

Bilingual Readers' Metacognitive Strategies as Predictors of Reading Comprehension

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Abstract

Mokhtari and Reichard's (2002) Metacognitive Awareness Reading Strategies Inventory (MARSI) was administered to the 30 participants to assess their metacognitive awareness and perceived used of reading strategies. Furthermore, two types of reading comprehension tests (multiple choice and unaided written recall) based on four reading materials (two narratives and two expository) have been used to gather data. Results reveal that the participants use the three major types of metacognitive reading strategies. However, results have not been conclusive as to which strategy affects reading comprehension more because there was no single predictor of the reading tests scores. Nonetheless, the results of the study validated the relationship between bilinguals' use of metacognitive reading strategies and their reading comprehension.

Keywords: Metacognitive, Reading, Comprehension, Predictors

Introduction

Described as a multifaceted process, reading has been analyzed by experts by breaking it down into a set of component skills to understand and explain the process of fluent reading. One of the six general component skills is metacognitive knowledge and skills monitoring which are the two main areas of metacognition (Grabe, 1991). Metacognition or metacognitive awareness is "being conscious of one's own mental processes" (Gunning, 1996, p.225) which includes having the ability to plan, check, monitor, revise and evaluate one's unfolding comprehension. Metacognitive knowledge is the knowledge about cognition and its self-regulation that involves such skills as recognizing the more important information in a text, adjusting reading rate, using context clues, skimming, previewing, formulating questions, taking notes, and summarizing (Grabe, 1991).

Metacognitive regulation on the other hand, which is the ability to manage one's own thinking process, is further subdivided into three groups of strategies: monitoring strategies, checking strategies, and repairing or fix-up strategies (Grabe, 1991).

Baker and Brown (1984) posited that the teaching of metacognition should be built in all reading instruction because "any attempt to comprehend must involve comprehension monitoring" (p. 385, in Gunning, 1986). Although reading experts in general consider it a developmental process, they agree that metacognition can already be introduced and taught to young readers so that the basic strategies would be familiar to them at an early age. Furthermore, since the understanding of the reading process is not limited to identifying effective and appropriate strategies, but also includes being aware of the correct reason and appropriate use of the strategies, Philip and Hua (2006) suggested that teachers guide their students to know not only the "what" of metacognitive reading, but also the "why" and the "when" of it.

Previous Studies on the Use of Metacognitive Strategies in L2 Reading

According to Singhal (2001), not many studies have examined readers' metacognitive awareness of reading strategies, strategy use, and reading proficiency. Furthermore, much of the research on metacognition and metacognitive strategies has employed participants who were reading in their first language. Doing a study on how second language readers use metacognitive strategies would be different because an important dimension is added in the analysis part since readers process reading texts in their first language differently from how they process those which are written in their second language (Connor, 1984, in Knight, Padron, & Waxman, 1985). The studies that are reviewed in this section focus more on how readers read in a second language since the participants in the current study are described as second language readers.

Carrell (1989) did a study to describe the metacognitive awareness of second language readers on the reading strategies in their L1 and L2, and the relationship between their metacognitive awareness and comprehension in both languages. Results revealed

that local reading strategies such as focusing on grammatical structures, sound-letter, word meaning and, text details tended to be negatively correlated with L1 reading performance, which was a surprising result when compared with previous findings according to the researcher. Moreover, the ESL students who were more proficient readers, tended to be more global (used background knowledge, text gist, and textual organization) or top-down in their perceptions of effective and difficulty-causing reading strategies, while those at lower proficiency levels were inclined to be more local. Knight, Pardon, and Waxman (1985) compared the reading strategies employed by ESL Spanish students and English monolingual students while reading. Their findings revealed that concentrating was the most cited strategy among the monolinguals during the interview after reading a text, while it was attempting what the teacher wanted to know among the bilinguals. Also, strategies like imaging, noting details, and predicting outcomes were not mentioned by the bilinguals. Lastly, the monolingual participants used twice as many reading strategies used by the bilingual participants. The researchers concluded that the bilinguals were made to read in English too quickly that they have not gone beyond decoding-level processing. Barnett (1988) examined the relationships among reading strategies and perceived strategy use. Results revealed that students who effectively noted the context as they read comprehended the text more than those who did not use this strategy often. Moreover, students who thought they used the said strategies were more productive because they understood the text better. Xianming (2007) studied the awareness of metacognitive reading strategies among 74 freshmen college students. Using the Metacognitive Awareness of Reading Strategies Inventory by Mohktari and Reichard (2002), interview, and passive participant observation, the researcher was able to identify the various metacognitive strategies used by the respondents. Overall, there was a moderate use of the strategies, with rereading, encircling and underlining, translating, and knowing the questions to be answered prior to reading as the most commonly used ones.

