

A Study of English Reading Strategies Used by Senior Middle School Students

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Abstract

For the past several decades, reading strategies have aroused many researchers' interests, but the research has mainly focused on *strategy use* while ignoring the *function* of metacognitive awareness of reading strategies. This study, based on a questionnaire, investigated the students' awareness of reading strategy use at the senior middle school level. The major findings are, first, that there is a moderate awareness of all the strategies; secondly, the students hold a preference for Problem Solving Reading Strategies, followed by Global and Support Reading Strategies; thirdly, females show higher use of reading strategies than males in each individual category, as well as in the combined sub-categories. Also, the females are more careful and considerate while the males are more adventurous and bolder. Finally, the readers' metacognitive awareness of reading strategies is closely linked to their language proficiency. Based on the findings above, several suggestions can be made to help teachers improve their teaching and help the students improve their reading efficiency.

Keywords: Reading, Reading strategies, Metacognition

1. Introduction

Since the 1970s, how students learn a second language has attracted great emphasis. Considerable interest has been paid to understanding the characteristics of language learners and the learning strategies they use to achieve success in language learning. In the second language learning, reading serves as the primary source of new information about all sorts of topics.

In a review of the developments in second language reading research, Grabe (1991) points out that the crucial importance of the reading skill in academic contexts had led to considerable research on reading in a second language. The goal of most second language reading programs is to turn "learning to read" into "reading to learn" (Carrell, 1989).

Traditionally many psychologists and teachers have insisted that reading is nothing more than decoding written symbols to sounds (i, e, figuring out what the painted word says). The reader was seen as the "recipient" of information or as an "empty vessel" that brought nothing to the text. This notion of "text as object" is now frequently discredited in reading circles because readers are not entirely passive. In recent years, an increasing number of researchers believe that reading process is an active process in which reading skills can be developed. The viewpoint has moved from the "text as object" to that of the "text as process" by encouraging close interaction between the reader and the text. In addition to model-making in second language reading during the two decades, considerable attention has been paid to understanding what proficient, skilled readers typically do while reading, including identifying the strategies they use and how and under what conditions they use those strategies. This line of research has been useful in instructing non-proficient first and second language readers to increase their awareness and use of reading strategies to improve comprehension (Garner, 1985)

Many previous studies recognized the role of metacognitive awareness in reading comprehension, whether one is reading in the native language or a second language. Indeed, the consensus view is that strategic awareness and monitoring of the comprehension process are critically important aspects of skilled reading. Many researchers have applied metacognitive theory to reading in recent years. Researchers generally agree that metacognition is one of the most important elements to influence reading comprehension. O'Malley et al (1985) finds that intermediate ESL students use more metacognition than beginners. They thought students of higher proficiency in target language could even better use metacognition to control their learning than beginning students. Collins et al (2003) have done a research synthesis to examine recent research on the relation between metacognition and

reading comprehension based on reviews and primary researches since 1985 and 1986.

Although there is an explosion of research related to the relationship between metacognitive awareness and reading proficiency, it is easy for researchers to ignore the two factors: First, in China most research on metacognitive awareness is measured by different instruments: Oxford's SILL and Mokhtari and Reichard's MARSII, making it difficult to compare the results from two different instruments; Secondly, the instruments have been widely used in western countries, but in China, the potentially influential variables such as the learners' cultural background, personality, learning style, motivation, attitude and so on are significantly different. As a result, the other results may not be consistent with that in China.

2. Literature Review

2.1 Reading

2.1.1 Definition of Reading

Broadly speaking, there are two types of reading. Reading can occur on two different levels: Reading may mean looking at a written text in order to understand its contents. This is the first type of reading. It is usually done silently. The understanding that results is called reading comprehension. The second type of reading refers to speaking or reciting a written text aloud (oral reading). This can be done *with* or *without* an understanding of the contents. In this article, the concept of reading refers only to reading with comprehension, although, we sometimes do use oral reading to *demonstrate* that we comprehend.

