

EFFECTS OF FREQUENCY OF USE OF METACOGNITIVE READING STRATEGIES ON READING COMPREHENSION ACHIEVEMENT OF ENGLISH MAJORS

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ABSTRACT

The aims of the study are to identify the frequency level of use of metacognitive reading strategies of 107 English majors while they are reading the academic English materials, and investigate the relationship between students' metacognitive reading strategies and their academic English reading comprehension achievement. The results obtained from statistical analyses show that students use the metacognitive reading strategies in medium level. The results also show that the metacognitive reading strategies have positive relationships with academic English reading comprehension achievement.

Keywords: metacognitive reading strategies, analytic reading strategies, pragmatic reading strategies, reading comprehension achievement

TÓM TẮT

Ảnh hưởng của mức độ sử dụng các chiến lược đọc siêu nhận thức đến thành công đọc hiểu của sinh viên chuyên ngành tiếng Anh

Bài báo này xác định mức độ sử dụng các chiến lược đọc siêu nhận thức của 107 sinh viên chuyên ngành tiếng Anh trong khi đọc các tài liệu tiếng Anh học thuật, đồng thời kiểm tra mối quan hệ giữa mức độ sử dụng các chiến lược đọc của sinh viên với thành công đọc hiểu. Kết quả thu được từ các phân tích thống kê cho thấy rằng sinh viên sử dụng các chiến lược đọc siêu nhận thức ở mức độ thường xuyên và các chiến lược này có mối quan hệ dương với thành công đọc hiểu.

Từ khóa: các chiến lược đọc siêu nhận thức, các chiến lược đọc phân tích, các chiến lược đọc thực dụng, thành công đọc hiểu.

1. Introduction

Reading comprehension, one of the four skills in language teaching and learning, is a very important language skill for English learners, especially English majors. Reading comprehension strategies, “tools or plans for facilitating and extending comprehension”, help readers “remember the key points, distinguish the necessary information, think about the main idea and comment on the subject matter” [6, p.248]. In practice, many English learners cannot effectively comprehend academic materials because they have not, besides other related factors, mastered and applied effective reading strategies [10]. Reading strategies refer to “the mental operations involved when readers purposefully approach a text and make sense of what they read” [2,

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p.66], while Silberstein [16, p.12] considers that “*reading is a complex information processing skill in which the readers interact with the text in order to create or recreate meaning discourse*”. In this sense, the readers are considered as active individuals who can apply effective reading strategies to facilitate and extend comprehension.

Although different researchers have different definitions of reading strategies, all of them refer to reading strategies as a psychological process and these strategies are consciously used by the readers to achieve specific reading goals [7]. There are two main types of reading strategies, namely cognitive and metacognitive reading strategies. Cognitive strategies are conscious ways in dealing with learning, such as resourcing, deduction, grouping, note-taking, translation, and elaboration, while metacognitive strategies are used to monitor or regulate cognitive strategies which include checking outcome of any attempt to solve a problem, planning one’s strategies for learning [1, p.353]. Since the purposes of this study are to investigate the frequency of use of metacognitive reading strategies, and examine the relationships between these metacognitive strategies and reading comprehension achievement, only these metacognitive strategies are examined. Oxford (1990) considers metacognitive strategies as behaviours undertaken by the learners to plan, arrange and assess their own learning [p.136]. He further states that metacognitive strategies may result in successful language learning. These strategies include organizing, setting goals, considering the purpose and planning for a language task. Metacognitive strategies involved in reading comprehension are proposed as follows: *a) clarifying the purposes of reading; b) identifying the important aspects of a message; c) monitoring ongoing activities to determine whether comprehension is occurring, d) engaging in self-questioning to determine whether goals were being achieved, and e) taking corrective action when failures in comprehension were detected* [4]. Metacognitive strategies are clarified into two kinds, namely analytic and pragmatic strategies [17]. The analytic reading strategies involved students’ efforts to comprehend a text, included strategies such as evaluating, and inferring information. The pragmatic reading strategies involved the physical actions and included strategies such as underlining, highlighting, taking notes, margining, reading more, and re-reading.

Some previous studies indicate the positive correlation between the use of metacognitive reading strategies and reading comprehension achievement [3; 9; 12]. Metacognitive strategies involved readers’ deliberate mental behaviors for directing and controlling their cognitive processing for successful performance [15]. The EFL (English as Foreign Language) students who reported using significantly higher metacognitive reading strategies showed better reading test achievement [15]. In addition, successful students use metacognitive reading strategies more frequently than the unsuccessful students. Taraban et al (2004) also found that the use of metacognitive analytic strategies in reading English materials was positively correlated with higher reading performance. In addition, Eilers & Pinkley (2006) indicate that metacognitive

reading strategies have a positive correlation with students' reading comprehension level and the successful students use these strategies frequently while reading. As a result of this it is essential for students to use metacognitive reading strategies while reading academic materials for an effective learning. In a recent study, Cogmen & Saracaloglu (2009) present that students use both analytic and pragmatic strategies in "I often use" level. This shows that students use both analytic and pragmatic reading strategies in medium level while reading academic English materials. They further indicate that reading comprehension performance increases when students apply metacognitive reading strategies in high level.