Anderson (1991) also studied differences in strategy use among adult second language learners while engaged in two reading tasks: taking a standardized reading comprehension test and reading

academic texts. Results revealed that there was no single strategy that significantly caused the success on these two reading measures. Both high and low scoring readers appeared to be employing the same kind of strategies while answering the comprehension questions. However, high scoring students seemed to be applying strategies more effectively and appropriately. Another study claimed that good readers attend to meaning, read in phrases, and persevere through texts (Hosenfeld, 1977). The study reported that unsuccessful reader on the other hand, forgot the meaning of the sentences after it has been decoded, read in brief phrases, focused on inconsequential words, hardly ever ignored unimportant words, and had negative self-concepts. These studies point to three important findings: One, both successful and unsuccessful bilingual readers employ strategies when they read. Two, the successful ones use the better and more appropriate strategies while the others rely on basic and decoding strategies. Finally, readers use different strategies when reading in their first and second languages.

Philip and Hua (2006) showed how explicit teaching of metacognitive reading strategies could help both high proficient and low proficient college readers improve their comprehension skills when reading academic texts. Using Retrospective Written Recall Protocols (RWP), the researchers were able to identify the actual reading strategies employed by the students during several reading tasks which allowed them to conclude that explicit teaching of metacognitive strategies, including the underlying processes involved in the strategies, indeed helped students understand what strategic and effective reading is all about.

There are studies in the Philippines which support similar findings. Sadorra (2000) attempted to describe how 29 underperforming college freshmen read complicated academic texts written in English and Filipino. She reported that overall, the participants read at a "detail level" which did not allow them to get the major ideas as well as to interpret the materials. The study also noted that they did not use any strategy that helped them comprehend the text written in Filipino, although they attempted to employ their content schema and to identify important information when they read the materials in English. A similar study was conducted by Gaerlan (2005) who reported that skilled readers use

word monitoring strategies most of the time when reading narrative texts, while it was comprehension monitoring for the less skilled readers. There was no dominant strategy for both groups of readers when they read expository texts.

Lastly, a study by Castillo (1999) on the effectiveness of metacognitive strategy training on both the reading and listening comprehension of first year high school students revealed that participants in both control and experimental groups had better scores after the intervention. Why the participants in both groups improved after receiving a different treatment may mean that other variables, such as motivation, came into the picture.

Related to the last point of the previous study is a fairly recent observation that there are students who fail even though they have knowledge that should help them succeed. There are studies which have reported that "negative motivational beliefs may explain why some students fail to use knowledge effectively...and that the consequences associated with ineffective strategy use are serious" (Collins, Dickson, Simmons, & Kameenui, n.d., par.124).

Borkowski (1992, in Collins, Dickson, Simmons, & Kameenui, n.d) explains that "motivational beliefs develop over time as a function of how "refined" one becomes in their strategic and executive processing" (par. 103). Motivational beliefs like self- competency, strategy awareness, and effort are developed as readers refine their metacognitive awareness and strategies use. Corollary, negative motivational beliefs develop when the same processes are not advanced. He further posits that motivational beliefs have some bearing on whether strategies will be selected and used in the future. Those strategies that have resulted in feelings of self-competency are maintained while those that have negative effects are rejected.

The Present Study

This exploratory, descriptive-correlational study focused on adolescent Filipino bilingual learners and investigated three research questions in a sample of third year high school students.

1. What metacognitive reading strategies do third year high school students report to be using most frequently?

2. Is there a significant relationship among the participants' self-reported use of metacognitive strategies?
3. Which strategy predicts the students' reading comprehension ability more?

Methodology

Participants

There were 30 final participants (16 boys and 14 girls) who were third year high school students from different sections of the same school at the time of the study. As regular students of a typical parochial school in the Philippines, the participants belong to lower middle class families. No assessment of the participants' reading level or other similar aspects was done by the researcher prior to the administration of the questionnaires.