In the past two decades, the concept of reading has come into the field of ELT (English Language Teaching) and gained much favor among language researchers and practitioners as well. Alderson (1984), Clarke and Coady (1979) and Silberstein (1994:12) have proposed different definition of reading from different perspectives. To sum up, reading is conceptualized as an interactive cognitive process in which readers interact with the text using their prior knowledge, cultural background and use appropriate strategies.

2.2 Reading Strategies

2.2.1 Definition of Reading Strategies

Drawing on works in cognitive psychology, strategies are defined as learning techniques, behaviors, problem-solving or study skills which make learning more effective and efficient (Oxford & Crookall, 1989). In the context of reading, reading strategies indicate how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand (Block, 1986). Reading strategies refer to "the mental operations involved when readers purposefully approach a text and make sense of what they read" (Barnett, 1988)

In short, reading strategies are deliberate, conscious techniques that readers employ to enhance their comprehension or retention of the textual information. Specifically they have the following characteristics: (1) deliberate, conscious plans, techniques and skills; (2) aiming to enhance reading comprehension and overcome comprehension failures; and (3) behavioral and mental. They are of interest for what they reveal about the way readers manage their interaction with the written text and how these strategies are related to text comprehension (Carrell, 1989).

2.2.2 Sub-categories of Reading Strategies

A lot of research has been done on how proficient readers employ strategies while reading. Based on various criteria, reading researchers usually divide reading strategies differently. In this article, Mokhtari and Reichard's Reading Strategy Model was employed.

Mokhtari and Reichard were famous for the MARSII (the metacognitive awareness of reading strategies inventory). It covers three sub-categories: Global Reading Strategies, Problem-Solving Reading Strategies and Support Reading Strategies.

Global Reading Strategies contain 13 items and represent a set of reading strategies oriented toward a global analysis of text. Examples include "evaluating what to read or ignore, noting text characteristics, guessing what the material is about, etc." These strategies can be thought of as generalized, intentional reading strategies aimed at setting the stage for the reading act.

The second subcategory (Problem-Solving Strategies) contain 8 items that appear to be oriented around strategies for solving problems when the text becomes difficult to read. Examples of these strategies include re-reading for better understanding, going back when losing concentration, pausing and thinking about reading etc. These strategies provide readers with action plans that allow them to navigate through the text skillfully.

Such strategies are localized, focused problem-solving or repair strategies used when problems develop in understanding textual information.

The third subcategory (Support Reading Strategies) contains 9 items and primarily involves use of outside reference materials, taking notes, underlining or circling information and other practical strategies that might be described as functional or support strategies. These strategies provide the support mechanisms aimed at sustaining responses to reading.

2.3 Metacognition

2.3.1 Definition of Metacognition

Metacognition, or thinking about thinking, is formally defined as “any knowledge or cognition that takes as its object, or that regulates any aspect of any cognitive endeavor” (Flavell, 1981). Metacognition includes knowledge about learning and about oneself as a learner, and the skills of monitoring and regulating one's own cognitive processes. In his 1976 article, Flavell first used the term metacognition formally in the title of his paper. He defined metacognition as follows: “In any kind of cognitive transaction with the human or non-human environment, a variety of information processing activities may go on. Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective.” (p.232). To further illustrate the constructs of the metacognition, Anderson (2001) offered us a figure of metacognition as follows:

Insert Figure 1 Here

Based on the previous research, metacognition can be seen as an individual's knowledge of their own cognitive process and their ability to independently control these processes by organizing, monitoring and modifying them as a function of learning.

