

ROLE OF METACOGNITIVE READING STRATEGIES IN ENHANCING READING COMPREHENSION OF ESL/EFL STUDENTS

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Abstract

Metacognition is the capacity to utilize former information to arrange a strategy for approaching a learning task, take necessary steps to problem solving, reflect on and evaluate results, and modify one's approach as needed. The study is an analysis of metacognitive strategies in improving reading comprehension of ESL/EFL Learners. The study considered 270 respondents who were students studying in schools in Mysore, Karnataka. The hypothesis was tested using independent sample test which found that a significant impact of metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation existed. It was concluded that metacognitive strategies are one of the strategies that are best in learning reading comprehension. It is good for the students since these strategies provide several steps that make them more flexible and adaptive thinkers.

Keywords: Metacognition, Reading Strategies, Reading Comprehension

1. Introduction

Contemporary world is going through dynamic changes which throughout technological advance have impact also on the society. If a certain individual wants to be part of the society, he/she has no other choice, but to adapt to these changes. The level of adaptation is the result of inner and outer factors (which constantly interact and recreate each other). Education has the goal to prepare each individual within the society to be able to adapt to these changes and also to equip each individual with abilities necessary to face the requirements successfully. Education is therefore one of the highest modern social priorities imbedded in the legislative and international systems and institutions where competent staff members deal with how much they need to focus their attention to this resort and what resources will be given towards these issues (Obama hits the road to push for education reforms 2013; OECD, 2013; China's \$250 Billion Education Budget, 2013). The main researched issue here is not only the importance of education itself. Postmodern situation of (not only) the western world deals with the question how much can be guaranteed of the quality of such education, where all the parts of being a modern human are cultivated in its "organic" and "complex" nature (Hábl, 2012) and also this deals with how this may help develop the feedback of this anthropomorphic potential.

Metacognition is defined as “cognition about cognition” or “knowing about knowing”. It is an awareness and understanding of one’s own thought processes. It can also be defined as the knowledge and awareness of one’s own thinking processes and strategies, and the ability to consciously reflect and act on the knowledge of cognition to modify those processes and strategies (Flavell, 1976).

Metacognition refers to higher order thinking skills that involve more active control over the thinking processes involved in learning. This higher-level cognition was given the label metacognition by American developmental psychologist John Flavell (1976). Research on metacognition began in 1970’s with the work of Flavell, whose study focused on children’s metamemory with the central focus on their knowledge and control of their memory processes. During the 80s and 90s, it became a hot topic in the pedagogical circles as to how metacognition can or should be taught so that students must gain deeper insights into comprehend their reflections and perceptions in order to overcome their weaknesses to comprehend texts. Though researchers have long seen the benefits of metacognition, but teachers and school psychologists have gradually embraced towards metacognition to measure their students’ skills and knowledge (Baker, 2008).

Hence, the typical English teaching and learning activities for EFL students in middle schools and high schools are nothing but memorizing English vocabulary and drill practicing grammatical rules. Although this traditional English teaching pedagogy seems to work well in yearly national entrance exams of high schools and colleges, evidence has shown that grammar- translation instruction keeps EFL students from developing critical thinking skills as well as positive attitudes toward English reading (Chern, 2003; Cheng, 1998).

Also, another disadvantage of grammar-translation teaching method lies in that it makes EFL understudies feel disappointed in English reading since they spend time checking meaning from dictionaries and breaking down sentence structures, but don’t get the essential focuses from the reading materials, particularly after all the translations are finished. Slowly, they lose interests in reading English since it is difficult to comprehend after so much effort and time has been spent.

2. Reading Skills

According to the contemporary researches, a skilled reader is still not characterized by the set of rigidly bordered meta-cognitive strategies or by the knowledge of a wide variety of these strategies (El-Koumy, 2004). As the main argument here may be the ability to use flexibly the disposable strategies depending on a specific context.

Snow, Burns and Griffin (1998) profile the so called skilled reader as an individual who is capable of comprehend a read text thanks to his ability to “*use their general overview in order to comprehend words in the text by inferring from the message in the text and using this monitoring of their own comprehension and correcting strategies in some cases, when they realize they don’t completely understand the text.*” (p. 62). Experts in reading comprehension agree that skilled readers differ from unexperienced ones by the way they are aware of what they are reading in the process, and also why they are reading it –

therefore they possess plans and strategies how to deal with obstacles during reading. Arnbruster, Echols and Brown (1983) agree with this. They also point out the ability of skilled readers to adapt in a flexible manner their reader strategies on actual situation and requirements. These readers are also aware of how to monitor information comprehension and when an obstacle occurs, they are able to react on changes by change in their strategy (Pressley & Afflerbach, 1995). Skilled readers also perceive reading process as an activity connected to the search of meaning (Garofalo & Lester 1985).