Instruments

Metacognitive Awareness of Reading Strategies Inventory (MARSI). Designed and validated by Mokhtari & Reichard (2002), this instrument was administered to the participants to assess their metacognitive awareness and perceived used of reading strategies. This 30-item five point Likert scale (1="I never or almost never do this", 5="I always or almost always do this") has three categories: Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies and is designed for adolescent and adult readers. The first group of strategies includes those that metacognitive readers employ to get a general view of a text ("I have a purpose in mind when I read"); the second set are strategies used when readers encounter difficulties while reading ("I try to get back on track when I lose concentration."), and the last are those that aim to sustain comprehension ("I summarize what I read to reflect on important information in the text.") According to Karbalaei (2010), the internal consistency reliability coefficient for its three above subscales ranged from 0.89 to 0.93.

Reading Texts. Four reading materials, two having narrative structures and two that are informative, were chosen to function as

stimuli in this study. The two narrative texts are "Psyche and Cupid" and "Marissa's Dilemma", while "Helping a Depressed Person" and "Teen Pregnancy" are the expository texts. Each selection was encoded double-spaced in a computer and copies were reproduced on 8 x 14 bond paper. All four texts which were downloaded from the Internet have been assessed by the researcher to have readability levels between Grades 8 and 9 using Fry's graph for estimating readability which translate to be between Second and Third Year High School in the Philippines. Given that the participants read these materials in June, the materials were expected to be in their Instructional level. It should also be noted that the texts were copied verbatim and were not proofread to maintain their authenticity. Care was taken however to ensure that the comprehension of the materials was not affected by the typographical errors.

Reading Comprehension Tests. Since reading comprehension is an important variable in this study, the researcher used two measures, one quantitative and one qualitative, of reading comprehension: (1) four 10-item multiple choice tests and (2) an unaided written recall for each of the four texts used. The multiple choice questions were created to meet the two criteria set by Wolf (1993, in Brantmeier, 2003) which address the limitations of this assessment tool: (a) all items are passage dependent; (b) some of the items require the reader to make inferences, and similar to what Brantmeier (2003) did, (c) correct responses could not be determined by looking at the other questions. With these criteria, the items were able to target the literal and the interpretative levels of reading comprehension. For each question, four possible responses were created: one correct response and three distracters which are all plausible. An M. A. in Reading graduate did a face validity assessment of the items based on these criteria. Items were subsequently revised according to the suggestions and comments received. The unaided written recall assessment asked the participants to retell by writing what they have just read without referring back to their copies of the text. This procedure determines a reader who has comprehended a text well enough to be able to recall it in a coherent and logical manner, while allowing gaps in comprehension and misunderstanding to surface (Berkemeyer, 1989,

in Bernhardt, 1998). Moreover, Hayes (1987, in Bernhardt, 1998) describes the procedure as “cognitive psychology’s most powerful tool for tracking psychological processes” (p. 200). Empirical studies have noted that the choice of assessment task affects a reader’s achievement in a reading comprehension test (Brantmeier 2003). To make sure that the recall will measure the participants’ reading comprehension and not their language proficiency (Bernhardt, 1998), the participants were informed that they may do the recall in Tagalog or in English. To make sure that the participants would be able to do well in this type of assessment, the exact instructions were typewritten on pieces of paper and were attached to their answer sheets: *Without looking back at the text, write in your most comfortable language (Filipino or English) all that you can remember about the text that you have just read. Try to mention the main ideas as well as the details. Importance is given on the quality of ideas recalled.*

Prior Knowledge Tests. Four reading texts were used for the reading comprehension aspect of the study. To see if prior knowledge played a role in the participants’ attempt to understand these materials, it was necessary to determine what each of them already knows about the topics of the reading materials prior to their actual reading of the texts. This was carried out by giving them a particular type of Prior Knowledge test called Focused Listing test. This test asked the students to individually list words and phrases that they associate with a specific concept or idea. The concepts/ideas which were chosen for this study were the main topic/theme of each reading material. One point was given for every distinct word/phrase identified by the student which refers to a character, event, idea, or concept related to the main topic. Since every reader brings with him/her unique prior knowledge on every topic, the scores in the four Prior Knowledge Tests helped the researcher identify the texts that were read with more topic familiarity than the others by each student and by the entire group as well.

