ABSTRACT

Metacognitive learning strategies (MLS) have been proven to promote problem solving skills and enable students to achieve better in learning (Aurah, 2013; Magogwe, 2013). Researches on MLS have also been done to investigate its effect on students’ performance in various ELT skills, e.g. listening, reading, speaking and writing. Most of the researchers found that MLS plays a significant role in students’ learning those four skills. However, there is still lack of studies done in academic writing especially within the Indonesian EFL setting. Besides, a research which is done by controlling various variables, e.g. English proficiency, students’ self-efficacy (self-regulatory factors), modes of writing (paper-based & internet based), etc. is required to give a clearer picture about the role of MLS in EFL academic writing.

Keywords: metacognitive learning strategies, academic writing

INTRODUCTION

Students of English as foreign language from different ability levels were found to use various learning strategies to gain success in learning. Effective students would use more types of learning strategy frequently than those the less-effective students (O’Malley & Chamot, 1990). Many researchers were interested in this topic area and did research from various perspectives and methodology. The major finding of the researches done in past decades mentioned that, the learning strategies performed by the students could be divided into three main types, namely; Metacognitive Strategies, Cognitive Strategies and Socio-Affective Strategies. Many scholars also studied these 3 types of learning strategies both separately or individually which could give valuable information theoretically and practically. This article was also intended to find out the important information from various research results in the area of students’ learning strategy and also yield the gap of the research which would become chance for further researches. The focus would be on the
Metacognitive Learning Strategies (MLS). The discussion section would be started by reviewing the underlying theory of MLS, then it would be continued by reviewing the research results on MLS in ELT in general and also in each of the English language skill (listening, speaking, reading and writing, after that, the review of MLS instrument development and application for general learning and English language four skills learning will also be provided, and finally several gaps in the research on MLS would be proposed at the end of the discussion section.

Theories Underlying Metacognitive Learning Strategies (MLS)

Flavell (1979) introduced the notion of Metacognition and Cognitive Monitoring, in which there are four types of phenomena that are acting and interacting in the monitoring of cognitive processes, namely; (1) metacognitive knowledge, (2) metacognitive experiences, (3) goals (or tasks), and (4) actions (or strategies). Metacognitive knowledge includes three main variables, namely; (a) person, (b) task, and (c) strategy. The person variable is the personal belief about; (i) intra-individual differences (belief about our cognitive capacity which differs from others), (ii) inter-individual differences (belief about differences of cognitive capacity in other people), and (iii) universal of cognition (there are various kinds and level of understanding and all of them are not eternal). The task variable is the information that is available during the cognitive enterprise. The lacked, poorly organized, or redundant information is the condition where the metacognitive knowledge reacts as an understanding of how to manage cognitive enterprise, and how successful is the goal achievement. The strategy variable deals with what strategy would best be implemented to achieve sub-goals and goals in particular sets of cognitive enterprise effectively (Flavell, 1979, p. 906-911).

Metacognitive experiences are belief of our position during a cognitive undertaking including the consciousness of its progress. It occurs in a situation that needs a lot of careful and highly conscious thinking, e.g. a situation where every major step requires planning beforehand and valuation afterwards; where decisions and actions are at once weighty and risky; where high affective arousal or other inhibitors of reflective thinking are absent (cf. Langer, 1978 in Flavel, 1979). In this situation, metacognitive experiences arise to consciousness to give quality control. In other word, it is the item of metacognitive knowledge that enters the
consciousness. There are three important effect of metacognitive experiences, those are; (a) leading to set a new goals or revise and/or abandoned the old goals, (b) add, delete, or revise the metacognitive knowledge base, and (c) activate strategies aimed at either; (i) cognitive goals; e.g. simply improving our knowledge; make a cognitive progress or, (ii) metacognitive goals; e.g. assessing our knowledge, and thereby, generating another metacognitive experience.

Table 1 Typology of Metacognitive Components

<table>
<thead>
<tr>
<th>Metacognitive Component</th>
<th>Type</th>
<th>Terminology</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge about oneself as a learner and factors affecting cognition</td>
<td>元认知</td>
<td>元认知</td>
<td>Falwell, 1979</td>
</tr>
<tr>
<td>Knowledge about cognitive processes, including knowledge about strategies</td>
<td>认知策略</td>
<td>认知策略</td>
<td>Falwell, 1979</td>
</tr>
<tr>
<td>Knowledge about the role of self-monitoring</td>
<td>元认知监控</td>
<td>元认知监控</td>
<td>Falwell, 1979</td>
</tr>
<tr>
<td>Knowledge about the role of self-regulation</td>
<td>元认知调节</td>
<td>元认知调节</td>
<td>Falwell, 1979</td>
</tr>
</tbody>
</table>

