

Elmira Noroozi Siam
Seyyed Mohammad Ali Soozandehfar
Shiraz Universit, Iran

Metacognitive awareness of reading strategies and reading comprehension

Abstract. The present study explores language learners' metacognitive awareness of reading strategies which may ensure their differences in autonomy and the success they achieve in their reading tasks. The study, which was done with 40 university students of English, employs two tests (Kruskal-Wallis & Pearson Correlation), which convincingly demonstrate a close relationship between Reading ability and metacognitive awareness of reading strategies.

Keywords: Reading, reading strategies, metacognitive awareness, metacognition

I. Introduction

1.1. Autonomy

The concept of learner autonomy has been central in the research area of learning and teaching issues since 1979. Holec (cited in Dickenson, 1995) for the first time defined autonomy as the 'ability to take charge of one's own learning', noting that this ability is not inborn and must be acquired either by 'natural means' or by 'formal learning', i.e. in a systematic and deliberate way. He also notes that 'to take charge of one's own learning' is to have the responsibility for all the decisions concerning all aspects of this learning (cited in Dickenson, 1995). A common theme in justifications for autonomy is that autonomous learners become more highly motivated and that autonomy leads to better and more effective learning work (Dickenson, 1995). Studies on this issue reveal some of the characteristics of

autonomous language learning. The review of the literature here attends to some of these studies.

1.2. Background

Yang (1998) in a four-year long qualitative study on the learners' attitudes towards strategy-based instruction for the purpose of gaining autonomy in learning showed that the majority of the learners approach such a project positively; as it was self-reported by the participants, the strategy-based instruction seemed to be helpful in expanding the learners' self-direction in learning. Littlewood (1996) examines the components that make up autonomy in language learning and in a framework represents the three domain of autonomy: communication, learning, and personal life:

- ◆ Linguistic creativity is most obviously associated with a person's autonomy as a communicator; however, since it facilitates the expression of personal meanings, it also contributes directly to his or her autonomy as a person
- ◆ Communication strategies, too, are associated with a person's autonomy; however, since they enable a student to deal more independently with texts and social situations, they also contribute to his or her autonomy as a learner
- ◆ Independent work includes the creation of personal learning contexts e.g. obtaining foreign newspapers or gaining groups of native speakers and thus contributes to a students' autonomy as a person

Carver (1984) offers a taxonomy learning methodology within which the highest category is learning style. This produces certain kinds of work habits, which in turn result in conscious plans; finally plans are realized as specific learner strategies. He argues that the growth of Learner Strategy is of positive advantage in language learning, and that the teacher can help learners in this respect by encouraging them to formulate conscious plans for the task of

learning. An increased awareness of one's own plan as a learner will help one to generate specific strategies, and will contribute to the self-directed state of mind as the part of the learner which is seen as one of the goals of language teaching. All the works mentioned above seem to touch on the importance of strategies.

1.3. Strategy use

Reading strategies can be defined as "plans for solving problems encountered in constructing meaning" (Cited in Richards & Renandya, 2002). It is important to point out that reading comprehension strategies as defined in this study are individual, stand-alone cognitive and metacognitive strategies that readers utilize while engaged in active reading. When individuals are monitoring their comprehension and cognitive failure continues to occur, Flavell (1979) suggests cognitive and metacognitive resources and strategies should be tapped. There is a clear difference between these two. The role of cognitive strategies is described as making cognitive progress whereas metacognitive strategies monitor this progress. Motivation is also considered an important aspect of strategy use because if the learner does not care to figure out the information, he or she will not employ the strategies to do so. That is why Paris, Lipson, and Wixon (cited in Dinner, 2009) describe "both skill and will" as components of strategies. The "will" involves readers' exhibiting desire to learn what they do not understand in order to master the skill of knowing when and how to use strategies.

Guthrie (2001) proposed the following:

Engaged reading is a merger of motivation and thoughtfulness. Engaged readers seek to understand; they enjoy learning and they believe in their reading abilities. They are mastery oriented, intrinsically motivated, and have self-efficacy (2001, p.1).

