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Suhamira Nordin, Kamariah Yunus

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## Exploring Metacognitive Awareness among Teachers

Suhamira Nordin, Kamariah Yunus

Faculty of Languages and Communication, University of Sultan Zainal Abidin, Gong Badak  
Campus, 21300 Kuala Terengganu, Malaysia

### Abstract

Teaching with metacognition is one of the neglected areas in school policy and practice. Accordingly, educating metacognitive individuals has become an imperative concern in the development of growth of autonomous learners; one who thinks, acts, takes a stand, and works on judgement based on reasons. In the current research, metacognition is given a functional role which helps English primary school teachers to describe higher order thinking skills that are being practiced in the teaching of reading comprehension strategy. A search of the literature revealed that past studies only focused on the challenges faced by teachers concerning their higher order thinking skills which repetitively addressed the lack of knowledge and skills among teachers. The present paper aims to explore the empirical research on the role of metacognitive awareness reading strategies that are involved in the representation of integrated HOTS in the reading lesson. In the case of the present study, the findings from metacognitive studies among teachers were discussed by highlighting the focus of this paper. More importantly, the current review further expanded the understanding on the knowledge of metacognition, knowledge of regulation, and sense of judgement in metacognitive experiences among teachers in reading strategies instruction, thus further indicating the ESL learning strategies that should be implied to all learners. Finally, a recommendation for future studies is highlighted at the end of this paper by discussing the limitation of previous studies.

**Keywords:** Metacognitive Awareness, Autonomous Learners, Reading Comprehension Strategy, Higher Order Thinking Skills.

### Introduction

One of the principles of today's twenty-first-century learning refers to the importance of educating metacognitive individuals. Metacognition is selected as an overarching term that encompasses other commonly used terms such as self-regulated learning, thinking skills, and learning to learn. In this case, it should be understood that students are geared towards autonomous learning whereby the knowledge content should be built in response to various demands of audiences, tasks, purposes, and disciplines by critically synthesising different resources and valuing sound evidence (Ozturk, 2017). Regarding this matter, past research has

demonstrated that students who engage in metacognitive thinking tend to be more successful in academics. Moreover, it is equally important for the teachers to acquire the awareness of metacognition which will enable them to improve their instructional practice. In other words, teachers are required to think metacognitively themselves to ensure that they can teach metacognitive thinking. Regarding this matter, Pritula (2012) posits that metacognitive awareness among teachers must be significant to the extent that teachers can recognise their students' metacognitive thinking. Despite the importance of metacognitive thinking, there remains a paucity of evidence on teacher's metacognition as well as metacognitive assessment for teachers. Hence, this seems to suggest the crucial need to acknowledge teachers' metacognition because it is considered as the key deliverer towards students' achievement. Moreover, Beziat, Bynum, Beziat, and Bynum (2017) concede the instructional teachers to practise metacognitive thinking. Theoretically, an effective teacher entails high consistency in metacognition skills which further creates an opportunity for autonomous learning through their teaching approach as well as the development of learner-centered classroom culture.

On a more important note, it should be acknowledged that in-service primary school teachers are the least subjects mentioned in educational research. On the other hand, it is widely known that reading out of other language skills tends to be highly associated with a complex cognitive process in English as second language teaching, particularly concerning cognitive activities. As emphasised by Iwai (2016b), reading is one of the most important skills in enhancing students' learning. On another note, it should be understood that the roles of a teacher include to teach, model, and facilitate the most effective strategies that can be used in the comprehension of a text, especially for higher-order thinking skills such as interpreting, analysing, and synthesising the text. The scholarly community in the reading field states that the majority of proficient readers tend to acquire and employ various reading strategies, whereas less proficient readers only focus on limited reading strategies (Paris, Lipson, & Wixson, 1983). Accordingly, teachers are encouraged to demonstrate modelling and provide intensive instruction in reading strategies which can improve students' reading comprehension in the attempt to monitor and assist both types of readers (Israel, Block, Bauserman, & Kinnucan-Welsch, 2005). Moreover, these statements indicate the importance of the roles of a teacher in developing the reading comprehension of students. Apart from experience in teaching, in-service teachers must learn various strategies for differentiation in the classroom rather than only knowing specific reading strategies on how to improve students' reading comprehension. However, recent research revealed the lack of reading strategies instruction among teachers which caused them to neglect the importance of the strategies in students learning (Cekiso, 2017). Overall, it should be understood that teachers will only be able to monitor their students reading and provide the right instruction to them only when they are aware of their comprehension ability.