Less skilled readers are more likely to concentrate on lexical meaning of the words within the meaning and they understand the reading comprehension process as a message decoding process (Baker & Brown, 1984), these readers are therefore limited in their metacognitive knowledge use in the field of reading knowledge (Paris & Winograd, 1990) and are likely to less monitor their comprehension (Flavell, 1979). These readers also tend to overlook contrasting information within the text, or they are not able to explain any kind of uncertainty.

Reading strategies can (and should) be taught until the moment of automation, when a repeated strategy becomes a imprinted set of skills and students know, which strategy to choose and when is it useful to apply them (Paris, Lipson, & Wixon, 1983). Many experts pointed out the fact strategic reading can be taught easily by a set of prepared classes (Brown, Armbruster, & Baker, 1986). Paris and Winograd (1990) however highlight *"metacognition should not be perceived as the final goal of any learning or teaching"*, but the opposite, metacognition should be perceived as the opportunity to *"help pass the knowledge and certainty on students, which will help them to enforce their enthusiasm and seeking for possibilities in their goals, which they are willing to pursue."* (p. 22).

3. Review of Literature

Nova Riska Absida et al. (2017), in their research titled "Improving Reading Comprehension Using Metacognitive Strategies," discuss the use of metacognitive strategies to improve students' reading comprehension. The data was obtained from 50 students from two classes, one an Experimental Group (EG) and a Control Group (CG). The instruments used for collecting the data were tests (a pre-test and a post-test) and a questionnaire. The data collection was divided into four phases of research; the pre-test, the treatment, the post-test, and the questionnaire. The results of the test were analyzed quantitatively to find any significant differences between the two groups. The results showed a statistically significant difference after using metacognitive strategies in the reading comprehension of the EG students compared to those in the CG, who did not use metacognitive strategies for reading comprehension. The t-value (6.03) > t-table (2.01) meant that the alternative hypothesis was accepted. Further, the results from the questionnaires also showed the positive impact, viz: the positive classroom atmosphere, the improved motivation to learn, the improvements in students' knowledge, and so on.

Nasrin Khaki (2014), in his study "Improving Reading Comprehension in a Foreign Language: Strategic Reader," stated that Second language reading comprehension is the most important skill required by students, especially in a foreign language context. One

way to help these students improve their reading comprehension is strategy instruction. The present study investigates the effect of two strategies, namely, summarizing and students-generated questions. The participants in the study were all female intermediate EFL students between 14 and 39 years old. A quasi-experimental research design was employed with a treatment lasting 5 weeks on three intact groups—two experimental groups and one control group. The results of a one-way ANOVA indicated that there was a significant difference between the summary group and the control group. In contrast, no significant difference was observed between the summary group and the student-generated question group and between the student-generated question group and the control group. Therefore, it is recommended that EFL teachers ask their students to prepare a reading passage summary to help them improve their reading comprehension.

Tran-Hoang-Thu (2009), in the article titled "Learning Strategies Used by Successful Language Learners," examines the language learning strategies employed by successful learners of English as a foreign and second language. Two successful English learners whose first languages are Mandarin were interviewed and asked to complete a questionnaire and a self-evaluation measure to indicate their perceived level of language proficiency and their learning goals for each language skill in the future. It was found that, in terms of motivation. The data from the interviews and the questionnaires show that these learners utilize a wide range of strategies to learn to listen, read, speak, write, pronunciation, grammar, and vocabulary. In contrast, one learner, Miranda, learns English to excel and use the language and native speakers of English. The other learner, Kate, learns English for her daily communication and academic pursuit in the US. It was also found that strategies for vocabulary learning outnumber those for other language skills and areas investigated. Social strategies were found to be widely used by the learners to improve their English. Additionally, practice was the key to improving all four language skills and pronunciation, grammar, and vocabulary.

4. Objectives of the Study

1. To determine whether metacognitive reading strategies enhance reading comprehension of ESL/EFL students

5. Hypotheses of the Study

H01: There is no significant impact of metacognitive reading strategies on the performance of EFL/ESL learners.

H1: There is a significant impact of metacognitive reading strategies on the performance of EFL/ESL learners.