1.4. Metacognition

Research in the area of reading strategies has recently focused on the role of metacognition. Researchers in L1 area like Flavell (1992) and Pressley (2002) in particular argue for giving greater attention to the role of metacognition in helping students' self-regulation of their own learning. They maintain that students' metacognition, i.e. their awareness of, and cognitive control and regulation over learning, can enhance learning efficiency and self-efficacy (Vennman and Beishuizen, 2004).

Metacognition (metamemory), which was first introduced by Flavell (1976), is defined as "cognition about cognition." Flavell (cited in Wong 2005) emphasizing the importance of metacognition in the field of education and psychology, describes it as knowledge and cognition about cognitive phenomena.

Baker and Brown (cited in Wong 2005) decode metacognition into two categories:

1. Knowledge about cognition
2. Regulation of the cognition

The first category focuses on one's own awareness and appraisal of one's cognitive process: while regulation of cognition takes into account self-regulation and strategies leading to the achievement of self-regulation (use of repair strategies).

When it comes to reading, researchers agree that awareness and monitoring of one's comprehension processes are critically important. Sheorey and Mokhtari (2001) include both awareness and monitoring in their conceptualization of metacognition, which is defined as "the knowledge of the reader's cognition relative to the reading process and the self-control mechanism they use to monitor and enhance comprehension." (p. 432).

Paris and Jacob (cited in Reichard 2002) provide an illustration of the differences between skilled and unskilled readers:

Skilled readers often engage in deliberate activities that require planful thinking, flexible strategies and periodic self-monitoring. They think about the topic, look forward and backward in the passage and check the own understanding as they read... Beginner or poor readers do not recruit and use these skills. Indeed novice readers often seem oblivious to these strategies and the need to use them.

Some researchers like Trathan & Schraw (cited in Cubukcu, 2008) have emphasized the students' reflections on the way they deal with the tasks. Such reflections provide a conventional description of metacognition. According to Pressley (2005) efficient readers are all strategic or constructively responsive readers i.e. they have a powerful tool to anticipate, strategize, monitor, and evaluate their thinking processes and this in turn enables them to approach a variety of new situations successfully by drawing on prior knowledge and experience and adapting to the demands of the cognitive task at hand. According to Pressley (cited in Israel, 2007) expert readers and highly skilled readers use specific metacognitive strategies before, during, and after reading to aid in their comprehension and understanding of the text being read. The behaviors that good readers use help them to construct meaning while reading.

A study conducted by Anderson (1991) attends to one-semester implementation of reading strategy instruction to college students. Strategies selected for instruction were generally top-down, interactive or metacognitive strategies, including using prior knowledge guessing word meaning from context, skimming for main ideas, scanning for information, summarizing and self-questioning and prediction. The results of the qualitative and quantitative data analysis evidenced that reading strategy instruction could raise students'

awareness of strategy and change some misconceptions of reading and make the learners believe that they can independently improve their reading skills. A positive relationship has been demonstrated between self-regulation and college students' readiness to change.

As Jakubowski & Dembo (2005) claim, the students' exploration of their own readiness to change is an important component in programs to develop self-regulation (Cited in Buchard & Swerdzewski, 2009).

The research on metacognition and reading comprehension is so extensive, and the present work examines the readers' *own* awareness of their cognitive and metacognitive processes while reading and the actions they take to monitor the process of comprehension.

II. Method

II.1. Participants

Data were collected from 40 students of English (15 males, 25 females) who were studying in institutes. Their teachers were consulted in selecting student with different reading abilities for the purpose of consistency. The group ranged in the age-group of 23-27.

II.2. Instrument

The inventory used in the study was MARSIS (Metacognitive Awareness of Reading Strategies Inventory) (See Appendix A) designed by Mokhtari & Reichard (2002) which is suited to assess students' awareness and perception of reading strategies. The 30-item instrument has three factors or subscales, global reading strategies (13 items), problem-solving strategies (8) items, and reading support strategies (9) items. These three important factors interact with each others and are believed to have an important influence on text comprehension. The reliability of the instrument is reported at .93, indicating a

reasonably reliable instrument to gauge the metacognitive awareness of reading strategies which is itself unobservable in nature. A reading test of average difficulty in general was also administered to the participants of the study.