### **Metacognitive and Reading Strategy**

Excessive research in cognitive science has been very significant and helpful in understanding the nature of comprehension process considering that majority of them had addressed the possible reasons of failure of such process in various reading contexts and readers

(Graesser, McNamara, & Louwerse, 2003). Consequently, this has led many educational researchers to recommend different strategies that can improve reading comprehension (Sheorey & Mokhtari, 2001; Winne & Nesbit, 2010) by focusing on comprehension monitoring. Regarding this matter, it is important to note that Flavell's (1976) model of metacognition emphasises the development of metacognitive awareness and cognitive knowledge of readers by framing two components, namely metacognitive knowledge and metacognitive experience that tend to occur before, during, and after reading. Moreover, it should be understood that the process of reading comprehension takes place with the interaction between the text, reader, and context. Nevertheless, Smith (2004) failed to address the influence of social factors in the process of learning despite being able to maintain the cognitive psycholinguistics aspects of learning which explain the process of comprehension in the construction of meaning in a transaction with a text. Meanwhile, concerning teacher's instrumental role, the sociocultural theory developed by Vygotsky (1978) has influenced the second language pedagogy with socially mediated learning theory, thus contributing several social factors in the learning process rather than the individualistic process alone. Hence, the basic premise of this theory seems to suggest that higher-order metacognitive reading strategies are transferred to students through scaffolding, modelling, and thinking aloud methods. On the other hand, the development of child's cultural learning environment has been observed to appear in two levels, namely social level (between people) and individual level (intra-psychological) based on the context of learning in primary school children (Vygotsky, 1978 p.57). Consequently, this leads to the discussion of limited metamemory in children compared to adult and older children (Camahalan, 2006). Furthermore, it should be noted that Camahalan (2006) applied the metacognitive structures in his research and found that memory strategy is not readily learned by young children compared to older children and adults. In addition, it was discovered that they have limited ability to organise material which highly supports the dissemination of the phenomenon of metacognition teaching with an emphasis on teachers' instrumental role in classroom learning.

## **Literature Review**

### **Metacognitive Awareness**

Metacognition is part of cognitive psychology area of research. Accordingly, reading has been an important area of research among psychologists and educators who have a profound interest in examining learning from text. Reading comprehension which is known to construct meaning has created a triadic relationship which is manifested in readers' construction of meaning. Moreover, it should be noted that the interactive process must involve the reader, text, and context. A search of the literature revealed important findings related to the enhancement of reading autonomy which models explicit strategy instruction (Ballou, 2012; Bogale, 2018; Ying & Aziz, 2019). Meanwhile, Gardner (1987) stresses that the benefiting metacognitive theory is helpful to describe the reading process, especially in the attempt of illustrating readers differences from diverse age and language skills level. Hence, the present study will adopt the framework proposed by Vandergrift and Goh (2012) which describes metacognitive awareness as a state of consciousness of our thoughts that focuses on particular cognitive or learning situation because metacognition is a fuzzy concept. Specifically, this framework is demonstrated by three elements, namely metacognitive knowledge, metacognitive experience, and strategy

use. Furthermore, it is important to understand that metacognitive knowledge and strategy use are involved in demonstrating one's multifaceted understanding of themselves as learners as well as the tasks and actions needed to assist language use even though metacognitive experience implicates unintentional ephemeral awareness of thoughts about one's thinking. Collectively, these three elements form the individual metacognitive awareness (Goh & Zhang, 2013).

### **Metacognitive Strategy and Reading Comprehension**

One of the major concerns which have received significant attention from the researchers and practitioners is to enable second language learners to become proficient and skilful readers. Moreover, it should be noted that metacognitive reading strategy has been widely recognised as a critical component in skilled reading (Ahmadi, Ismail, & Abdullah, 2013). According to Paris and Winograd (1990), metacognition holds two vital traits, namely self-appraisal and self-management of cognition. Specifically, self-appraisal trait signifies learners' capacities and condition of their knowledge with an affective condition. On the other hand, self-management of cognition denotes metacognitive in action which exemplifies planning before task, followed by monitoring and modifying during the task, and finally, evaluating or revising after the task. On a more important note, the interplay that occurs between the utilisation of metacognitive reading strategies and reading comprehension have received significant scholarly attention in various international and sociolinguistics contexts. Regarding this matter, among the seminal studies include Sheorey and Mokhtari (2001) in the USA, Hosseini (2006) in Iran, Hong-Nam and Leavell (2006) in China, Malcom (2009) in Bahrain, and Park (2010) in Korea. Furthermore, the past decade has witnessed a stream of published studies that focused on the frequency of using metacognitive strategies as a role in ESL reading comprehension with the ascend continuing to date. In addition, Schmitt and Newby (1986) acclaimed that metacognitive strategies should be integrated into instruction by addressing the role of teachers to be reflective about their self-appraisal in evaluating instruction (self-management) considering that it may affect students learning.