2.3.2 Metacognitive Awareness and Reading Comprehension

Metacognitive awareness or knowledge is knowledge about ourselves, the tasks we face, and the strategies we employ (Baker and Brown, 1984). Knowledge about ourselves may include knowledge about how well we perform on certain types of tasks or our proficiency levels. Knowledge about tasks may include knowledge about task difficulty level. For example, in the area of reading, we may know that familiar-topic material is easier to understand than unfamiliar material; explicit sentences assist us in tasks that require reduction of texts to their gists. About strategies, we may know that verbal rehearsal and elaboration of material assist in retrieval, or that prediction of article content based on titles improves comprehension, and so forth. Metacognitive awareness therefore, also involves the awareness of whether or not comprehension is occurring, and the conscious application of one or more strategies to correct comprehension (Baumann, Jones, and Seifert-Kessel, 1993). This body of work has enormous explanatory power for description of the reading process in both the L1 and L2 contexts. First language reading researchers, most notably Baker and Brown (1984) have investigated several different aspects of the relationship between metacognitive ability and effective reading. Two dimensions of metacognitive ability have been recognized: 1) knowledge of cognition or metacognitive awareness; and 2) regulation of cognition which includes the reader's knowledge about his or her own cognitive resources, and the compatibility between the reader and the reading situation. For example, if a reader is aware of what is needed to perform effectively, then it is possible to take steps to meet the demands of a reading situation more effectively. If, however, the reader is not aware of his or her own limitations as a reader or of the complexity of the task at hand, then the reader can hardly be expected to take actions to anticipate or recover from difficulties (Carrell, 1989).

Research on metacognition in reading was carried since the late 1970s. It takes into account not just the product of comprehension (how readers perform on given comprehension tasks), but also the cognitive processes involved while reading which are typically not able to be detected through traditional reading tests. It is now generally agreed that the relationship between language proficiency and reading ability is reciprocal; for example, Alderson (1984) and Cziko (1978) have suggested that high levels of overall competence in the target language often lead to improvement in reading ability in that language. On the other hand, other researchers (e. g. Carrell et al., 1989) provide evidence that proficient L2 readers can compensate for a lack of English proficiency by increasing awareness and usage of reading strategies while reading to enhance comprehension.

Another important facet, the difference between males and females in reading strategy use, catches the researcher's attention. Young and Oxford (1997) have found that gender can have a significant impact on students' strategy use. An emerging theory for this gender difference proposes that although sometimes males surpassed females in the use of a particular strategy, females employ more strategies or employ strategies more effectively (Erhman and

Oxford, 1990; Oxford, 1994; Sheorey, 1999).

Although researchers have done many studies to find out the relationship between metacognitive awareness and perceived use of specific strategies vary. Many different factors such as society, culture, education, environment, belief system and so on can affect the final results. In China, most studies have been conducted in universities in big cities, and few empirical studies were related to students in senior middle schools. Considering this, the author carry out research, focusing on finding the relationship between metacognitive awareness and strategy use in a senior middle school in Jiangxi Province.

3. Research Methodology

3.1 Research Questions

The study is designed to answer the following questions: (1) What type and frequency of reading strategies do the students use in their reading processes?(2) Are there any significant differences by gender in the use of reading strategies?(3) Is there any relationship between strategy use and students' English proficiency?

3.2 Subjects

In order to get comprehensive and authentic data, four standard Grade Three classes were chosen randomly from Ji'an County Senior Middle School in JiangXi Province. A total of 196 students had English for almost six years. Among all of the 196 students responding to the questionnaire, 180 of them answered all the questions; the other 16 subjects were excluded from the study since they gave invalid responses to the questionnaire. Among the remaining 180 subjects, 137 (76%) were males and 43(24%) were females. Their ages ranged from 16 to 19 with the average being 17.6.

The participants were divided into two groups according to the scores they got from the NEMT in 2006. The top 30% were regarded as high-proficiency students while the bottom 30% were designed as low-proficiency students. Accordingly, there were 27 high-proficiency and 28 low-proficiency students among the 180 subjects.

3.3 Instruments

The instruments adopted in the study were a questionnaire and the National English Matriculation Test in 2006. The test and a group-administered questionnaire were used to collect data from 180 third-year students to investigate the metacognitive awareness of English reading strategies by Senior Middle School students.

