was given in pre and post tests.

Think-aloud method. Think-aloud has been defined as a method, which involves recording everything that participants say (Creswell 2008). This study has applied a concurrent report of cognitive processes by generating the participants' planning activity through use of a think-aloud procedure. According to Lawson and Hogben (1996), even though the think-aloud procedure had several limitations like other data gathering procedures, the products of cognitive activity that were in the current focus of attention can be expected to be well reported (Ericsson & Simon 1993).

In a concurrent think-aloud procedure participants are not asked to describe or explain what was being done. Rather they reported on the thoughts that were in the focus of their attention (Lawson & Hogben 1996). Think-aloud procedures have now been applied in several language learning studies, such as for vocabulary acquisitions, self-regulated learning strategy, and so forth even though none of these studies had engaged students in the type of task applied here (Lawson & Hogben 1996).

In this study, the concurrent think aloud method was applied to gather think-aloud data since it was believed that it would present a more accurate picture of participants' on-line processing in their working memories while comprehending reading texts. Moreover, this concurrent strategy of think aloud process was important since this study also entailed counting the actual time spent on different reading strategies in reading activities.

Think-aloud instruction in the present study was explained by asking all of

participant to say everything that come to their mind while comprehending the reading tasks. In this method, participant was allowed to use either English or her first language as the language of reporting. The reason for this was to make her feel more comfortable in performing the reading task. Participant was given the opportunity to practice the think-aloud method by explaining aloud how to get from the current site to a building she was familiar with. Feedback on this practice was provided to emphasize the importance of giving a full report of what she was thinking. No modeling was provided to avoid influencing the participants' behaviour.

Data Analysis Techniques

Data that were collected by questionnaire and reading questions were analysed by Microsoft Excel. Moreover, qualitative data from participants think-aloud were analysed by coding, categorization, and also interpretation. The coding process for analysis of think-aloud data was also carried out using Microsoft Excel software. The data were coded using a set of codes based on cognitive theories of metacognition in doing reading comprehension. The qualitative data from participants think-aloud were identified whether it indicated the metacognitive strategies in reading comprehension or not. Also, from think-aloud data, it was identified whether there was improvements in doing metacognitive strategies while reading or not. After that, the association between the metacognitive strategies while reading and the motivation of reading comprehension was also identified.

Procedure

Pretest. Observing participant's reading strategies was done by implementing think aloud method. This method was done in order to identify whether participant has already applied metacognitive strategies in her reading strategies or not. Think aloud method was used also to explore sort of strategies that participant has already applied in comprehending reading text. Moreover, this method was used to support identification in participant's motivation (particularly attribution).

In this think aloud method, participant was asked to do two methods in think aloud procedure, there were concurrent strategy and retrospective procedures.

1. In concurrent procedure, participant was asked to read aloud reading passage

without stopping. This strategy was identifying what strategies that participant had used in reading comprehension.

2. In retrospective procedure, participant was asked to review her reading strategies by answering some questions, such as :

- a. What sort of strategy that you have used to understand the reading passage?
- b. How can you grasp the main idea in reading passage?
- c. What do you do well as a reader in comprehending reading passage?
- d. Do you have sort of specific strategy in comprehending reading?
- e. What do you do before start reading?
- f. What do you do while you are reading to get more idea of understanding reading?
- g. What do you do when you come to a word you don't understand?
- h. When you come to a part of the text that is confusing, what do you do?
- i. After you finish reading, what do you do?

After finish reading, participant was asked to answer some questions related to the reading passage in order to measure her reading comprehension performance. The questions were already provided in IELTS texts.

Then, identifying participant's motivation, including measuring participant's self efficacy, interests, and attribution in doing reading comprehension was done by asking participant to fill a motivational questionnaire. In this questionnaire, participant was asked to generate her confidence in performing reading texts with scale 1 to 7 (strongly disagree – strongly agree).

The results of pretest were used to identify whether participant had already applied metacognitive strategies in reading or not. Also, this pretest was identifying participant's skills in comprehending reading and her motivation.

Intervention. The intervention was done by focusing on implementation of metacognitive strategies in student's reading strategies. The intervention strategy was teaching participant in generating some questions before, while, and after reading. This strategy aims to guide participant doing metacognitive planning, monitoring, and evaluating strategies.