An overview of the international studies on the reported adoption of metacognitive reading strategies awareness among teachers is presented in three categories, namely global, problem-solving, and supported reading strategies. Regarding this matter, the three categories as defined by Mokhtari and Reichard (2002) begins with the preparation of readers for the reading process at the planning stage in global strategies (i.e setting a purpose, previewing text characteristics, skimming, predicting, and activating prior knowledge), followed by the monitoring stage when the text becomes more challenging and difficult to read in problem-solving strategies. Specifically, the strategies are re-reading, slowing down, reading aloud, guessing the meaning of words, and visualising information in the text. The third category which refers to support strategies are used to help readers while reading and it can be achieved by utilising outside references, paraphrasing, note-taking, and annotating. Overall, these strategies are relevant to teachers in examining the metacognitive ability of students, particularly concerning which reading strategies should be referred to in the process of reading.

**Table 1. The focus of past research in the field of metacognition and teachers' metacognitive awareness**

	Authors	Year	Title	Findings
1	Wilson & Bai	2010	The relationships and impact of teachers' metacognitive knowledge and pedagogical understandings of metacognition	The results revealed that teachers who have a rich understanding of metacognition are aware that a complex understanding of both the concept of metacognition and metacognitive thinking strategies are required in teaching students to be metacognitive learners.
2	Nahrkhalaji	2014	EFL Teachers' Metacognitive Awareness as a Predictor of Their Professional Success	The findings corroborate that the four elements of MAI, namely declarative knowledge, planning, evaluation, and management strategies were found to be significantly correlated with EFL teachers' pedagogical success. A significant correlation also managed to be established between metacognitive knowledge and the years of academic education and teaching experience among EFL teachers.
3	Jiang, Ma, & Gao	2016	Assessing teachers' metacognition in teaching: The Teacher Metacognition Inventory	Results from Study 1 conducted on a total of 412 middle school teachers showed a six-factor structure with satisfactory reliability and convergent validity. Meanwhile, the results obtained from Study 2 performed on a total of 204 participants supported the structure, thus further revealing an acceptable criterion-related validity and discriminant validity. The overall findings suggested that the TMI is an effective instrument which can be used to assess teachers' metacognition in educational practice.
4	Yuko Iwai	2016	Promoting strategic readers: Insights of preservice teachers' understanding of metacognitive reading strategies	The Metacognitive Awareness of Reading Strategy Inventory (MARS) results showed that preservice teachers at the middle and final stage in the teacher education program obtained the highest scores in all three

				<p>categories of the MARSII, namely the Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP). On the other hand, the initial stage obtained the lowest score. However, the results of the study contradicted the open-ended question. In addition, the result indicated that preservice teachers at all stages in the teacher education program tend to view themselves as high-achieving readers who utilise various metacognitive reading strategies and understand the importance of teaching these strategies to children.</p>
5	Soodla, Jõgi & Kikas	2016	Relationships between teachers' metacognitive knowledge and students' metacognitive knowledge and reading achievement	<p>The results showed that students' metacognitive knowledge of reading strategies is related to their reading comprehension, concurring with previous findings. The main finding discovered that teachers' metacognitive knowledge of reading strategies are significantly related to their students' metacognitive knowledge, but not concerning reading comprehension. These results indicate that students' reading comprehension can be enhanced through the improvement of their metacognitive knowledge of reading strategies. In addition, the findings highlighted the importance of teachers' metacognitive knowledge in students' metacognitive knowledge.</p>
6	Beziat, Bynum, Klash	2017	Metacognitive Awareness and Mindset in Current and Future Principals	<p>The principals who participated in the study were found to have a better understanding of what they know about being an instructional leader as well as how to plan to meet their goals. However, no statistical differences were found in the other MAILL subscales or with the total score.</p>