6. Research Methodology

The present study is empirical in nature. The study is an analysis of metacognitive strategies in improving reading comprehension of ESL/EFL Learners. The students studying in the private schools in Mysore are considered for the study. The participants are divided into experimental and control group, but only the experimental

group received metacognitive strategies instruction; whereas, the control group only receive the routine reading instruction which is the basic instruction of reading but not including the strategies of training. The sample size of the study is 270 students who are selected based on their interest so they focus better in order to have active involvement.

7. Instruments and Procedure

7.1 Reading Tests

Reading tests include a number of multiple-choice items considered as pre-tests and post-tests. At the beginning, all subjects are required to take pre-tests. The purpose of the tests is to measure students' reading ability and to confirm that the reading abilities of the two classes are at the same level. Then at the end of the training, it is required to take post-tests to see the differences before and after the training sessions.

7.2 Questionnaire

The Metacognitive Awareness of Reading Strategy Inventory (MARSI) was developed by Mokhtari and Reichard (2002). It measures participants' awareness of metacognitive reading strategies when they read academic materials (e.g., textbooks) on a 5-point scale (1=little use of strategy; 5=frequent use of strategy). The higher numbers show greater awareness of metacognitive reading strategies of the participant. Among 30 questions, there are three groups: Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP). Global Reading Strategies included having a purpose while reading, previewing the text, skimming, determining important information, and using text features such as tables and pictures. Problem-Solving Strategies are adjusting reading speed as needed, re-reading, guessing meanings of unfamiliar words, and visualizing. Support Reading Strategies focus on strategies such as underlining important information, summarizing, and taking notes.

All participants are required to answer the questionnaires in pre-test and post-test. The researcher helped the respondents to answer some of the questions in case they had problems.

7.3 Statistical Methods and Data Analysis

Data analysis is the process of statistical tools and techniques on the data collected from the respondents. The data collected from primary sources were analyzed using the SPSS package for drawing meaningful conclusions. The data was collected before and after training sessions. First, in order to evaluate whether all the participants possess equal reading skills, a reading test was conducted before starting the training. Second, after training sessions, the effectiveness of the instruction on participants' reading performance was tested.

7.4 Descriptive Statistics

The frequency distribution of all the items of each construct is framed in the assertive statements and the options are quantified in 5-point likert scale.

Percentage of selected constructs is calculated in the study which shows the number or ratio of agreement or non-agreement of the statements expressed as a fraction of 100.

Mean is one of the statistical measures used in statistical analysis which is the sum of the sample divided by its number. In the study, calculated mean indicates the perception towards agreement or non-agreement of the statements.

Standard Deviation is one of the most important statistical measures used to measure the difference in the group of data in the study which measures the variation from the mean.

7.5 The inferential statistics used for the study are

Independent samples t-test was used to test the hypothesis which compared the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different.

8. Data Analysis and Interpretation

Table 1: Improvement in Reading

Questions	SA	A	N	D	SD	Mean	SD
I have improved my reading skills after metacognition strategies.	92 (34%)	111 (41%)	35 (13%)	32 (12%)	-	3.97	0.977
I understand how to read comprehension.	86 (32%)	119 (44%)	35 (13%)	30 (11%)	-	3.88	0.966
I am now good at identifying and grouping related information.	76 (28%)	140 (52%)	54 (20%)	-	-	3.87	0.905
I understand information from a text.	86 (32%)	146 (54%)	38 (14%)	-	-	3.97	0.703
I am good at remembering information read from a text.	78 (29%)	151 (56%)	41 (15%)	-	-	3.85	0.903
I can tell how well I understand what I read.	57 (21%)	146 (54%)	68 (25%)	-	-	3.75	0.885
Reading in English makes me feel good about myself.	78 (29%)	111 (41%)	81 (30%)	-	-	3.70	0.745

Reading English has made me confident	86 (32%)	116 (43%)	68 (25%)	-	-	3.77	0.629
I think reading English is easy after strategies were implemented.	97 (36%)	124 (46%)	49 (18%)	-	-	3.64	0.683
I have improved my vocabulary and grammar	81 (30%)	138 (51%)	51 (19%)	-	-	3.79	0.796
I make less/no mistakes while reading comprehension	92 (34%)	138 (51%)	41 (15%)	-	-	3.76	0.679