1. Planning strategy

In this part of intervention, participant was guided to:

- ✓ set the goals of reading passage
- ✓ predict what the reading will tell about
- ✓ create a connection between reading texts and prior knowledge

2. Monitoring strategy

In this part of intervention, participant was guided to:

- ✓ monitor comprehension by always controlling his/her understanding when she was reading text by generating some questions related to reading passage.
- ✓ pause her self whether she could not grasp the idea of the texts.
- ✓ comprehend the text by integrating meaning relations words by words or sentences by sentences.

3. Evaluating strategy

In this intervention, participant was guided to:

- ✓ generate several questions in order to ask his/ her understanding of reading passage.
- ✓ review the understanding of reading texts.

The intervention guideline is presented as below,

In implementing intervention procedure, participant was taught how to implement metacognitive strategies in reading comprehension by giving explanation how important applying metacognitive strategies in reading comprehension strategy. Moreover, modeling was presented to guide participant more understand in applying strategy in reading comprehension.

There were three steps in teaching metacognitive strategies:

1. Participant was guided to implement planning metacognitive strategies by setting some goals, predicting the reading about, and activating prior knowledge related to the texts before she started reading passage by generating some questions to herself, such as :
 - a. Do I read the title and headings?
 - b. Do I look at the pictures?
 - c. Do I predict what the passage might be about?
 - d. Do I ask myself what I already know about the topic?
 - e. Do I need to read this reading passage?

f. Do I need to use organizational structure of text to help me understand this reading passage?

2. After that, participant was guided to implement monitoring metacognitive strategies by generating some questions to monitor her understanding while reading by asking herself some questions, such as :

- a. Do I think about what I am reading?
- b. Do I pause or stop sometimes and ask myself whether I understand the reading or not what I have read about so far?
- c. Do I picture in my mind the people, places, and events I am reading about?
- d. Do I imagine that I am talking with the author while I am reading?
- e. Do I consider some options when I am trying to answer the questions that I have asked before reading?
- f. Do I need to review what I have read in order to understand the reading?
- g. Do I analyse the content of reading already?
- h. Do I translate the information that I have read in my own words?
- i. Do I still keep myself on the track the reading?
- j. Do I look for clues and try to figure it out?
- k. Do I use a glossary or dictionary if I do not know the words, sentence, or passage?

3. Lastly, participant was taught to generate some questions in order to do evaluating and reviewing reading comprehension, such as :

- a. Do I read the text again?
- b. Do I just keep reading?
- c. Do I try to get help from pictures or drawings?
- d. Do I think about what I have read?
- e. Do I do something with the information that I have learned?
- f. Do I compare what I have just read with what I already knew?

Participant was taught the strategies in implementing metacognitive strategies at least 3 times before finally she was asked to do post test. This strategy was done in order to make participant more familiar in implementing the metacognitive strategy in his reading comprehension.

Post test/Measurement. In post test, participant was asked to do the same

activities as in pre test. She was asked to do think aloud while she was reading a different text with the same level of difficulty taken from IELTS reading test. Then, she was asked to answer some questions related to the reading passage in order to measure her comprehending in reading. Lastly, she was asked to fill the same motivational questionnaire to identify motivation changes after the interventions.

The post test of this study aims to assess:

1. **The implementation of metacognitive strategies in participant's reading strategies.** The result of this part was used to identify how participant could apply metacognitive strategies in her reading comprehension.
2. **Participant's reading comprehension improvement.** The result of this part was used to know the impact of implementing metacognitive strategies on participant's reading comprehension performance.
3. **Participant's motivation changes in reading comprehension.** The result of this part was used to compare participant's motivation, including self efficacy, interests, and attribution before and after intervention, whether there were changes in participant's motivation or not after implementing metacognitive strategies in reading strategies.

In order to check whether participant understood about metacognitive strategies, which were taught, or not, she was asked to explain her understanding about the strategies and was also asked to teach another person the same reading strategies as she was received. This strategy was applied in order to evaluate the effectiveness of the intervention method, which was taught to participant.