				Hence, this indicates that most participants were practising metacognitive strategies. In addition, they were aware that they need to plan, monitor, and evaluate their learning because it is related to instructional leadership practices.
7	Koulianou & Samartzi	2018	Greek teachers' metacognitive awareness of reading strategies	The analysis of the results showed that teachers often utilise problem-solving and global strategies compared to the support-type strategies. The analysis of both inventories revealed a higher significant correlation between the regulation of cognition and metacognitive reading strategies. The overall findings of this study showed that teachers' metacognitive reading strategies remain implicit.
8	Ozturk	2018	The Relation between Teachers' Self-Reported Metacognitive Awareness and Teaching with Metacognition.	The findings of the study confirmed that metacognitive awareness and teaching with metacognition are correlated after a day-long module intervention. Moreover, the findings suggested that teachers tend to study metacognition explicitly and for a prolonged period.
9	Palantis et al.	2018	Patterns of Metacognitive Awareness among Primary School Teachers	The results discovered that the levels of metacognitive awareness among teachers are high at ninety-three percent (93%). Apart from that, the results showed no significant differences by gender, age, teaching experience, academic qualification, and the subject of teaching among primary school teachers. Next, the metacognitive framework demonstrated that metacognition knowledge and regulatory expertise are utilised by individuals to control their cognition. The overall findings stated that teachers who have a higher level of metacognitive awareness can



					produce students with good academic achievement.
10	Taghizadeh	2019	Exploring Instructors' Metacognitive Strategy Use	EFL	The quantitative and qualitative methodology presented in this study provided information on metacognitive awareness concerning experience, pedagogy, reflection, self, planning, and monitoring of English language teachers. Moreover, it was corroborated that English language teachers need to provide more detailed instructions about Teacher Metacognitive Planning because it received the lowest mean score.

### Discussion

The past research presented in Table 1 summarises the findings from teachers and one from principle in the field of metacognitive awareness. In addition, it demonstrates the related components that yield an evaluation of the impact of teachers' knowledge and skills in teaching with metacognition. A study by Sulaiman (2019) investigated the influence of higher-order thinking and metacognitive skills towards hands-on teaching among primary school teachers. The findings of the study revealed that stronger metacognitive skills tend to provide more impact compared to hands-on teaching. Hence, it can be implied that metacognitive skills are likewise key in hands-on teaching and bring a corresponding positive impact on students. Nevertheless, this area of research needs to be further elaborated in the context of the teaching of metacognitive reading comprehension strategy in future work. Furthermore, it is worth to note that metacognitive reading comprehension skills contribute a positive effect in the learning of a second language whereby learners can gain the required skills to achieve effective communication in English (Ahmadi et al., 2013). Apart from that, the findings from the teachers' awareness of metacognition also suggest the importance of the foundation of knowledge among teachers in producing a promising impact on the students, especially among primary school learners.

Finally, several important limitations among the reviewed past research need to be considered. First, the majority of past studies only focused on the awareness of reading strategies rather than the pedagogical implication in daily practice. In addition, past research failed to provide evidence on the relationship between the theory and practice considering the limited self-report among teachers in assessing students who apply reading strategy metacognitively. Accordingly, Wilson and Bai (2010) acknowledged the complex relationship between the concepts of metacognition and thoughts regarding the teaching of metacognition. In the case of their study, the practice was presented in the teachers' understanding of metacognition as well as how they should teach it. However, it is unfortunate because the study only focused on teachers' declarative knowledge of the procedures for metacognition. Therefore, it is

recommended to conduct further exploration on the relationship and impacts of metacognitive awareness and pedagogical understanding of metacognition in the daily practice of reading comprehension classroom, particularly in the context of ESL primary school teachers in Malaysia.

## Conclusion

Metacognitive awareness and metacognitive reading strategies were discovered to have a significant contribution to second language learning. Hence, as suggested by Schmitt and Newby (1986), the metacognitive strategy should be incorporated into instruction. However, up to now, far too little attention has been paid to primary school teachers which focused on the self-reported metacognitive reading strategy instruction towards critical reading comprehension, especially in expository text. Nevertheless, it is possible to induce the pedagogical intervention with the aid of reading instructional strategies, particularly in developing students' metacognition in reading comprehension considering the positive outcomes of all studies. On a more important note, teachers should understand the importance of the functioning role of metacognition in the language learning process due to its ability to transform students into becoming more autonomous and self-regulated language learners. Consequently, this will enable the teachers to know when and how to utilise the strategy while teaching reading. Apart from that, the recommended instruction strategies that urge students to be strategic thinkers should be adopted in helping them to focus on how they process information. In summary, teachers should focus on both the teaching of the language content and the ways and processes of learning to increase their students' metacognition.

## Corresponding Author

Suhamira Nordin, University of Sultan Zainal Abidin, Email: suhamiranordin@gmail.com

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