II.3. Procedure

Before data collection could proceed, permission was sought from the relevant authorities in the institutes and participants themselves consented to cooperate as well; otherwise they were not included. In the first phase, after short explanation, MARSII was administered to the participants. The scores from the inventory were transferred to the scoring sheet (See Appendix B). In examining the reading strategy use of individual and groups of students on the MARSII, which is a 5-point Likert type scale, three levels of usage were identified, as suggested by Oxford for language learning strategy usage: high (mean of 3.5 or higher), medium (mean of 2.5 to 3.4), and low (2.4 or lower). The data obtained from the inventory and the reading test was coded on the SPSS.

III. Results

We quantified scaled responses to the inventory according to the scoring sheet (See Appendix B) and calculated the means for each subscale and obtained the overall mean for each participant. In order for them to be coded on the SPSS we categorized them into three groups of high, medium, and low according to the scale provided in the interpretation sheet. As it is shown in Table 1, Kruskal-Wallis test (non-parametric counterpart of one-way ANOVA) was conducted to see whether the three groups of participants differed significantly.

Table 1 Results of the Kruskal- Wallis test

Scores	
20.676	Chi-Square
2	df
.000	Asymp. Sig.

Table 2 Rankings

Mean Rank	N	Mean
30.44	16	High
16.86	11	Medium
11.35	13	Low
	40	Total

According to Table 1 the result of the analysis proves to be significant (Asymp. Sig. = .000).

This means that the extent of the learners' metacognitive awareness of the reading strategies affects their comprehension of the texts. As was expected and Table 3 illustrates, a positive correlation between the two variables (scores and means) exists, so we can assuredly claim that the more strategic, or better to say, the more learners are aware of the reading strategies, the more constructively responsive they are to the reading tasks. Of course this is in line with what Robin (cited in Lam, 2008) asserts, that to have metacognitive knowledge and the ability to deploy metacognitive strategies and to access one's knowledge and beliefs is inherent in expert learners. Metacognition actually impacts learning by increasing either effectiveness, efficiency or both (Cited in Burchard & Swerdzewski, 2009).

Table 3 Pearson Correlation between test scores and inventory scores

In. Scores	Test Scores	
.87	1	Pearson Correlation
.000	40	Sig. (2tailed)
40		N

From Table 3, it can be concluded that the correlation coefficient is significant ($r = .87$, $p = .000$) and there is high correlation between the test scores and the inventory scores.

IV. Discussion

Individuals differing in the extent they can manage to regulate their reading task through metacognition really differ in the extent they gain success in the task at hand. The results highlight the importance of the self-regulated learning, as it is proved to be directly related to metacognitive awareness, which is, in turn, in need of more research to gain better pedagogical insights. The more learners regulate their own learning, the more metacognitively cognizant they are of their learning processes, which helps them recognize their strengths and weaknesses. In other words the students' more enhanced knowledge allowed them to be more self-regulated readers.

Metacognitive research has long supported the conclusion that successful metacognitive thinking requires three types of knowledge: declarative knowledge, procedural knowledge, and conditional knowledge (cited in Nash-Ditzel, 2010). Declarative knowledge is defined as propositional information one possesses about a certain task such as knowing that utilizing prereading strategies prior to reading a text will greatly aid in comprehension. Procedural knowledge is one's thinking processes. An example is knowing *how* to implement prereading strategies prior to reading a text. And conditional knowledge is an awareness of factors affecting learning. Knowing *why* or in what circumstances prereading strategies increase comprehension of a text would be considered conditional knowledge. Autonomy needs all three kinds of knowledge. Researchers have shown strong connections between declarative

knowledge and conditional knowledge and successful implementation of regulation strategies.

As it is rightly tapped on by the items, the inventory seeks to examine the awareness of the processes by which learners set goals, monitor, regulate, and control their learning. General and intentional reading strategies are assessed by the Global strategies, orientation strategies to deal with unexpected problems as the name stands for are assessed by the Problem-solving strategies and finally Support reading strategies are those which are functionally supporting like use of outside reference materials.

