Applied Science and Innovative Research
ISSN 2474-4972 (Print) ISSN 2474-4980 (Online)
Vol. 3, No. 4, 2019
www.scholink.org/ojs/index.php/asir

Short Research Article

Innovative Outlook on Metacognition in Second Language Reading

Jeng-Jia Luo[1*]

[1] The English Language Center, Tunghai University, Taichung, Taiwan

Received: May 1, 2019 Accepted: May 12, 2019 Online Published: November 28, 2019

doi:10.22158/asir.v3n4p297 URL: http://dx.doi.org/10.22158/asir.v3n4p297

Abstract

This paper aims to explore the application of the metacognitive theory in second language (L2) reading process. I begin by providing a general review on the notion of metacognition and its contributions to learning and teaching. Next, I synthesize the studies which adopted the notion of metacognition to explore the reading process of a second language. The synthesis will be followed by an analogy of metacognitive knowledge and an analogy of metacognitive regulation. The paper ends with suggestions for future research.

Keywords

Metacognition, second language (L2), reading process

1. Overview of Metacognition

The metacognitive theory has intrigued quite a few educational researchers for more than three decades. The notion of metacognition, derived from the metacognitive theory, is "one's knowledge concerning one's own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data" (Flavell, 1976, p. 232). Schraw and Moshman (1995) gave a well-rounded review on the structure of metacognition. According to them, metacognition is comprised by two domains—metacognitive knowledge and metacognitive regulation. Simply defined, the former refers to the knowledge repertoire of what L2 readers know. It includes declarative knowledge, procedural knowledge, and conditional knowledge. The latter refers to their conscious control over what they think and what they do.

In a nutshell, the metacognitive theory foregrounds the active mechanism of learners and views learners as self-reflective thinkers and decision-making agents. Figure 1 below illustrates the operations of metacognition. The inner circle is the metacognitive knowledge and the other circle is the metacognitive regulation. The metacognitive knowledge is constructed by the interplay of the five

wh-words, who (L2 readers' understanding of their learning styles, personality, beliefs, attitudes, among others), what (L2 readers' perceptions of the target task –the goal, the difficulty level, probability of success, value of the commitment, and their recognition of the availability of their strategies—the tools or sources that they have the access to), how (the insight L2 readers receive from their own past experience or other's experience with the task), when and why (L2 readers' conscious selection from and use of the available sources in the given condition). According to Garner (1994), learners' metacognitive knowledge changes over time, in accordance with their experience and reflective practices (Schraw & Moshman, 1995), the dynamic nature of the learning tasks, and the compositions of the learning environment.

Built on metacognitive knowledge, learners move on to the decision-making stage—the metacognitive regulation. First off, they decide whether to take actions about the learning target. If they decide to make the efforts, they make plans based on the repertoire of their metacognitive knowledge. Next, they monitor, and at the same time, evaluate their projections while they are carrying out their plans. Quite often, it is the evaluative stage where the "A-ha" moments come into play. If the condition permits, the learners may adjust their original plans at any time during the initial processing cycle. If the condition does not allow for timely adjustment, they may conduct a summative evaluation on what they have done and then make adjustments while planning for the next processing cycle.