RESULTS AND DISCUSSION

Reading Comprehension Strategies

1. How student can apply metacognitive strategies within their reading strategies?

It was found that participant did not know the concept about metacognition in reading before the intervention. This condition was revealed from her think aloud reading and the interview results, which did not indicate her knowledge about metacognition and her implementation of metacognitive strategies in reading.

Moreover, data revealed that she never applied metacognitive strategies in comprehending her reading before, during, and after reading before the intervention processes. She said that she did not have specific strategy in reading and she just did *skim and scan strategies* in reading. The reason for this was because she thought that she could already grasp the whole idea of the texts only by looking at the main idea and keywords. Moreover, she said that applying specific strategy might take long time. (*I have no specific strategy in reading because I don't need to understand the whole reading passages..... I just need to look at the main points and keywords on the texts to get the whole idea because I have no enough time*). Therefore, she only did reading through the passage without checking her deep understanding about the whole idea of the texts or in other words, she never tried to comprehend the readings properly. According to Paris and Winograd (1990) cited in Pierce (2003), less skilled readers tended to be limited in their ability to apply metacognitive strategies. Therefore, it could be identified that participant might be less skilled readers since she never implemented sort of metacognitive strategies in checking her comprehending in reading before the intervention.

Nevertheless, according to data from think aloud, participant has shown changes in applying metacognitive strategies in reading, which is generating questions before, during, and after reading, after three times has been taught the metacognitive strategies in reading. Data showed that there were some changes in participant's planning, monitoring, and evaluating strategies in comprehending reading, particularly in checking understanding. Participant presented generating some questions before, while, and after reading to her self related to the texts. This means that after the training processes, participant showed changes in terms of applying one of metacognitive strategies in reading. Data results of each step in metacognitive strategies are going to analyse and discuss in the following subheadings.

Planning Strategy. Data before the intervention revealed that participant did not do planning before started reading. This means that she just did reading through the passage and she never did setting goals, generating questions, or other planning strategies to acknowledge the reading text

with her prior knowledge (*I just do reading straight away... I don't have anything else before reading*). In fact, comprehending reading text requires both bottom-up words recognition processes and top-down comprehension processes (Verhoeven & Perfetti 2008) and it also requires integration memory-based and constructivist aspects (Verhoeven & Perfetti 2008). This means that integrating reading text with prior knowledge tends to be one of important factor to help readers comprehending reading (Jetton 2000). Analysing data results are being presented in Table 1.

Data above present that participant has changed in implementing planning strategy of reading. Participant never did generating questions and setting goals (metacognitive strategies) before the intervention. Rather, she was doing translating words per words and sentences per sentences to grasp the main idea and to comprehend the reading texts. However, after the intervention, participant revealed changes in reading

strategies. This was presented by her strategy in interpreting the picture on the text before reading texts, asking herself whether she has prior knowledge about reading passage after reading the title, looking carefully at title, pictures, and questions provided before started reading, asking herself about the content of reading will be, elaborating between her prior knowledge and reading text. This means that the implementing metacognitive strategies have been applied in her reading strategies, particularly in planning strategy.

Monitoring Strategy. According to think aloud data, participant revealed changes in terms of implementing metacognitive strategies in reading, particularly in monitoring strategy. Before the intervention, she only did "pause her self" and "reread" when she found difficulty in grasping the idea of texts. Also, she did paraphrasing the texts into her words to check her understanding while she was reading the texts.

Table 1. Data planning strategies in reading

Criteria	Pre test	Post test
a. Planning	✓ Never does planning by setting the goals or setting times	✓ She was trying to interpret the picture on the text (<i>this picture contains men and women.. so, I bet this text will be about comparison between men and women achievement</i>)
	✓ Never generates questions before start reading	
	✓ She only reads directly the text and does not really keep attention about the meaning of title or the goal of reading	✓ Asking herself whether she has prior knowledge about reading passage after reading the title (<i>so do I know what the meaning of higher success rate among women?</i>)
	✓ Just keep reading the text without keeping attention to her prior knowledge related to the reading text	✓ Looking carefully at title and picture ✓ Looking at the questions provided before started reading ✓ Asking herself about the content of reading will be (<i>is it about men's and women's achievement at works?</i>) ✓ Elaborating between her prior knowledge and reading text (<i>well, I think men will be better in performing management system rather than women though...</i>)