V. Conclusion

The present study, though of a very small scale, and other pertinent studies emphasize the role of the metacognition or metacognitive awareness of language learners. The importance of this field is evidenced by the autonomy which almost all the learners yearn for logically and psychologically. The study demonstrates the positive influence of awareness of metacognitive reading strategies on the ability of university students to regulate their own reading processes. Although the study does indeed have shortcomings, such as the small number of participants, it can stimulate more research in relevant aspects of metacognition, which is believed to have three main components, self-observation, self-judgment, and self-reaction, and their very pedagogical effects on learning. Studying the very act of raising awareness is in itself a long path, worthy of being trodden by the researchers and educators.

References

- Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *Modern Language Journal*, 75(4), 460-472.
- Barkhuizen, G.P. (1998). Discovering learners' perceptions of ESL classroom. Teaching/learning activities in a South African context. *TESOL Quarterly*, 32(1), 85-108.
- Blanche, P. (1988). Self-assessment of foreign-language skills: Implications for teachers and researchers'. *RELC Journal*, 19, 75-93.
- Block, E. (1986). The comprehension strategies o second language readers. *TESOL Quarterly*, 20(3), 463-494.
- Burchard, M. S. & Swerdzewski, P. (2009). Learning Effectiveness of a Strategic Learning Course. *Journal of College Reading and Learning*, 40 (1), 14.
- Carver, D. J. (1984). Plans, learner strategies and self-direction in language learning. *System*, 12(2), 123-131.
- Clemente, M. de Los Angeles (2001). Teachers' attitudes within a self-directed learning scheme. *System*, 29(1), 45-67.
- Cotterall, S. (1995). Readiness for autonomy: Investigating learner beliefs. *System*, 23(2), 195-206.
- Cubukcu, F. (2008). How to enhance reading comprehension through metacognitive strategies. *The Journal of International Social Research*, 1(2), 83-93.
- Dickenson, L. (1995). Autonomy and motivation. *System*, 23(2), 165-174.
- Dinner, L. R. (2009). Analysis of the Metacognitive and Affective Components of Learning on Reading. Achievement of Striving Readers with and without a Reading Disability. Doctor of Philosophy Thesis, University of Kansas.
- Gardner, D. (1996). Self-assessment for self-access learning. *TESOL Quarterly*, 5(3), 18-23.
- Hashim, R. (1994). Examining learners' language learning strategies. *RELC Journal*, 25(1), 1-21.
- Jones, F. R. (1998). Self-instruction and success: A learner profile study. *Applied Linguistics*, 19(3), 378-406.

- Lam, W. (2009). Examining the effects of metacognitive strategy instruction on ESL group discussions: A synthesis of approaches. *Language Teaching Research*, 13(2), 129-150.
- LoCastro, V. (1994). Learning strategies and learning environments. *TESOL Quarterly*, 28(2), 409-414.
- Mokhtari, K & Reichard, C. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94(2), 249-259.
- Nash-Ditzel, S. (2010). Metacognitive Reading Strategies Can Improve Self-Regulation. *Journal of College Reading and Learning*. 40(2), 45.
- Strebel Halpern, C. S. (2009). An Investigation of Linguistic, Cognitive, and Affective Factors that Impact English Language Learners' Performance on a State Standardized Reading Achievement Test. Doctor of Philosophy Dissertation, University of Central Florida.
- Swan, M. (2008). Talking sense about learning strategies. *RELC Journal*, 39(2), 262-273.
- Vann, R. J. & Abraham, R. G. (1990). Strategies of unsuccessful learners. *TESOL Quarterly*, 24(2), 177-198.
- Wang, M. (2009). Effects of Metacognitive Reading Strategy Instruction on EFL High School Students' Reading Comprehension, Reading Strategies Awareness, and Reading Motivation. Doctor of Philosophy Dissertation, University of Florida.
- Wong, M. (2005). Language learning strategies and language self-efficacy. *RELC*, 36(3), 245-269.
- Yang, N. (1998). Exploring a new role for teachers: Promoting learner autonomy. *System*, 26(1), 127-135.
- Zhang, L. J. (2003). Research into Chinese EFL learner strategies: Methods, findings and instructional issues. *RELC Journal*, 34(3), 284-322.