Procedure

The data gathering happened in two sessions, with the second one taking place three weeks after the first. The Metacognitive Awareness of Reading Strategies Inventory (MARSI) was

administered first, followed by the four Prior Knowledge tests, and then by the four reading comprehension tests on the first session. The other four reading comprehension tests were given on the next session. All the instruments have been answered individually by the participants.

The four reading materials were counterbalanced so that the participants read all the texts in different sequence, with one narrative text and one informative text read in each session. Moreover, each written recall measure was administered before the multiple choice questions to prevent the students from gaining any passage-related information from the multiple choice questions. The researcher projected 90 minutes for the participants to individually answer the assessment tools for each session, but all of them finished answering all the tests earlier than expected.

Method/s of Data Analysis

Each correct answer in the multiple choice test was given one point. For the unaided written recall, the present study used a weighted propositional scoring system. This system rated the idea units based on their importance within the text (Sharp, 2002). Following this scheme, the researcher prepared a template which listed every sentence of each reading text. During the first raters' meeting, this scoring guide was shown to the two raters (teachers of High School English for approximately 15 years in a private school) as they discussed and decided how many t- units (operationally defined in this study as "a word or a group of words having a complete thought") are found in each reading material and how many points would be given to each based on its relevance to the message of the texts. They have agreed that three points will be given to a t-unit that cites a very significant concept or incident; two points for one that helps build the significance of a concept or incident by clarifying, explaining, or illustrating an example, and one point if it is a detail that does not contribute significantly. In the same session, the raters rated four outputs using the scoring guide to make sure the rating process will be done uniformly when they do the task individually. After two months, the researcher and the two raters met for two successive days for the raters to discuss and compare their individual

findings, and to arrive at the final scores based on the averages of the individual rater's scores.

Results and Discussion

Having established the important role that metacognitive awareness play in reading comprehension, this study aimed to identify and describe the metacognitive reading strategies used by the participants, to examine if there was significant relationships between the various metacognitive reading strategies and to identify which strategy has a stronger effect on reading comprehension.

1. What metacognitive reading strategies do students at this age report to be using most frequently?

Pearson product-moment correlation was calculated to find out if there is a relationship between the students' self-reported use of metacognitive reading strategies and their reading comprehension. Results described if each relationship is weak, moderate, or strong. A level of significance at 0.05 was used to determine a significant relationship.

Results based on the self-reported questionnaire revealed that the participants are frequently using all the three types of metacognitive reading strategies, with the following means: Problem solving strategies (3.93), Global reading strategies (3.63), and Support reading strategies (3.61), which may be interpreted to mean that they are metacognitive readers who use effective strategies when they read.

Table 1

Means, Standard Deviations, and Intercorrelations of the Metacognitive Reading Strategies

Variable	M	SD	1	2	3
Global Reading Strategies	3.63	.41			
Problem-Solving Strategies	3.93	.46	.56		
Support Reading strategy	3.61	.51	.58	.68	

2. Is there a significant relationship among the participants' self-reported use of metacognitive strategies?

All the types of strategy also positively correlated with each other. This would mean that they interact with each other (Mokhtari & Reichard, 2002). Global reading and Support reading strategies had the strongest correlation even when prior knowledge was controlled ($r=.68$ in both). Since Global strategies are mostly used before the actual reading (I have a purpose in mind when I read; I preview the text to see what's it about before reading it.) and because Support reading strategies are actually combinations of monitoring and checking strategies which allow a reader to direct his or her own reading processes and to evaluate his or her reading performance, the result seemed to imply that the participants employ good strategies before, during, and after reading. Since the participants are encountering reading materials from the different content areas inside and outside their school, the results may be considered as a sort of an assurance that they are able to make sense of their various textbooks, modules, and other learning materials mainly because they themselves have reported that they use effective reading strategies. As Garcia, Jimenez, and Pearson (1998) posited, "Heightened metacognitive awareness is not an automatic outcome of children's bilingualism or bilingual education" (p.213). On the theoretical side, the finding also seems to suggest that a complete metacognitive reader is one who employs all the necessary strategies that a reading

task calls for, and not one who is efficient in using only a particular type of strategy.

To further explore these relations, a multiple regression computation was made in which the various types of metacognitive reading strategies were used to predict which strategy/ies would affect the students' reading comprehension. The scores in the two reading comprehension tests were used as predictors to account for difference in students' ability level. The next sections present the discussion of the answers to the four research questions posed by the researcher.