3.3.1 Questionnaire

The questionnaire was made up of two parts. The first part asked the students' age, gender, academic major etc to know something of their background. The second part was the Metacognitive Awareness of Reading Strategies Inventory (MARS) developed by Mokhtari and Reichard (2002), which was designed to measure adolescent and adult students' awareness and use of reading strategies while reading academic materials. The MARS has been widely used in western countries, and the internal consistency reliability coefficients for each category range from 0.89 to 0.93 and reliability for the total sample was 0.93.

The MARS (see appendix I) covers three broad sub-categories of strategies including: (1) Global Reading Strategies, which can be thought of as generalized, intentional reading strategies aimed at setting the stage for the reading act (e.g., evaluating what to read or ignore, noting text characteristics, guessing what the material is about, etc.), contains S1, S3, S4, S7, S10, S14, S17, S19, S22, S23, S25, S26, S29. (2) Problem-Solving Strategies, which are localized, focused problem-solving or repair strategies used when problems develop in understanding textual information (e.g., re-reading for better understanding, going back when losing concentration, pausing and thinking about reading etc), contains S8, S11, S13, S16, S18, S21, S27, S30. (3) Support Reading Strategies, which provide the support mechanism aimed at sustaining responses to reading (e.g., underlining or circling information, paraphrasing for better understanding, going back and forth in the text, contains S2, S5, S6, S9, S12, S15, S20, S24, S28.

In this instrument each item is accompanied with a 5-point, Likert-type scale, 1 (never or almost never do this), 2 (only occasionally do this), 3 (sometimes do this), 4 (usually do this), 5 (always or almost always do this). The higher the number that respondents indicate applies to them, the more frequent the use of the particular strategy is reflected. The author identified three types of usage as suggested by Oxford & Burry Stock (1995, p.12) for general language learning strategy usage: high (mean of 3.5 or higher), medium (mean of 2.5-3.4) and low (2.4 or lower), which are used to determine the degree of metacognitive awareness.

3.3.2 English Proficiency Test

The students completed the National English Matriculation Test in 2008 (NEMT is regarded as the most accurate

measure for a student's language proficiency). There are six parts to the test: Listening comprehension (30 marks), multiple choice (15 marks), close test (30 marks), reading comprehension (40 marks), dialogue completion (10 marks) and writing (25 marks) with the total marks 150. The students' scores were used as an indicator of their English proficiency.

3.4 Data Collection and Analysis

On May 4, 2007, the MARS instrument was administered at the beginning of each individual class, with the help of the classroom teacher. The students were informed of the purpose of the survey and of the fact that there were no right or wrong answers. They were asked to complete the survey in 8-10 minutes and to express their authentic opinions for each statement. Each completed survey was manually examined, and, after discarding the invalid ones, the 180 usable questionnaires were collected.

After that, each questionnaire was examined and coded for statistical analysis to answer the research questions listed above. The Statistical Package for the Social Sciences (SPSS, version 13.0) was employed for the statistical analysis of the data and the significance level of $p < 0.05$ was set. The analysis covered the following three points: 1) Use of descriptive statistics to work out the mean scores and standard deviation of the overall reading strategies and each strategy category. 2) Use of independent t-tests to examine whether there were any differences in the use of reading strategies between the high-proficiency and low-proficiency students. 3) Use of independent t-tests to examine whether significant differences existed between the males and females with respect to reported strategy use while reading.

4. Results and Discussion

4.1 Research Question 1

What type and frequency of reading strategies do the students use in their reading process ?

The means of the three sub-categories are presented in the table.

Insert Table 1 Here

Of the three strategy sub-categories, Problem Solving Reading Strategies average scores were highest (3.22), followed by Global Reading Strategies (2.97) and Support Reading Strategies (2.60). In other words, when problems in reading arise, most of these students are ready to adopt strategies like reading slowly and carefully to be sure, going back when losing concentration, rereading for better understanding and so on to solve problems. By contrast, they use far fewer Support Reading Strategies like reading aloud when the test gets hard, discussing to check understanding, asking oneself questions and so on. This result coincides with the findings in Kouider Mokhtari and Carla Reichard's (2002) and Monos's (2004) study in which the Problem Solving Problems Strategies fall into the High Usage Group, and Support Reading Strategies are the least frequently used among the three subcategories.