Some researchers [11; 18] conducted studies on the relationship between reading strategies and reading comprehension achievement. The results of these studies show that reading strategies applied by students were closely associated with their reading achievement. In addition, high-scoring students use cognitive, metacognitive strategies more frequently than low-scoring students when doing reading comprehension materials. Other researchers [1; 13; 5] investigate the correlation between metacognitive strategies and effective reading proficiency. The findings indicate that high achievers are higher metacognitive and more self-directed than low achievers. Zare-ee (2007) conducted a study on the relationship between reading strategies usage and EFL reading achievement. The results show that the relation between reading achievement and the use of metacognitive strategies is statistically significant [19]. It is also shows that students with higher level reading proficiency use metacognitive reading strategies more often than the less successful readers. This finding is consistent with the results of a study conducted by Dogan (2002) which indicates that excellent readers use lots of strategies before, during and after reading [8].

2. Research hypotheses

The review of literature shows the positive correlation between metacognitive reading strategies and students' academic reading performance. Many studies indicate that the use of metacognitive reading strategies have positive relationships with academic reading comprehension achievement. However, few studies have been conducted on the association between Vietnamese English majors' using of metacognitive reading strategies and their reading achievement. The current study adds to the literature by reporting the results of an investigation to examine the frequency of use of metacognitive reading strategies of students, and explore if these strategies may correlate with students' reading achievement. The results of the study may provide Vietnamese English lecturers with potentially additional information to improve their teaching practice and facilitate their student learning.

H1: Students use frequently metacognitive reading strategies in the academic English reading process.

H2: Metacognitive reading strategies have positive relationships with academic reading comprehension achievement.

H3: High-proficiency readers use more metacognitive reading strategies than those intermediate and low-proficiency readers.

3. Research method

3.1. Participants

This study used a convenient sample of 107 the first year English majors from two intact classes in Faculty of Education at An Giang University. 107 English students consisted of 86 female students (80.6%) and 21 male students (19.6%), with a mean age of 20.19. The range of their age varied between 20 and 22.

3.2. Research design

A correlational research design was utilized to investigate the frequency of use of metacognitive reading strategies and examine the effects of metacognitive reading strategies on reading comprehension achievement. It also identifies the frequency of use of metacognitive reading strategies between female students and male students.

3.3. Instruments

Metacognitive reading strategies questionnaire (MRSQ)

The MRSQ questionnaire developed by Taraban, Kerr, & Ryneason (2004) was used to measure participants' frequency of the uses of metacognitive reading strategies in the reading process. It includes 22 items used to measure 2 factors, namely analytic reading strategies (ARS) and pragmatic reading strategies (PRS). Analytic reading strategies consist of 16 items (*As I am reading, I evaluate the text to determine whether it contributes to my knowledge / understanding of the subject; After I have read a text, I anticipate how I will use the knowledge that I have gained from reading the text; I try to draw on my knowledge of the topic to help me understand what I am reading; While I am reading, I reconsider and revise my background knowledge about the topic, based on the text's content; While I am reading, I reconsider and revise my prior questions about the topic, based on the text's content; After I read a text, I consider other possible interpretations to determine whether I understood the text; As I am reading, I distinguish between information that I already know and new information; When information critical to my understanding of the text is not directly stated, I try to infer that information from the text; I evaluate whether what I am reading is relevant to my reading goals; I search out information relevant to my reading goals; I anticipate information that will be presented later in the text; While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text; As I read along, I check whether I had anticipated the current information; While reading, I exploit my personal strengths in order to better understand the text. If I am a good reader, I focus on the text; if I am good with figures and diagrams, I focus on that information; While reading, I visualize descriptions in order to better understand the text; I note how hard or easy a text is to read*). Pragmatic reading strategies consist of 6 items (*I make notes when reading in order to remember the information; While*

reading, I underline and highlight important information in order to find it more easily later on; While reading, I write questions and notes in the margin in order to better understand the text; I try to underline when reading in order to remember the information; I read material more than once in order to remember the information; When I am having difficulty comprehending a text, I re-read the text).