3. Which strategy predicts the students' reading comprehension ability more?

Upon finding significant correlations among the independent variables, a multiple regression was done to see if metacognitive reading strategies influence the participants' reading comprehension. Using SPSS, the dependent variable (reading comprehension ability) was first specified, and then the set of independent variables (metacognitive reading strategies) box was entered. The initial computations revealed that there is no single predictor of reading comprehension ability. Thinking that analyzing the reading test scores according to text type would reveal the predictors, the researcher decided to categorize reading comprehension ability as narrative texts reading comprehension ability and informative texts reading comprehension ability, making each a dependent variable.

After the new set of independent variables was entered, the computations showed significant betas that identified the predictors of informative texts comprehension. However, this was not the case for the narrative texts. Entering the scores in each story, the researcher was finally able to identify the predictors of narrative texts comprehension. Note that some of the variables to be discussed are motivational factors since the study presented here is actually part of a bigger research which included reading motivation.

Table 2 presents the summary of the regression analysis for the predictors of the scores on the informational texts. For the recall scores, five factors were able to explain 68% of the variance in the reading scores, with adjusted $R^2 = .5585$ and $F(8, 21) = 5.59$, $p < .00073$.

It can be seen that the use of Support Reading Strategies is the strongest predictor, which is followed by the motivational factor Familiarity with the Content and Format of the Text. The results seem to say that to be successful in reading these types of reading materials, what is needed is familiarity with the content and format and the ability to direct his own reading process. It is noticeable too that one type of metacognitive reading strategy negatively predicted the scores.

Table 2

Summary of Regression Analysis for Variables Predicting Written Recall of Informational Texts Scores

Variable	B	SEβ	R² .6803	Adjusted R² .5585
Familiarity with the Content and Format of the Text	0.848		0.215	
Performance Orientation	-0.416		0.150	
Social and Learning Environment	-0.546		0.226	
Global Reading Strategies	-0.536		0.180	
Support Reading Strategies	0.945		0.264	

Only one variable, Familiarity with the Content and Format of the Text, negatively predicted the multiple choice score. This explained 24% of the change in the scores (See Table 3.). The results seem to confirm the text-dependency trait of the multiple choice questions. Recall that in an earlier section, one of the criteria set by the

present researcher in constructing these questions is that they should be passage dependent, which means the answers should be based on the participants' understanding and comprehension of the reading materials used in this study and not on their prior knowledge on the topics discussed. This could be the reason why prior knowledge on teen pregnancy and depression did not help the participants get good scores on this type of test. The .15 adjusted R² value indicates that there are probably more and stronger factors that can predict the multiple choice test scores that have yet to be identified.

Table 3

Summary of Regression Analysis for Variables Predicting Multiple Choice Scores

Variable	β	SE β	R²	Adjusted R²
			.2403	.1527
Familiarity with the Content and Format of the Text	-0.503	0.191		

Again, Content and Format Familiarity and Support Reading Strategies are the two factors which positively predicted the written recall scores based on the story "Marissa's Dilemma". The findings reveal some consistency of these two factors in predicting recall scores.

Table 4

Summary of Regression Analysis for Variables Predicting Written Recall of "Marissa's Dilemma" Text Scores

Variable	β	SE β	R ²	Adjusted R ²
			.3589	.1549
Familiarity with the Content and Format of the Text	0.667	0.249		
Global Reading Strategies	-0.542	0.256		
Support Reading Strategies	0.695	0.325		

For the second narrative text, "Psyche and Cupid", only one factor significantly but negatively predicted the multiple choice scores, Social & Learning Environment, with R²= .34 and with F (3, 26) = 4.42, p<01219. A possible explanation for this result is that the Learning Environment factor, which explains how certain instructions and teaching and learning atmosphere affect reading motivation, holds true during the reading process itself but not when someone attempts to answer tests, (multiple choice in this case) after reading. It is like saying that in answering the test, the participants were left to make sense of the questions and to choose the best answer; no external help was available.

Table 5

Summary of Regression Analysis for Variables Predicting "Psyche and Cupid" Multiple Choice Scores

Variable	β	SE β	R ²	Adjusted R ²
			.3379	.2615
Social and Learning Environment	-0.532	0.173		

Overall, the results for the last research question are not conclusive. As it turned out, no single variable predicted the reading tests scores. The small adjusted R^2 values connote that other, perhaps stronger, predictors are still left unaccounted for. Still, the scores in the recall tests in both informational and narrative texts revealed that Support Reading Strategies and Familiarity with Text Content and Format are positive predictors of the scores in this type of assessment. This means that there are indeed motivational factors and metacognitive strategies that predict success in reading comprehension. Why Social and Learning Environment and Text Familiarity are negative predictors of the multiple choice test scores need further analysis however.