For these students, 5 of the 30 strategies (17%) fell in the High Usage Group (mean of 3.5 of above), while 18 had means between 2.50 and 3.50 and the remaining 7 strategies (23%) fell into the Low Usage Group (mean values below 2.4). According to Table 4.1.1, one can also find the 5 most often and least often used strategies. The 5 highest means are PROB1, PROB2, PROB7, SUP5, GLOB11. The five least often used strategies are GLOB4, GLOB9, SUP4 and SUP2. Interestingly, Global Reading Strategies and Support Reading Strategies are among both the most and least often used items. Three Problem Solving Strategies are in the most often used category, but none is among the least often used ones. Here the five most often and least often used strategies particularly attracted my attention: Some studies (Kouider Mokhtari and Carla A. Reichard, 2002; Sheorey R. and Mokhtari K, 2001) have covered the same research, but their results are quite different. One possible explanation to that there may be something to do with different culture, society, environment, teachers, personality, etc.

In Ji'an County Middle School, the students clearly respect their teachers. The teachers are absolute authorities and the students tend to be obedient rather than critical. When the students are young, they are taught to respect and obey the teachers absolutely. Questioning or challenging teachers would be seen as rebellious or rude behavior. Thus under these circumstances, the students accept everything from the teachers without any doubt. However, as a result, the students' critical awareness is slowly strangled or killed. Consequently, we can see the frequency of critically analysing information and asking oneself questions is very low. In addition, Chinese people cherish managing by oneself in preference to co-operation. People want to do better than others. In this school, the phenomenon is even more pronounced. That is why the students seldom co-operate with their peers, and don't often use the strategy of "discussing to check understanding".

4.2 Research Question 2

Are there any significant differences by gender in the use of reading strategies?

As we have mentioned above, some studies (Ehrman and Oxford, 1990; Green and Oxford, 1995; Oxford, 1993; Sheorey, 1999) found that females had a significantly higher frequency of use of metacognitive strategies compared with males. At the same time there were also some conflicting results. Young and Oxford (1997) found that males and females did not differ from each other significantly in strategy use.

The means of the three sub-categories were presented in Table 2.

Insert Table 2 Here

As is shown in Table 2, females (whose mean frequency of overall reading strategy use was 3.11) used more reading strategies than males (whose mean frequency of reading strategy use was 2.87). The differences for the three sub-categories are also significant, with Global Reading Strategies 0.012, Support Reading Strategies 0.016 and Problem Solving Reading Strategies 0.004. At the same time, Table 2 indicates a tendency similar to the one reported strategy use, that is, there is a preference with both sexes for Problem Solving strategies, followed by Global and then Support Strategies. The data above provides the gender pattern identified by research in variety of contexts (Ehrman and Oxford, 1990; Nyikos, 1990; Oxford, 1994; Sheorey, 1999; Oxford and Nyikos, 1989). Those studies show that females report higher usage than males in all categories. Females superiority in language learning could be accounted for from two perspectives. First, researches found that females tend to show greater ability in articulation and score higher than males in verbal ability and reading test (Freeman L & Long, H, 1991; Oxford, 1993). Second, females are expected to succeed in language learning, and failure in English for females students in English may well be more status-threatening than for male students (Rao, 2005).

Further analysis indicates that there are still six strategies which males use a bit more frequently than females. They are using prior knowledge, checking how text content fit purpose, critically analyzing information, guessing what the material is about, using reference materials and visualizing information read.

Why do these differences occur? There are some factors that govern strategy choice that we should not ignore: For example, a gender stereotyped behavior in any particular society could affect strategy selection. In China, females are seen as focusing on detail and being careful; whereas males are expected to be more aggressive, ambitious and have a wider reading background. Both in the home and in school, authority figures holster these expectations. The results here also reflect this bias.