Participants are asked to rate how frequently they use the strategies listed on a 5-point Likert type scale. Items are scored 1, 2, 3, 4 and 5, respectively, for the responses, NU (Never Use), RU (Rarely Use), SU (Sometimes Use), OU (Often Use), and AU (Always Use). The scores of 4.50-5.00 is in Always Use, 3.50-4.40 is in Often Use, 2.50-3.40 is in Sometimes Use, 1.50-2.40 is in Rarely Use, and 1.00-1.40 is in Never Use level (Oxford, 1990). The mean scores between 3.50 and 5.00 is considered as high in frequency, scores between 2.50 and 3.40 is regarded as medium, and scores between 1.00 and 2.40 is considered as low [14]. The participants were approximately 25 minutes to complete the measure. The internal consistency reliability (Cronbach alpha) of analytic reading strategies measure was .86 and pramatic reading strategies measure was .89 in this sample.

Academic reading comprehension measure (TOEFL)

The TOEFL measure developed by researchers was used to measure the academic reading comprehension of English teacher candidates. It contains five passages and 30 multiple-choice questions. Each question has only one correct answer, and each correct answer was awarded one point. The maximum score was 30. Participants are given 45 minutes to complete the test. The participants are classified into the high-proficiency level (scores are above 23), the intermediate level (scores between 15 and 22), and the low-proficiency level (scores are below 14). The internal consistency reliability (Cronbach alpha) of this test was .89 in this sample.

3.4. Research procedure

The two instruments were administered to all of 107 the first-year English majors in a regular classroom. First the TOEFL test, then the MRSQ measure was administered. The participants were informed by the co-investigators about how to respond the items in each measure. The whole data collection procedure took approximately 70 minutes.

3.5. Data analysis

The descriptive statistics are used to present mean, standard deviation, and percentage. The relationships between the variables were investigated using Pearson product-moment correlation coefficient. Multiple regression analyses were also conducted to find out if there was any metacognitive reading strategies-reading comprehension achievement association. All analyses were tested for significance at the .05 level.

4. Results and discussion

The first aim of this study is to investigate the frequency of metacognitive reading strategies used by English majors in the process of academic English reading. The results obtained from statistical analyses (Table 1) show that the overall mean score of two types of metacognitive reading strategies is 3.99 [SD = .574] (often use between 3.50 and 5.00) so their frequency in use belongs to high level. The findings of this study support the first hypothesis that students use frequently metacognitive reading strategies in the academic English reading process. The results show that students used more the pragmatic reading strategies (M = 4.57, SD = .702) than the analytic reading strategies (M = 3.40, SD = .461). This shows that students used the pragmatic reading strategies in high level and used the analytic reading strategies in medium level in the process of academic English reading. The results of the present study validated the findings of several previous research studies the previous research [6; 12] which indicate that students use frequently metacognitive reading strategies, and they use more the pragmatic reading strategies than the analytic reading strategies in the process of reading.

Table 1. Mean, standard deviation of MRSQ and TOEFL

Variables	Mean	Standard Deviation	Level
MRSQ	3.99	.574	Often use [high]
ARS	3.40	.461	Often use [medium]
PRS	4.57	.702	Always use [high]
TOEFL	17.85	7.090	[Intermediate]

Note: n = 107

The second purpose of the study is to examine the relationships between the metacognitive reading strategies and reading comprehension achievement. An analysis using Pearson's correlation coefficient (Table 2) indicates that correlations among the three variables, TOEFL, ARS, and PRS were statistically significant at the .01 levels (two-tailed). There were strong, positive correlations between the TOEFL and the ARS ($r = .647$), and the TOEFL and the PRS ($r = .624$). This indicates that reading comprehension achievement increases when students use more metacognitive reading strategies. These result confirmed the second hypothesis that metacognitive reading strategies have positive relationships with academic reading comprehension outcomes. The results are consistent with several previous research studies [6; 10; 12] which show that metacognitive reading strategies have positive relationships with academic reading comprehension outcomes. In order to explore which metacognitive strategies strongly predict reading comprehension achievement, the multiple regression was conducted. Table 3 reports the results of the multiple regression analysis on the predicted measures (ARS and PRS) and outcome variable (TOEFL). The result of ANOVA analysis show that the regression model with two predictors explained 52% of the variance in TOEFL

variable ($R^2 = .52$), ($F_{(4, 102)} = 28.157$, $p < .001$). The results show that the ARS ($\beta = .252$) and the PRS (.247) are strong predictors of the TOEFL, in which the ARS is the strongest predictor of the TOEFL. The finding indicates that when students use the metacognitive reading strategies as frequent their reading comprehension achievement increases. Results of the present study validated the finding of Nergis' study (2013) which indicates that the metacognitive reading strategies are the strongest predictors of English reading achievement [12].