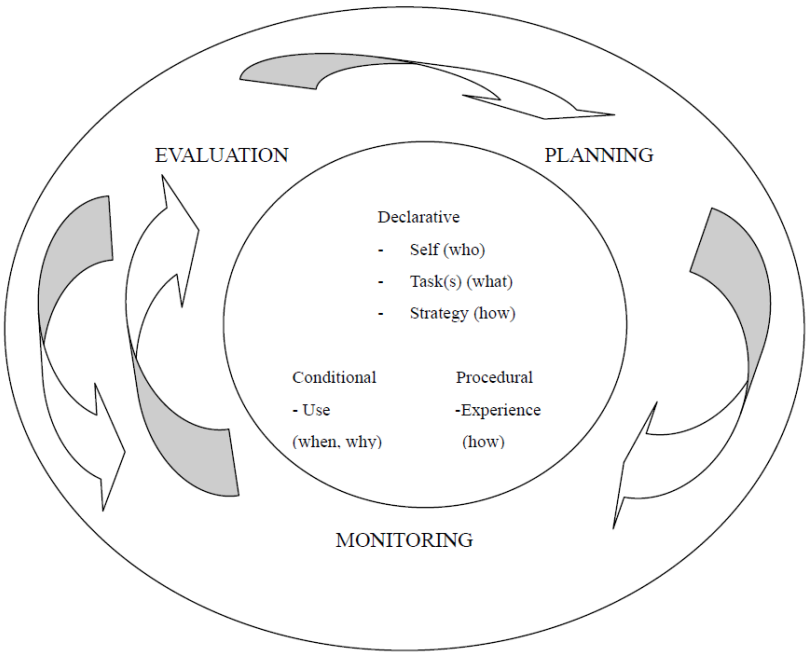

Figure 1. Operations of Metacognition

2. Contribution of Metacognition to Learning and Teaching

Paris et al. (1994) stated that strategic learning starts with awareness—metacognitive knowledge. Sharing the same conviction, Schraw and Moshman (1995) asserted that the curriculum should include

metacognitive theorizing at all skill levels by saying "it is reasonable to place some degree of emphasis on metacognitive theorizing from the time a child enters school regardless of his or her skill level" (p. 367). The view of reading as an active meaning-making processing is echoed by Spivey (1991) when she made the reading-writing connections: Like the writer, "the reader organizes textual meaning, selects textual content for the representation, and connects content cued by the text with content generated from previously-acquired knowledge" (p. 256).

The assertion that readers are aware of their knowledge and their reading behaviors was implemented by Vandergrift (2002), who applied the notion of metacognition to his Canadian French class while investigating his students' responses to the listening tasks and instruments. The findings confirm the existence of his students' metacognitive knowledge and skills. He concluded that it would be beneficial to raise students' awareness of their metacognitive knowledge (themselves, the task, and the learning context) and to facilitate their metacognitive skills (planning, monitoring, and evaluation).

3. Application of Metacognition to L2 Reading

Like listening, reading is a receptive skill. However, the notation of "receptive" does not denote "passive". I agree with Pritchard (1990) when he defined reading as "an active process in which readers use their background knowledge, the situational context, and the cues provided by an author to construct an interpretation of the meaning of a text" (p. 290).

What attributes to successful reading? Miller (1998) advocated three clusters of processing—the metacognitive processing, information processing/decoding, and cognitive processing. I think metacognitive processing is the major gear component and drives the other two. The key is awareness, which in turn leads to decisions and actions. Li and Munby (1996) spent one year investigating what metacognitive strategies the participants—two Chinese graduate students with advanced English proficiency—were aware of and used in the process of reading the academic texts in English. The result indicates that both the participants were aware of and exercised their control over their cognitive processing of the academic texts.

Also in favor for the qualitative approach, Mackey (1997) conducted a study on the impact of metacognition on reading behaviors. She claimed that each reader bears in mind his or her reading agenda, on a continuum of two ends. As Figure 2 indicates, on one end is the exclusive value on momentum (discovering more while reading along). On the other end is the exclusive value on accuracy (pausing to ensure the correctness of the perceived information). Where the reader situates himself or herself on the continuum depends on the extent and the type of risk the readers can bear. The positioning act determines the amount and quality of the reading that the reader considers as sufficient.

Valuing momentum ---------- Valuing accuracy

(risk of missing significant details) (risk of missing the gist)

Figure 2. Momentum-accuracy Continuum

To explore the influence of readers' value and attitudes on their reading behaviors, Mackey (1997) used recall protocol, think-aloud protocol and interview when she observed the Canadians' reading behaviors in the process of reading a British novel. She found that the participants, despite the variety of ages and educational backgrounds, valued momentum over accuracy. To maintain the reading momentum, the participants recognized the need for the temporary understanding of the text so as to maintain the reading momentum. Because of the value and the recognition, the participants purposefully regulated their reading behaviors with the anticipation that the clarity of the novel at hand would develop as their reading progressed: taking notes to capture essential partial information, using affective substitution to compensate for imperfect grasp of the text, taking the risk of wrongly interpreting the texts, and tolerating the combined misunderstandings.