Chinese society is male dominated, with men generally being in key positions. From boyhood, males are encouraged to be assertive, to be the decision makers, to assume a leadership role. Thus they are fact checkers, more inclined towards all analytical approach, rather than blind acceptance. Females, on the other hand, are expected to accept situations, and to analyze less. No surprise, therefore, that males tend more towards critical analysis, verifying the information provided to them. So we can see that some strategies are used more often by males, such as critically analyzing information, checking how text content fits purpose and visualizing information read.

4.3 Research Question 3

Is there any Relationship between Reading Strategy Use and Students' English Proficiency?

Insert Table 3 Here

By using an independent t-test, a comparison was made of the reading strategy use between the high-proficiency students and the low-proficiency groups. The results obtained revealed statistically significant differences for a number of individual reading strategies between these two groups. For example, the high-proficiency students group had higher means for 27 of the 30 strategies as well as for all the three strategy sub-categories. These differences were statistically significant for 7 Global Reading Strategies (Glob 1, 2, 6, 7, 8, 11, 13), 1 Support Reading Strategies (SUP1), and 6 Problem Solving Reading Strategies (PROB1, 2, 3, 4, 7, 8). Statistically significant differences were also observed when the data were analyzed for Overall Strategy Use ($p=0.000$), and for two of the three sub-categories: Global Reading Strategies ($p=0.000$), Problem Solving Reading Strategies ($p=0.000$). Obviously, the results indicate that the third hypothesis is definitely true. This finding meets expectations and provides support for earlier findings (Baker, 1985; Baker and Brown, 1984; Carrell, 1989) on the positive relationship between strategic reading and improved English proficiency

Given the above findings, there appears to be a strong relationship between reading strategies used by readers, metacognitive awareness, and reading proficiency. In essence, successful readers appear to use more strategies than less successful readers and also appear to use them more frequently. Better readers also have an enhanced

metacognitive awareness of their own use of strategies, which in turn leads to greater reading ability and proficiency (Baker and Brown, 1984; Garner, 1987; Pressley and Afflerbach, 1995). Research in first language literacy also has established a similar correlation between reading ability and strategy use among native speakers of English. For example, Baker and Brown (1984) and Kletzien (1991) found that poor readers are generally deficient in reading skills and using strategies. Skilled readers, on the other hand, are able to reflect on and monitor their cognitive processes while reading. In other words, they know which strategies to use and how to use them, and they know the conditions under which they ought to be used. More recently, Alexander and Jetton (2000) and Pressley, M., and Afflerbach, P (2000) have also suggested that awareness of using reading strategies is a characteristic of superior reading comprehension and successful learning.

We believe that it is important for all readers, proficient and non-proficient, to be aware of the significance of strategies. Teachers can play a key role in increasing students' awareness of such strategies and in helping them become "constructively responsive readers" (Pressley and Afflerbach, 2000). We realize, of course, that an awareness of strategic reading does not necessarily translate into actual use of the strategies concerned. Nevertheless, we believe that it is important for metacognitive reading strategies instruction to be integrated into the overall reading curriculum so as to enhance students' metacognition with regard to reading. Such instruction can help promote an increased awareness of the mental processes involved in reading and the development of thoughtful and constructively responsive reading.

5. Conclusion, Implications and Limitations

5.1 Conclusion

In this study, 180 participants completed a 30-item questionnaire of metacognitive awareness of reading strategies when reading academic materials. Some findings are consistent with previous research, while some are different. These findings are summarized below:

1. Of all the three strategy sub-categories, Problem Solving Reading Strategies are the students' favorite, followed by Global Reading Strategies and then Support Reading Strategies, irrespective of their reading ability or gender.
2. The students show medium strategy use while reading (mean of Overall Reading Strategies = 2.93)
3. Females show greater awareness of reading strategies in all three sub-categories as well as 24 individual reading strategies.
4. The high-proficiency students show more frequent use in all the three sub-categories and 27 individual reading strategies than low-proficiency students.