Table 2. Data monitoring strategies in reading

Criteria	Pre test	Post test
b. Monitoring	<ul style="list-style-type: none"> ✓ She comprehended reading by translating words to words and per sentence ✓ Pausing herself when she found something not clear enough. ✓ Reread when she does not really grasp the idea ✓ Paraphrasing the sentence into her own words (so, <i>researchers are trying to find the clue by identifying brain stuctures..</i>) 	<ul style="list-style-type: none"> ✓ She comprehended reading by translating words to words and per sentence to grasp the idea of text. ✓ She was pausing herself while she was confused about the sentences/ meaning of sentences. ✓ Reread when she does not really grasp the idea ✓ Paraphrasing the sentence into her own words (so, <i>researchers are trying to find the clue by identifying brain stuctures..</i>) ✓ Elaborating her understanding about the reading text by making connection to her prior knowledge and telling herself to make more understand the idea (<i>Ehmmm... I see, that's why nowadays a number of women, who stay in management system has increased steadily....</i>) ✓ She was generating some questions related to the sentences to understand more (so <i>why women can get the same position with men at works???. do I really know the reason?? ow.. I see....</i>) ✓ She was asking herself about the idea of the reading passage (<i>ehmm... so what's the meaning? Can I grasp the meaning here? Ow... maybe... women have already shown off that they can be people who are needed in management</i>)

Nevertheless, she showed changes after the metacognitive training in implementing metacognitive strategies, particularly in monitoring processes while reading. Besides doing "pausing her self", rereading, and paraphrasing the idea of the texts, she also applied some metacognitive strategies in reading, such as elaborating her understanding about the reading text by making connection to her prior knowledge and telling herself to make more understand the idea, generating some questions related to the sentences to understand deeply, and asking herself about the idea of the reading passage (generating some questions in checking understanding).

Related to this, participant seems to be a good comprehend reader since she has implemented sort of strategies that have been taught in the intervention, particularly in monitoring strategies successfully. Therefore, according to, Pressley and Gaskins (2006), readers, who were knowledgeable and also strategic readers in reading were being defined as good comprehended readers. Also, good readers were defined as individuals who comprehend text by

connecting reading text with past experiences, interpret, evaluate, synthesis, and consider alternative interpretations (Klingner 2004). Data of implementing monitoring strategies in reading comprehension are presented on the following table.

Evaluating Strategy. Data on Table 3 present that participant improved her reading strategies after received the metacognitive training, particularly in evaluating strategies. She seems to implement metacognitive strategies; including telling herself about the reading passage and asking herself some questions related to the reading passage in order to check her understanding after reading. These strategies presented together with generating general conclusion and highlighting strategies, which have already been used before the intervention strategies. Therefore, it can be concluded that participant already implemented metacognitive strategies in her reading processes, which she never did before the training. Meanwhile, the intervention about teaching how to implement metacognitive strategies in reading strategies has been

successful to be understood and be implemented in her reading comprehension.

Also, the metacognitive strategies that have been taught in the intervention processes seem to be understood well since she could explain properly the metacognitive strategy concept, including what sort of strategies that she should apply in her reading and what the goals of the strategies in reading comprehension. Moreover, her understanding about the strategies has been shown by her ability to teach the same strategy in reading with similar steps as in interventions to another student. This finding showed that she understood well about the strategy concepts and the strategy goals.

Reading Comprehension Skills

2. *What is the impact of implementing metacognitive strategies within student's reading comprehension strategies on their reading comprehension performance?*

Data on the following table presented that there was no difference on participant's performance in reading comprehension. This condition was presented by reading comprehension score pre test and post test, which were 5/7 and 5/7 respectively. These

results showed that participant did not show performance change before intervention and after intervention. This means that her ability in reading comprehension is still staying on the same level.

This condition might be caused by poor eligibility of questions since the questions were already provided on the IELTS reading text. IELTS reading comprehension questions only guide participant to know about the contents even with just limited understanding since they were asking participant to identify the answer directly from the reading text. Meanwhile, participant was not guided to answer open questions about the reading. Further, she was only asked to answer close questions and the answers were already provided exactly on the reading texts. Accordingly, it is identified that this finding does not approve the theory, which states that the use of metacognitive strategies positively improves the subject reading achievement (Marsha & Camahalan 2006) since participant's reading comprehension performance is still the same as before the intervention has been implemented.