4. Analogy of Metacognitive Knowledge of L2 Reading

If we compare L2 reading to a car trip, we may have the following correspondences:

Vehicle	Metacognitive Knowledge of L2 Reading
key	motivation
engine	values
wiper	vision/concrete goal
bumper	risk-resistance
map/GPS	procedural knowledge
tires	declarative knowledge (self, task, strategy, plan)
road signs	conditional knowledge

A car cannot function well or at all without any of the above basic properties. Likewise, a reader can not achieve a satisfactory understanding of a text without the fundamental metacognitive knowledge. Teachers should guide their students to make their metacognitive knowledge, experience, and use visible and to construct their own metacognitive theories. The necessity of incorporating the awareness into the curriculum is confirmed by Carrell (1989), and Li and Munby (1996). Throughout the construction, learning values and motivation are extremely crucial. Garner (1994) viewed metacognitive knowledge as the basis for metacognitive experience that later trigger strategy use. The conscious use of the strategy is driven by the learner's motivation. In line with Garner et al. (1994) highlighted learners' motivation. They further claimed that the learners' motivation is shaped and reshaped by their identities and social interactions in the classroom and that this learning motivation, in turn, impacts their metacognitive knowledge, experience, and use of strategies.

In L2 reading classrooms, teachers can constantly use surveys or class discussions to detect their students' metacognitive knowledge in the second language reading. Based on the analysis of learners' knowledge and beliefs, teachers may find it easier to set meaningful learning goals and purposeful tasks to the students. The investigating and discussion also may raise students' awareness of what they are

equipped with.

5. Analogy of Metacognitive Regulation of L2 Reading Process

The above list is not exhausted, a safe and pleasant car trip needs a self-regulated driver, who is aware of his or her actions and decisions before hitting the road, during the driving, and during the break. Good drivers make plans on the basis on what they know. Sitting behind the wheel, they handle the wheel with caution, check the mirrors to interact with other drivers, use the accelerator and the brake to adjust the driving speed, pull over to the gas station when the gas tank is low, pull into a rest area or listen to some upbeat music when their energy is low, and keep track of the weather reports and the traffic conditions. Similarly, good L2 reading takes a self-regulated reader, who is conscious of his or her actions and decisions before, during, and after each reading practice. Sitting at a desk, good L2 readers make plans for the reading task, monitor and evaluate their reading goals, amount and quality of interpretation, and reading strategies. Informed by the evaluation, they choose to sustain or adjust their current reading behaviors.

Driving	Metacognitive Regulation of L2 Reading
steering wheel	controlling
dashboard	monitoring reading behaviors
mirror	evaluating reading flow and strategies
gas	looking for encouragement and support
accelerator	using reading strategies
brake	regulating momentum/accuracy
turn signals	acknowledging your following reading moves
radio/CD player	reading for fun/pleasure
exhaust	joining in a support group

In L2 reading classrooms, it is crucial to provide learners with opportunities to consciously act for (plann), in (monitor), on (evaluate) their current knowledge and to reach out for the access to others' knowledge and regulation of learning (probably alternative) strategies to carry out their goal-oriented tasks. For example, teachers may put students in groups to discuss what they think and do to achieve good-enough readings or interpretations. Beside, the constructive process of metacognitive theories can be a combination of learners' reflections (e.g., journals, self reports, interviews) on their metacognition development and the teacher's instruction, modeling, and facilitation.

6. Future Research

Despite the insights from the studies conducted to give accounts for L2 learners' metacognitive knowledge and regulation of their L2 reading strategies (Adamson, 1990, 1992; Block, 1986; Li &

Munby, 1996) and to compare/contrast metacognition practiced by readers from different language backgrounds (Block, 1992; Goodman, 1971), readers of different L2 proficiencies (Baker & Brown, 1984; Carrell, 1989), and readers of different ages (Schoonen et al., 1998), there is still inconsistency revealed from the findings (Schoonen et al., 1998). The inconsistency indicates that there is room for researchers to investigate the potential accounts for the disparity.