Source: Primary Data

The table shows the opinion of respondents with respect to improvement in reading after implementing metacognitive strategies. 75% respondents agreed that they improved my reading skills after metacognition strategies. The mean and standard deviation of the statement was 3.97 and 0.977. 76% respondents agreed that they understood how to read comprehension. The mean and standard deviation of the statement was 3.88 and 0.966. 80% respondents agreed that they were good at identifying and grouping related information. The mean and standard deviation of the statement was 3.87 and 0.905. 86% respondents agreed that they understood information from a text. The mean and standard deviation of the statement was 3.97 and 0.703. 85% respondents agreed that they were good at remembering information read from a text. The mean and standard deviation of the statement was 3.85 and 0.903. 75% respondents agreed that they could tell how well they understood what they read. The mean and standard deviation of the statement was 3.75 and 0.885. 70% respondents agreed that reading in English makes them feel good about themselves. The mean and standard deviation of the statement was 3.70 and 0.745. 75% respondents agreed that reading in English makes them confident. The mean and standard deviation of the statement was 3.77 and 0.629. 82% respondents agreed that reading English is easy after strategies were implemented. The mean and standard deviation of the statement was 3.64 and 0.683. 81% respondents agreed that their vocabulary and grammar has improved. The mean and standard deviation of the statement was 3.79 and 0.796. 85% respondents agreed that they made less/no mistakes while reading comprehension. The mean and standard deviation of the statement was 3.79 and 0.679. It was found that after implementation of metacognition strategies, there was improvement in reading skills of the respondents.

Table 2: Support Reading Strategies

Questions	SA	A	N	D	SD	Mean	SD
I note the main phrases and points as I read to understand what I read	92 (34%)	132 (49%)	46 (17%)	-	-	3.66	0.844
I underline or circle key points in the text to help me remember them	97 (36%)	130 (48%)	43 (16%)	-	-	3.63	0.910
I use reference materials (e.g.dictionary) to help me understand what I am reading	65 (24%)	149 (55%)	57 (21%)	-	-	3.82	0.785
I paraphrase (re - state main points in own words) for better understanding of the text	89 (33%)	151 (56%)	30 (11%)	-	-	3.69	0.839
I keep going back to the previous read paragraphs so as to establish relationships among ideas	92 (34%)	116 (43%)	62 (23%)	-	-	3.57	1.037
I formulate/come up with questions I would like clarified in the text	86 (32%)	132 (49%)	51 (19%)	-	-	3.89	0.831

Source: Primary Data

The table shows the opinion of respondents with respect to improvement in reading after implementing support reading strategies. 83% respondents agreed that they noted the main phrases and points as they read to understand what they read. The mean and standard deviation of the statement was 3.66 and 0.844. 84% respondents agreed that they underlined or circled key points in the text to help remember them. The mean and standard deviation of the statement was 3.63 and 0.910. 79% respondents agreed that they used reference materials (e.g. dictionary) to help understand what they were reading. The mean and standard deviation of the statement was 3.82 and 0.785. 89% respondents agreed that they paraphrased (re - state main points in own words) for better understanding of the text. The mean and standard deviation of the statement was 3.69 and 0.839. 77% respondents agreed that they kept going back to the previous read paragraphs so as to establish relationships among ideas. The mean and standard deviation of the statement was 3.57 and 1.037. 81% respondents agreed that they formulated/came up with questions they would like clarified in the text. The mean and standard deviation of

the statement was 3.89 and 0.831. Hence, it was found that metacognitive strategies helped the respondents in support reading strategies.

9. Testing of Hypothesis 1

H01: There is no significant impact of metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation.

H1: There is a significant impact of metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation.

Table 3(a): Analysis of Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Metacognitive Reading Strategies	Before	270	0.42	0.494	0.018
	After	270	0.45	0.498	0.017

Source: Output from SPSS

The table showcases the group statistics of metacognitive reading strategies on the performance of EFL/ESL learners. It was found that the effect of metacognitive reading strategies on the performance of EFL/ESL learners before its implementation had a mean of 0.42, a standard deviation of 0.494, and a standard error mean of 0.018. The effect of metacognitive reading strategies on the performance of EFL/ESL learners after its implementation had a mean of 0.45, a standard deviation of 0.498, and a standard error mean of 0.017.

Table 3(b): Analysis of Independent Sample t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference ^a	
									Lower	Upper
Metacognitive Reading Strategies	Equal variances assumed	16.50	.011	2.29	269	.007	.032	.025	-.017	.081
	Equal variances not assumed			2.29	269	.007	.032	.025	-.017	.081

Source: Output from SPSS

The p -value of Levene's test for effect of metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation was 0.011 ($p < 0.01$), so the null of Levene's test was rejected and it was concluded that the variance in metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation is significant. **This shows that the "Equal variances not assumed" row for the t -test (and corresponding confidence interval) results should be checked.**

For the t -test, the two-tail p -value is $p = 0.007$ and $t = 2.29$

A paired t -test was performed to determine if there was a difference in metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation.