Conclusions and Recommendations

This exploratory study determined relationships between the participants' use of metacognitive strategies and their reading comprehension in a second language. The results of self-reports from the participants reveal that they are frequently using all the three types of strategies before, during, and after reading.

There was no single predictor of the reading tests scores although for the recall tests in both informational and narrative texts, Support Reading Strategies positively predicted the scores. The reason why a relatively high level of strategy use did not translate to high reading test scores requires some explanation and reflection. Although similar results have been found in a related study (the one on listening comprehension by Vandergrift, 2005), majority of the previous studies showed better reading performances resulting from strong strategy use. Schooren (1998, in Hanson, 2003) explained that there is a need for a certain threshold before metacognitive awareness can become a significant factor in one's reading performance. This was also proven by Castillo (1999) who reported that her Filipino first year high school participants were unable to employ some reading and listening strategies because they do not have the necessary basic language skills. This threshold is in terms of language proficiency, which, when applied to the participants in the current study, would imply that they have not reached the required proficiency for their

strong motivation to read and regular use of metacognitive strategies to support them while doing the reading tasks.

The present researcher cites other possible reasons why the participants' strong use of metacognitive reading strategies seemed not to help them when they answered the reading comprehension tests. One is that the reading tests, especially the one which asked for an immediate recall of the information from the texts, may be too difficult for the participants, noting the standard deviation of each of the four texts (13.22, 18.73, 10.97, and 8.63). In the multiple choice tests, the mean is only 5 (with 10 items in every test). It is also possible that a test- method effect contributed to the results. It may be that the immediate recall assessment tool did not require the use of metacognitive reading strategies among the participants since recalling is a basic reading skill. Still another possible reason for the low recall scores is the unfamiliarity with the assessment tool. Although they were allowed to use Tagalog in recalling details about the texts, many of them were able to recall minimal information, while some wrote their reactions to and inferences about the reading materials. Nonetheless, the results of this study provide valuable contributions and implications. Because context factors are the ones controlled by the teacher, using engaging methods and strategies are encouraged to facilitate students' use of metacognitive strategies to read in a second language. Since the results of this study did not identify common predictors of reading comprehension after using two types of assessment, teachers are reminded to be judicious in choosing the appropriate type of test to be given that will also match the expected reading skill/s from the learners. Moreover, by giving students reading activities that they will accomplish outside the classroom and by using non-traditional reading materials, teachers highlight the important message that reading is not limited to school setting and school-type materials, and that it should be enjoyed and appreciated more with their parents and peers.

With regard to the findings on the use of metacognitive reading strategies, it is emphasized that the explicit teaching of the various metacognitive reading strategies (which should include the "how", "when", and "why" of these strategies) be made when reading various texts. As mentioned in a previous section, strategy use in L2 reading is affected by instruction, and transfer of effective

L1 reading strategy to L2 reading strategy is not easily achieved. Therefore, additional teaching strategies that facilitate the use of these strategies need to be put together. Moreover, finding and helping the students to go beyond the threshold needed for these strategies to take positive effects lies on the shoulder of the teacher. Lastly, the findings in this recent study point to the importance of having a clear understanding of theoretical and practical aspects of metacognitive reading strategies among teachers so they can truly identify, understand, and help at-risk and problematic readers, as well as those who need reinforcement.

For research purposes, the findings here open up many possible tasks and topics for those interested in the field of metacognition in reading. Future researchers may want to know if there are differences in bilingual participants' use of metacognitive reading strategies in both languages, and what variable or variables in one or both languages will affect reading comprehension better. Other assessment tools, such as observation, interview, think aloud protocols, are encouraged to be used to identify and describe the types of strategies used, and even in the reading comprehension aspect to see if test method is indeed a factor in this kind of a study. Also, it would be interesting to undertake a longitudinal study on bilinguals' use of metacognitive strategies. Since the present research only had 30 participants in the second phase, future studies are also encouraged to involve more subjects. The methodology and results presented here, modest as they appear, contribute in the attempt to probe into and to understand the role of metacognition in the specific domain of reading.

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