Table 3. Data evaluating strategies in reading

Criteria	Pre test	Post test
c. Evaluating	<ul style="list-style-type: none"> ✓ Generating general conclusion based on her understanding of reading (So, the conclusion is that majority of right hand people have the centre of language in left side; however, 30% of them have the centre of language in right side..) ✓ She does highlighting to help her more understand the reading 	<ul style="list-style-type: none"> ✓ Generating/reviewing the reading content to herself (so... do I really know the reason why men and women have similar rate at works?? Well I think this is because...) ✓ She does highlighting to help her more understand the reading ✓ Telling herself about the reading passage (So, this paragraph is figuring out about the difficulty to distinguish between men's and women's successful rate at work) ✓ Asking herself whether she has already grasped the idea or not (hang on... do I really grasp the idea of this sentence? I don't think I really understand it..) so, what's the maning of equality here??? What equality the author means?

Table 4. Data reading comprehension performance

Pre test	Post test
5/7	5/7
She tended to do repetition explanation about the reading text rather than short explanation based on her understanding by paraphrasing. ("majority of right hand people have the centre of language in left side; however, 30% of them have the centre of language in right side..." is mentioned three times in her explanation)	She generated and paraphrased the paragraph by telling the content of the text rather than doing repetition when she was asked to do retelling about the reading passage. ("So, we can generate the conclusion from this text that higher education is one of key factors to support gender equity at works")

On the other hand, qualitative data from the interview revealed that participant's performance in explaining the main idea of reading texts has changed after the training. It was revealed that before the intervention, participant was only doing repetition or copying from the reading text in explaining the main idea, but then after the intervention, she tended to do more paraphrasing or telling the main idea of the text by using her own words while she was explaining the whole idea of the texts. It was identified from this evidence that her ability in comprehending reading was better after she implemented metacognitive strategies in reading. Therefore, this evidence supported the research finding that instruction in metacognitive strategies improved the students' reading comprehension (Eilers & Pinkley 2006) and explicit instruction of reading tended to positively affect on students' reading comprehension (Eilers & Pinkley 2006).

Moreover, the evidence of the qualitative data also approved theory that implementing metacognitive strategies in reading would enhance comprehending skills in reading (Israel et al. 2005). Also, the finding supported the theory that enhancing metacognitive strategies in reading comprehension would help students to comprehend their understanding of reading passage (Cotterall & Murray 2009).

The impact of Metacognitive Strategies on Motivation

3. What is the impact of implementing metacognitive strategies within student's reading comprehension strategies on their motivation?

Data revealed that participant's motivation scores before the intervention were pretty high. This means that participant was already high in self efficacy, interest, and positive attribution for reading before the training processes. Also, it could be identified that participant was a motivated reader in performing reading passages. According to Maxwell (1997) cited in Molden and Dweck (1999), students who lack motivation in reading will be single out, feel unintelligent, and also resist public attempts to help them.

Furthermore, data before the intervention showed that participant was high motivated in reading, but she was identified to less engage with reading text due to limited time (*Im confident and fast learner, so*

I don't have to spend more time in either reading or learning). This condition did not approve Pierce's theory (2003) that stated motivation affected the intensity and the duration of the learning activities in which students tended to spend more time in learning activities when they have high motivation.

Also, it is stated that struggling readers, who are not motivated, tend to only focus on decoding and pronunciation rather than comprehension, rarely activate background knowledge, never monitor their comprehension, and rarely raise questions about meaning while reading (Paris & Winograd 1990 cited in Spörrer et al. 2009). Nevertheless, in this case, even though participant was a motivated reader, she was found to less generating questions while reading; less monitoring her comprehension, and still focusing only on pronunciation than comprehension before the intervention processes. Therefore, the finding about participant's motivation score does not support the theory above.

However, data after the intervention reveal that implementing metacognitive strategies in reading has changed motivation. Data on the following table (Table 5) present that participant's self efficacy score has improved from 29/35 to 30/35 after the intervention processes. This finding has approved theory by Kleitman and Stankov (2007), which states that metacognitive strategies are found to lead students to have high self efficacy in performing tasks and this case is in performing reading comprehension.