Table 2. Pearson correlations among the scores on the TOEFL, ARS and PRS

	TOEFL	SAQ	DVK	ARS	PRS
TOEFL	1	.581**	.466**	.647**	.624**
ARS	.647**	.630**	.506**	1	.351**
PRS	.624**	.419**	.496**	.351**	1

Note: $n = 107$

** $p < .01$ (two-tailed)

Table 3. Results obtained from multiple regression analysis for ARS and PRS predicting academic reading performance

Model	B	SE B	β	t	Sig.
ARS	3.868	1.360	.252**	2.844	.005
PRS	1.605	.801	.247**	2.148	.048

Note: $R^2 = .52$; ** $p < .05$

Independent variables: ARS, PRS

Dependent variable: TOEFL

The third aim of the present study is to investigate the frequency of use of metacognitive reading strategies among high-proficiency, intermediate-proficiency and low-proficiency readers. As indicated previous, 107 participants are classified into the high-proficiency level (scores are above 23), the intermediate level (scores between 15 and 22), and the low-proficiency level (scores are below 14). Table 4 show that the TOEFL scores of the high-proficiency group ($n = 19$) are 21.75, the intermediate group (71) are 18.90, and the low-proficiency group (27) are 12.87. The mean scores of overall metacognitive reading strategies use of the high-proficiency group ($M = 4.32$, $SD = .427$) and the intermediate group ($M = 4.14$, $SD = .511$) outnumber that of the low-proficiency group ($M = 3.48$, $SD = .573$). These results indicate that high-proficiency and intermediate-proficiency readers use metacognitive reading strategies in the high level in the process of reading while low-proficiency readers use these strategies in the medium level. The results also show that there are differences in the application of analytic and pragmatic reading strategies among high-level,

intermediate-level and low-level readers. High-level readers ($M = 3.67$, $SD = .476$) use more analytic reading strategies than that of intermediate-level readers ($M = 3.33$, $SD = .492$), and low-level readers ($M = 3.20$, $SD = .487$). The differences also exist in the use of pragmatic reading strategies used by high-level readers ($M = 4.98$, $SD = .697$), intermediate-level readers ($M = 4.96$, $SD = .707$), and low-level readers ($M = 3.77$, $SD = .677$). The results of this study support the third hypothesis that high-proficiency readers use more metacognitive strategies than those intermediate and low-proficiency readers. These results validated some previous research studies [6; 9; 10; 12] which indicate that high-proficiency readers use metacognitive strategies more frequently than those intermediate and low-proficiency readers when they are doing English reading comprehension materials.

Table 4. Frequency of use of metacognitive reading strategies among readers

	High-proficiency readers (n = 19)		Intermediate-proficiency readers (n = 71)		Low-proficiency readers (n = 27)	
	Mean	SD	Mean	SD	Mean	SD
TOEFL	21.75	6.912	18.90	6.723	12.87	6.876
MRSQ	4.32 ^a	.427	4.14 ^a	.511	3.48 ^b	.573
ARS	3.67 ^a	.476	3.33 ^b	.492	3.20 ^b	.487
PRS	4.98 ^a	.697	4.96 ^a	.707	3.77 ^a	.677

Note:

^aHigh in frequency use

^bMedium in frequency use

5. Conclusion

The present study investigates the frequency level of use of metacognitive reading strategies of English majors while they are reading the academic English materials, and examines the relationship between students' metacognitive reading strategies and their academic English reading comprehension achievement. It also explores the frequency of use of metacognitive strategies among students' achievement levels. The results show that students use the metacognitive reading strategies in high level. The results also show that the metacognitive reading strategies have positive correlations with the achievement of English reading comprehension. In addition, high-level readers use metacognitive strategies more frequently than those intermediate and low-level readers. The results of the present study show that metacognitive reading strategies have great positive effects on the English reading comprehension achievement. As the metacognitive reading strategies play positive roles in English reading comprehension, English lecturers should raise their awareness of the importance of teaching these reading strategies in classrooms to improve students'

performance in reading comprehension tests. Lecturers should not only train their students the basic knowledge of various metacognitive reading strategies but also instruct students how to use these strategies. It is very important for students to have metacognitive reading strategies for their academic achievement. In practice, students should know how and when to use reading strategies to comprehend the academic texts effectively. It is, therefore, critical to create the awareness of students about metacognitive reading strategies. Although this present study have important contributions to the body of existing knowledge involved the process of teaching and learning English, it has some limitations. First, the study sample is too small; therefore, a larger sample should be collected in the future studies to generate the findings. Second, future studies should be repeated for other participants in other research sites to examine if there are a strong correlation between metacognitive strategies and students' reading comprehension achievement./.

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