5.2 Implications

Based on the findings above, several suggestions can be made to help teachers understand more about their students and to take actions to help students improve their reading.

Cultivating Co-operative Awareness

Using Different Methods to Treat Different Students

Reorienting Teachers' Roles

5.3 Limitations

Despite the interesting findings and their beneficial implications presented in this study, the research has certain limitations as follows:

1. The questionnaire used in this study consists of only 30 items. It is obviously not enough to cover all the strategies used by the students. This, to a certain extent, affects its reliability and the validity of the data in the study. So a wider variety of assessment methods is recommended in future studies e.g. interviews, observation, verbal report and diaries.
2. The questionnaire MARSIS was widely used in western countries, but in China, the potentially influential variables such as the learner's cultural background, personality, learning style, motivation, attitude and so on are quite different. As a result, the data yielded in the study might cause discrepancies compared with other MARSIS study results. It is then recommended that future researchers design a questionnaire which may better suit Chinese students.
3. In this study, 137 males and 43 females were involved. Perhaps the uneven number between male and female students may more or less influence the results. In the future study, more classes can be involved so that more girl students can finish the questionnaire to make the results more reliable.

References

- Alderson, J. C. (1984). Reading in a foreign language: a reading problem or a language problem? In: Alderson, C., Urquhart, X. (Eds.) *Reading in a Foreign Language*. Longman, New York, 1-24.
- Anderson, J. C. (2001). New Strategies for the Improvement of Automobile Catalysts. *International Journal of Molecular Sciences*, 251.
- Aebersold, J. and Field, M. L. (1997). *From reader to reading teacher: Issues and strategies for second language classrooms*. Cambridge, Cambridge University Press.
- Anderson, N. (1999). *Exploring Second Language Reading. Issues and Strategies*. Boston: Heinle & Heinle Publishers.
- Baker, L. (1985). Metacognitive skills and reading. In R. Bara, M. L. Kamil, P. Mosenthal, and P. D. Pearson (Eds.), *Handbook of reading research (Vol. 2)*. White Plains, NY: Longman, 353-364.
- Baker, L. and Brown, A. L. (1984). Metacognitive skills and reading. In P. David Pearson (Ed.), *Handbook of reading research*. New York: Longman.
- Barnett, M. (1988). *More than meets the eye*. Englewood Cliffs, N. J: Prentice Hall Regents, p66.
- Baumann, J, Jones, L and Seifert-Kessel. (1993). Effect of Think Aloud Instruction on Elementary Students' Comprehension Monitoring Abilities.
- Block, E. (1986). The comprehension strategies of second language readers. *Tesol Quarterly*, 20:3, 463-494.
- Carrell, P. L. (1989). Metacognitive awareness and second language reading. *Modern Language Journal*, 73, 121-134.
- Carrell, P. et al. (1988). *Interactive Approaches to Second Language Reading*. Cambridge: Cambridge University Press.
- Clarke, M. and Coady, J. (1979). Reading in Spanish and English. *Evidence from Adult ESL Students in Language Learning*, 29, 121-150.
- Cziko, G. (1978). Differences in first and second language reading: the use of syntactic, semantic, and discourse constraints. *Canadian Modern Language Review*, 34, 473-489.
- Ehrman, M. and Oxford, R. (1990). Effects of sex differences, career choice, and psychological type on adult language learning strategies. *The Modern Language Journal*, 73, 1-13.
- Flavell, J. H. (1981). Metacognitive aspects of problem solving. In L. Resnick (Ed) *The nature of intelligence*. Hillsdale, NJ: Lawrence Erlbaum, 37-232.
- Garner, R. (1985). *Metacognition and Reading Comprehension*. Ablex Publishing, Norwood, NJ.
- Green, J. and Oxford, R. (1995). A Closer Look at Learning Strategies, L2 Proficiency, and Gender. *TESOL Quarterly*, (29): 261-297.
- O'Malley, J. M., Chamot, A.U., et al. (1994). Learning Strategies Used by Beginning and Intermediate ESL Students. *Language Learning*, (35): 21-46.
- Oxford, R. (1994). Teaching culture in the language classroom: Toward a new philosophy. In J. E. Alatis (Ed.), *Georgetown University Round Table on Languages and Linguistics*. Washington: Georgetown University Press, 26-45.
- Oxford, R., & Crookall, D. (1989). Research on Language learning strategies: methods, language findings, and instructional issues. *Modern Language Journal*, 73, 404-419.
- Oxford R. and Nyikos, M. (1989). Reflections on sex differences in use of language learning strategies. *Foreign Language Annals*, 21, 296.
- Oxford, R. & Crookall, D. (1989). Research on six situational language learning strategies: Methods, findings, and instructional issues. *Modern Language Journal*, 73(4).
- Paris, S. G. (1984). *Coaching children to use reading strategies*. Invited address at the National Reading Conference, St. Petersburg, Florida. November.
- Rao, Z. H. (2005). Gender, Academic Major, and Chinese Students' Use of Language Learning Strategies: Social and Educational Perspectives. *THE JOURNAL OP ASIA TEFL*, 2:3, Mokhtari and Reichard. 115-138.
- Sheorey, R. (1999). An examination of language learning strategy use in the setting of an indigenized variety of