Furthermore, it can be seen that participant's interest score has changed after the intervention processes from 10/21 to 17/21. This finding has approved the research finding, which states metacognitive strategies will engages students' involvements and interests in reading since it gives students opportunity to monitor, plan, and evaluate progress of their work, organise and transform information to improve their reading comprehension and sets goals and plan for activities (Marsha & Camahalan 2006). Therefore, implementing metacognitive strategies in reading strategies can improve participant's interest score since she can engage more in reading passage while reading.

In addition, it was found that implementing metacognitive strategies in reading engaged more positive attribution. It

was identified from participant's attribution before and after the intervention. She tended to give positive attribution to herself while reading when she understood and implemented the metacognitive strategies in reading. This finding supported the research finding, which states that metacognition has significant correlation with motivation since it affects students' attribution and self-efficacy in reading directly (Pierce 2003).

Table 5. Motivation data in reading comprehension

Motivation	Pre test	Post test
Self efficacy score	29/35	30/35
Interest score	10/21	17/21
Attribution	<i>Im good in learning coz Im a fast learner. I cannot read that long text</i>	<i>I can read better I can get more idea about the reading I can understand deeply by asking myself about my understanding of reading.</i>

Nevertheless, it was found that motivation changes after the intervention processes were not too significant different. This was because participant's motivation before the intervention processes was already high. And the possibility a "ceiling effect" might happen that was indicated by only a little space available for participant to change or to improve during the intervention processes. Therefore, she changes in limited conditions by the training effects.

In general, it was identified that the implementing metacognitive strategies in reading changed participant's motivation, including self-efficacy, interest, and attribution in reading comprehension. These findings support the theory, which states that metacognition leded students to have high self efficacy in performing tasks (Kleitman & Stankov 2007) and it also related to motivation (Hammann & Steven 1998; Zimmerman 2002).

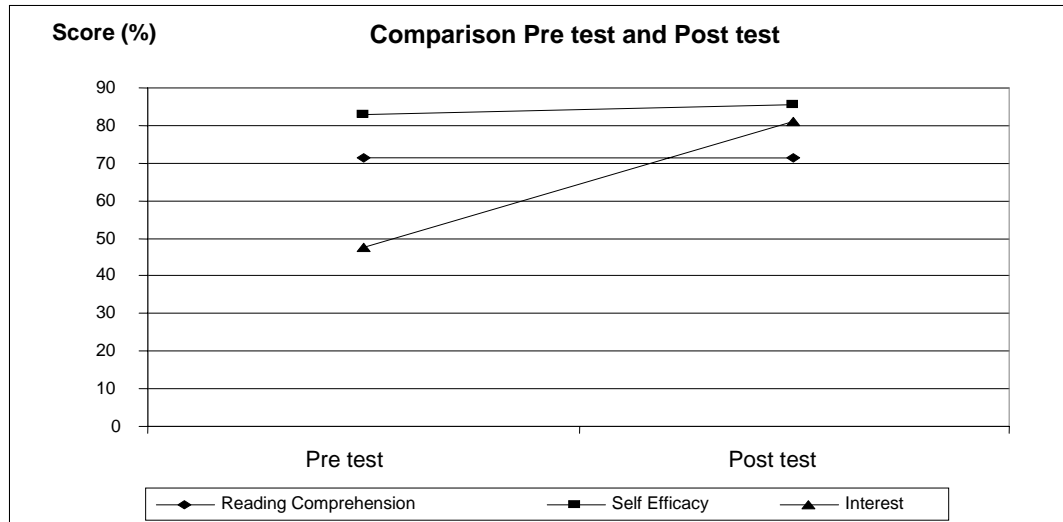
Also, the findings approved Aksan & Kisac theory (2009), which stated that metacognitive skills would change level of motivation and cognitive awareness skills. Moreover, another research has also been approved by the evidence, that metacognitive strategies would enhance motivational intensity (Vandergrift 2005). This was because metacognitive strategies were positively associated with a motivational constructs, particularly self efficacy and intrinsic motivation (Bruning et al. 2004).

The Association between Motivation Change and Reading Comprehension Skills.