The mean ($M = 0.032$, Standard Error Difference = $.025$, $N = 270$) was significantly greater than zero, $t = 2.29$, two-tail $p = 0.007$, facilitating evidence that there is a significant difference in metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation..

Since the set alpha value is 0.05 and the p -value is lesser than 0.05, it reveals that there is a statistically significant difference in metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation..

In this case, $p = 0.007$ which is < 0.05 , so the difference is significant. Hence, the null hypothesis is rejected and alternative hypothesis is accepted.

Conclusion

Metacognition refers to awareness of one's own knowledge, what one does and does not know, and one's ability to understand, control, and manipulate one's cognitive processes. It includes knowing when and where to use specific procedures for learning and critical thinking and also how and why to use particular methods. Metacognition is the capacity to utilize former information to arrange a strategy for approaching a learning task, take necessary steps to problem solving, reflect on and evaluate results, and modify one's approach as needed. The study is an analysis of metacognitive strategies in improving reading comprehension of ESL/EFL Learners. It was found that there is a significant impact of metacognitive reading strategies on the performance of EFL/ESL learners before and after its implementation. It is recommended that the teachers can raise the level of metacognitive thought in their classroom by modeling the processes themselves. Thinking aloud when solving the problems, mirroring students' ideas back to them or rephrasing them to include specific thinking words (such as planning, strategy, steps to be taken, etc.), clarifying responses and questions, and having students include the "how they did it" as a part of larger assignments are all ways to encourage metacognitive thinking.

REFERENCE

- Armbruster, B. B. Echols, C. H. & Brown, A. L. (1983). The role of metacognition in fading to learn: A developmental perspective . Urbana: University of Illinois, Center for the Study of Reading.
- Baker, L. (2002). Metacognition in comprehension instruction. In C. C. Block & M. Pressley (Eds.), *Comprehension Instruction: Research based best practices*. New York: Guilford.
- Baker, L. & Brown, A. L. (1984). Metacognitive skills and reading. In D. Pearson, M. Kamil, R. Barr, & P. Mosenthal (Eds.), *Handbook of Reading Research*. New York: Longman.
- Brown, A. L. Armbruster, B. B. & Baker, L. (1986). The role of metacognition in reading and studying. *Reading comprehension: From research to practice*, 49–75.
- El-Koumy, A. S. A. K. (2004). *Metacognition and reading comprehension: Current trends in theory and research*. Cairo: Anglo Egyptian Bookshop.
- Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L.B. Resnick (Ed.), *The Nature of Intelligence* (pp. 231-236). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906-911.
- Garofalo, J. & Lester, F. (1985). Metacognition, cognitive monitoring, and mathematical performance. *Journal for Research in Mathematics Education*, 16(3), 163-176.
- Hábl, J. (2012). *Pedagogy and Metanarratives: Educating in Postmodern Situation*. E-pedagogium,.
- Nasrin Khaki. (2014), *Improving Reading Comprehension in a Foreign Language: Strategic Reader*, The Reading Matrix, Volume 14, Number 2, September 2014
- Nova Riska Absida, Zulfadli A. Aziz and Bustami Usman (2017), *Improving Reading Comprehension Using Metacognitive Strategies*, *English Education Journal (EEJ)*, 8(4), 425-438, October 2017
- Paris, S. G. & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 15–51). Hillsdale, NJ: Erlbaum.
- Paris, S. G. Lipson, M. Y. & Wixson, K. K. (1983). Becoming a strategic reader. *Contemporary educational psychology*, 8(3), 293–316.
- Pressley, M. Harris, K. R. & Marks, M. B. (1992). But good strategy instructors are constructivists! *Educational Psychology Review*, 4(1), 3–31.
- Snow, C. E. Burns, M. S. & Griffin, P. (1998). *Preventing reading difficulties in young children*. National Academy Press. Washington DC. Retrieved from: <http://books.google.com/books?hl=en&lr=&id=G1-POm9BR>

IC&oi=fnd&pg=PR1&dq=Snow,+Burns,+Griffin+1998&ots=5W0fTlh8YJ&sig=XLsy8GUBNYn6bDlpMeY10P7Gjco.

Thu, T.H. (2009). Learning Strategies Used by Successful Language Learners.