Another research direction is replicating the existing studies with minor changes. The two participants, who Li and Munby (1996) recruited had a lot in common—the cultural background, their English proficiency, the length of their stay in Canada, and the school they were studying at. Therefore, the researchers suggested that the same research frame could be used with a substitution of alternative participants—those majoring in different academic fields or those with the cultural background other than Chinese.

Another intriguing research direction is the transition between metacognitive knowledge and metacognitive regulation. Weiner's (1992) Attribution theory mentions eight motivational accounts, with the combinations of internal/external, stable/unstable, and controllable/uncontrollable (2 x 2 x 2) variables, for the successful experiences and failure. It would be interesting to see if there are any knowledge-regulation patterns across those accounts. For example, what transition will a reader go through when his or her L2 reading is driven by an internal-stable-controllable motivation (e.g., reading for pleasure)? Will the transition remain the same or change when his or her reading is driven by an external-stable-controllable motivation (e.g., reading an assigned text)?

References

Adamson, H. D. (1990) ESL students' use of academic skills in content courses. *English for specific purposes*, *9*, 67-87. https://doi.org/10.1016/0889-4906(90)90029-C

Adamson, H. D. (1992). Academic competence. *Theory and classroom practice*. New York: Longman.

Baker. L., & Brown, A. L. (1984). Metacognitive skills and reading. In D. P. Pearson (Ed.), *Handbook of reading research* (pp. 353-394). New York: Longman.

Block, E. L. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, *20*, 463-494. https://doi.org/10.2307/3586295

Carrell, P. L. (1989). Metacognitive awareness and second language reading. *The Modern Language Journal*, *74*, 121-134. https://doi.org/10.1111/j.1540-4781.1989.tb02534.x

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp. 231-235). Hillsdale, JJ: Erlbaum.

Garner, R. (1994). Metacognition and executive control. In R. B. Ruddell, M. R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 715-732). Neward, DE: International Reading Association.

Goodman, K. S. (1971). Psycholinguistic universals in the reading process. In P. Pimsleur, & T. Quinn (Eds.), *The psychology of second language learning* (pp. 135-142). Cambridge, UK: Cambridge

University Press.

Li, S., & Munby, H. (1996). Metacognitive strategies in second language academic reading: Qualitative investigation. *English for Specific Purposes*, *15*(3), 199-216. https://doi.org/10.1016/0889-4906(96)00004-X

Mackey, M. (1997). Good enough reading: Momentum and accuracy in the reading of complex fiction. *Research in the Teaching of English*, *31*(4), 428-458.

Miller, G. A. (1998). The challenge of universal literacy. *Science*, *241*, 1293-1299. https://doi.org/10.1126/science.241.4871.1293

Paris, S. G., Lipson, M. Y., & Wixson, K. K. (1994). Becoming a strategic reader. In R. B. Ruddell, M. R. Ruddell, & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 788-810). Newark, DE: International Reading Association.

Pritchard, R. (1990). The effects on cultural schemata on reading processing strategies. *Reading Research Quarterly*, *25*, 273-295. https://doi.org/10.2307/747692

Schoonen, R., Hulstijn, J., & Bossers, B. (1998). Metacognitive and language-specific knowledge in native and foreign language reading comprehension: An empirical study among Dutch students in grades 6, 8, and 10. *Language Learning*, *48*(1), 71-106. https://doi.org/10.1111/1467-9922.00033

Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology*, *7*, 351-371. https://doi.org/10.1007/BF02212307

Spivey, N. N. (1991). Transforming texts: Constructive processes in reading and writing. *Written Communication*, *7*, 256-279. https://doi.org/10.1177/0741088390007002004

Vandergrift, L. (2002). “It was nice to see that our predictions were right”: Developing metacognition in L2 listening comprehension. *Canadian Modern Language Review*, *58*, 555-575. https://doi.org/10.3138/cmlr.58.4.555

Weiner, B. (1992). *Human motivation: Metaphors, theories and research*. Newbury Park, CA: Sage Publications.