4. What is association between motivation change and student's reading comprehension skills?

Finding data revealed that motivation changes do not have association with participant' reading comprehension skills. It can be identified that participant's self-efficacy, interest improvement, and positive attribution changes did not associate with reading comprehension performance improvements. These findings were presented on the following picture (Picture 1), which motivation changes were not followed by reading performance changes. Therefore, the findings did not approve the theory that motivation was required in reading comprehension in which students with high motivation were also predicted to comprehend reading easily since motivation was identified as the prominent predictor of frequent reading (Morgan et al. 2008 cited in Anmarkrud & Bråten 2009). Also, the findings did not support another research finding that revealed motivation could improve prediction of text comprehension (Anmarkrud & Bråten 2009).

The reason why this condition happened might be because of unreliable questions provided to assess participant's reading comprehension changes. Therefore, participant's comprehending skills in reading was not really being assessed properly due to the eligibility and quality of questions.



Picture 1. Graphic comparison between pre test and post test in reading comprehension performance, self efficacy, and interest scores

CONCLUSION

It was found that participant did not know the concept about metacognition in reading before the intervention, so she never applied metacognitive strategies in comprehending her reading before, during, and after reading before intervention processes. However, participant showed changes in applying metacognitive strategies in reading, which is generating questions before, during, and after reading, after three times has been taught the intervention strategies in reading.

Data showed that there are changes in participant's planning, monitoring, and evaluating strategies in comprehending reading, particularly in checking understanding the texts by generating some questions before, while, and after reading. This means that after the metacognitive training processes, participant showed changes in applying metacognitive strategies in reading comprehension.

Moreover, it was found that there was no difference in participant's reading performance since her reading scores pre test and post test were staying on the same level. However, data revealed that participant's performance in explaining the main idea of reading texts has changed after the intervention. In addition, implementing metacognitive strategies in reading changed participant's motivation, including self-efficacy, interest, and attribution in reading

comprehension. Nevertheless, there is no significant different before and after the intervention processes due to 'ceiling effect' in this study. It is suggested to enhance the number of participants in order to increase the scale of the research.

Furthermore, Data revealed that motivation changes did not have association with participant's reading comprehension skills since participant's self-efficacy, interest improvement, and positive attribution changes were not followed by performance improvements. The reason of this condition might be because of unreliability and poor quality of questions provided to assess participant's reading comprehension changes. Therefore, a further study to analyse how metacognitive strategies can also change the reading comprehension should be developed in a wider scale.

REFERENCES

- Aksan N, Kisac B. 2009. A descriptive study: Reading comprehension and cognitive awareness skills. *Procedia Social and Behavioral Sciences* 1, pp. 834–837.
- Artino AR, Stephens JM. 2009. Academic motivation and self-regulation: a comparative analysis of undergraduate and graduate students learning online. *The Internet and Higher Education*, doi : 10.1016/j.iheduc.2009.02.001.