English. *System*, 173-190.

Siberstein, S. (1994). *Techniques and Resources in Teaching Reading*. Oxford University press.

Young, D. J. and Oxford, R. (1997). A gender-related analysis of strategies used to process written input in the native language and a foreign language. *Applied Language Learning*, 8, 43-73.

Table 1. Frequency of Individual Reading Strategies and Strategy Sub-categories

Name	strategy	M	S.D.
PRS	Problem Solving Reading Strategies	3.22	0.586
GRS	Global Reading Strategies	2.97	0.507
SRS	Support Reading Strategies	2.60	0.507
ORS	Overall Reading Strategies	2.93	0.442

Table 2. Strategic Differences in the Use of Reading Strategies between Male and Female Students

Name	strategy	Male(137)		Female(43)		t	p-value
		M	S.D.	M	S.D.		
GRS	Global Reading Strategies	2.92	0.50	3.14	0.49	-2.54	0.012
SRS	Support Reading Strategies	2.55	0.52	2.76	0.43	-2.44	0.016
PRS	Problem Solving Reading Strategies	3.15	0.58	3.44	0.55	-2.90	0.004
ORS	Overall Reading Strategies	2.87	0.44	3.11	0.41	-3.16	0.002

Table 3. Strategy Use Differences between High and Low-Proficiency Students

Name	strategy	High(27)		Low(28)		t	p-value
		M	S.D.	M	S.D.		
GRS	Global Reading Strategies	3.17	0.47	2.57	0.45	4.79	0.000
SRS	Support Reading Strategies	2.56	0.49	2.40	0.54	1.14	0.259
PRS	Problem Solving Reading Strategies	3.56	0.46	2.66	0.43	7.61	0.000
ORS	Overall Reading Strategies	3.09	0.38	2.54	0.40	5.20	0.000

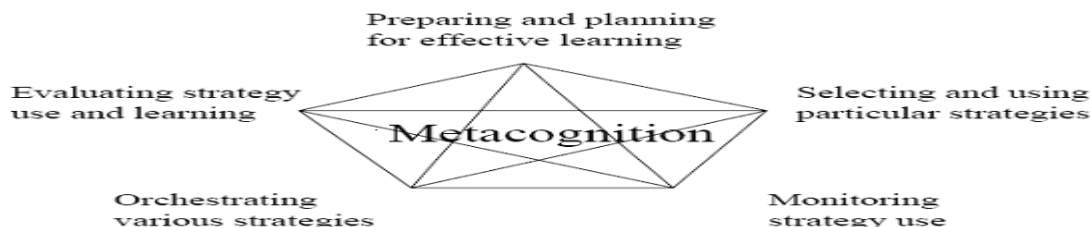


Figure 1. Anderson's (2001) Model of Metacognition