- Anmarkrud O, Bråten I. 2009. Motivation for reading comprehension. *Learning and Individual Differences* 19, pp. 252–256
- Bruning RH, Schraw GJ, Norby MM, Ronning RR. 2004. *Cognitive Psychology and Instruction*. New Jersey: Pearson.
- Cotterall S, Murray G. 2009. Enhancing metacognitive knowledge: Structure, affordances and self. System, pp. 34–45.
- Creswell JW. 2008. *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (3rd). New Jersey: Pearson Education.
- Creswell JW, Clark VLP. 2005. *Designing and Conducting Mixed Methods Research*. Sage Publications, London, New Delhi: Thousand Oaks.
- Delors J. 1996. Learning: the treasure within, report to UNESCO of the international commission on education for twenty-first century. UNESCO Publishing, Paris.
- Eilers L, Pinkley C. 2006. Metacognitive strategies help students to comprehend all text. *Reading Improvement*, Spring, 43, 1, pp. 13 – 28.
- Hammann LA, Steven RJ. 1998. Metacognitive awareness assessment in self regulated learning and performance measures in an introductory educational psychology course. Paper presented in Annual Meeting of the American Educational Research Association, San Diego, CA, 13 – 17 April.
- Israel SE, Bauserman KL, Block CC. 2005. Metacognitive assessment strategies. *Thinking Classroom*, 6, 2, pp. 21 – 28.
- Kleitman S, Stankov L. 2007. Self-confidence and metacognitive processes. *Learning and Individual Differences* 17, pp.161–173. www.elsevier.com.
- Klingner JK. 2004. Assessing reading comprehension. *Assessment for Effective Intervention*, 29, pp. 59 -72.
- Lawson MJ, Hogben D. 1996. The vocabulary-learning strategies of foreign-language students. *Language Learning*, 46 (1), 101-135.
- Marsha F, Camahalan G. 2006. Effects of a metacognitive reading program on the reading achievement. *Reading Improvement*, 43, 2; *ProQuest Education Journals*, pp. 77- 94.
- Michael P. 1995. *Cognition, teaching, and assessment*. New York: Harper Collins College Publishers.
- Molden DC, Dweck CS. 2000. Meaning and motivation. In C. Sansone & J. M. Harackiewicz (Eds), *Intrinsic and extrinsic motivation. The search for optimal motivation and performance* (pp. 131 – 159). San Diego, CA :Academic Press.
- Morgan PL, Fuchs D, Compton DL, Cordray DS, Fuchs LS. 2008. Does early reading failure decrease children's reading motivation?. *J Learn Disabil*, 41, pp. 387 – 396.
- Pierce W. 2003. Metacognition: study strategies, monitoring, and motivation. A greatly expanded text version of a workshop presented November 17, 2004, at Prince George's Community College. <http://academic.pgcc.edu/~wpeirce/MCCCTR/metacognition.htm>.
- Pressley M, Gaskins IW. 2006. Metacognitively competent reading comprehension is constructively responsive reading: how can such reading be developed in students. *Metacognitive Learning*, 1, pp. 99 – 113.
- Schraw G. 1998. Promoting general metacognitive awareness. *Instructional Science* 26: 113–125.
- Silverman D. 2005. *Doing Qualitative Research* (2nd Eds). London, New Delhi: Sage Publications.
- Spoerer N, Brunstein JC, Kieschke U. 2009. Improving students' reading comprehension skills: effects of strategy instruction and reciprocal teaching. *Learning and Instruction*, 19, pp. 272 – 286.
- Vandergrift L. 2005. Relationships among motivation orientations, metacognitive awareness and proficiency in L2 listening. *Applied Linguistics*, 26, 1, pp.70 – 90.
- Verhoeven L, Perfetti C. 2008. Introduction advances in text comprehension: model, process and development. *Applied Cognitive Psychology*, 22, pp. 293 – 301.
- Zimmerman BJ. 2002. Becoming a self regulated learner: an overview. *Theory Into Practice*, Vol. 41, No. 2, Spring.IX.

Appendices

Appendic 1. Motivation Questionnaires

* Self-efficacy and Interest Questionnaire

Let's begin by asking you to evaluate some statements about your life as a student. Below is a list of statements concerning your beliefs, feelings, and

expectations about your courses. Each statement is accompanied by the numbers 1 through 7- with 1 indicating that the statement definitely is not true of you, 7 indicating that the statement definitely is true of you, and the other numbers representing

shades in between. For each statement, please circle a number that best corresponds to your level of agreement (with 1 meaning that you strongly disagree and 7 meaning that you strongly agree).

I know that I will be able to learn all the materials for my class.	1	2	3	4	5	6	7
I'm certain I can understand the ideas taught in my class	1	2	3	4	5	6	7
I'm sure I can do an excellent job on the problems and tasks assigned for my class	1	2	3	4	5	6	7
I work hard to get a good grade even when I don't like my class	1	2	3	4	5	6	7
Even when study materials are dull and uninteresting, I keep working until I am finished	1	2	3	4	5	6	7
I work on practice exercises and answer end of chapter questions even when I don't have to	1	2	3	4	5	6	7
If I perform poorly on a test in my class, it is because I did not try hard enough to learn the material	1	2	3	4	5	6	7
Doing well in the class depends on how much effort I give	1	2	3	4	5	6	7
Luck does not have much effect on my grade in my course	1	2	3	4	5	6	7

* Korespondensi :
Email : eva_gmsk39@yahoo.com