Source: Lai, 2011

Metacognitive Learning Strategies in ELT

Since the introduction of the theory of Metacognition and Cognitive Monitoring (Falvell, 1979), many research was done under this topic. Some researcher found that possession of a strong metacognitive knowledge base is critical to successful learning (e.g., Baker & Brown, 1984; Devine, 1993; Flavell, 1979; Kasper, 1997). The notion of Metacognitive Learning Strategies (MLS) was also explained clearly by O’Malley & Chamot (1990), who stated that metacognitive strategies involve thinking about the learning process, planning for learning, monitoring the learning task, and evaluating the learning process. This strategy was used to match the strategy and the task given and also to promote better performance in learning. Moreover, the positive role of MLS in English language learning has been proven by several researcher, (e.g. Paul, 2012; Henter, 2012; Ismael, 2015; Boghian, 2016) who confirmed that; (1) MLS give a positive effect on students’ ability to self-regulate learning, achievement of learning autonomy, learning potential and learning motivation, (2) students with low proficiency English language skills use MLS more frequently than students with high proficiency skills, which means that MLS facilitate the students with low proficiency level to perform better, (3) metacognitive skill is the foundation of learning a foreign language.

Beside those findings of the role of MLS in English language learning, many researches also conducted in a specific area of language learning, those are listening, reading, speaking and writing. From
the review of the researches below, gap on the area or topic that is not researched yet would be as a suggestion for further research.

**Researches on Metacognitive Learning Strategies (MLS) in Listening**

Many researchers have investigated the role of metacognitive learning strategies (MLS) in listening comprehension process (e.g. Hernandez, 2012; Rahimi & Katal, 2013; Ratebi & Amirian, 2013; Xuehua & Zhenmei, 2013; Chang, 2013; Tabeei, Tabrizi & Ahmadi, 2013; Mohaved, 2014; Bogorevich, 2015; Aguilera, Illesca, Montecinos, Sandoval, Navarro & Whipple, 2016; Zarrabi, 2016; Webb, 2017; Lin, 2017) which found that; (1) more proficient listeners used metacognitive strategies more frequently than less proficient listeners, (2) the use of metacognitive strategies would improve the listening performance of language learners, (3) successful learners, who raise the strategy awareness and use a proper strategy, could also improve self-efficacy, motivation in L2 listening, (4) metacognitive awareness helps listeners to have a comprehensive system of knowledge about listening tasks and listening strategies and think about personal factors that may facilitate or impede listening, (5) metacognitive instruction intervention is successful to improve the students’ listening performance and their metacognitive listening awareness, (6) metacognitive strategy instruction give a positive effect on students’ listening anxiety, (7) instruction of metacognitive strategy had no differential effect on listening comprehension of female and male learners, (8) the auditory learner type perform the most significant improvement in metacognitive awareness of listening strategies.

**Researches on Metacognitive Learning Strategies (MLS) in Reading**

Metacognitive learning strategies (MLS) in reading comprehension also become an interesting topic to be researched. Many researchers (e.g Haiduc & Liliana, 2011; Iwai, 2011; Karbalaei, 2013; Zhussupova & Kazbekova, 2016; Elosua, Garcia-Madruga, Vila, Gomez-Veiga, & Gil, 2013; Korotaeva, 2014; Othman, Mahamud, & Jaidi, 2014; Tavakoli & Koosha, 2016; Meniado, 2016; Carrilho & Hage, 2017), suggested that; (1) students’ ability to use metacognitive reading strategies are able to improve the students’ reading motivation, (2) Highly motivated students are explorative and persistent in using variety of metacognitive reading
strategies, (3) reading lesson using the metacognition strategy can help to enhance students to understand a text better and more effectively, (4) students who perform higher in reading strategies scale would perform better in text comprehension and vice-versa, (5) metacognitive reading strategies support the reading comprehension of learners whose first language is not English, (6) metacognitive reading strategy helps students to reflect on their learning process and confirm the text understanding, (7) metacognitive reading strategies for EFL/ESL learners facilitate the students in acquiring declarative knowledge (knowing what strategies are), procedural knowledge (knowing how to use the strategies) and conditional knowledge (knowing when, where, and why to use the strategies and evaluating their use), (8) explicit metacognitive strategy instruction give a positive effect both on students’ reading comprehension and self-efficacy beliefs, (9) metacognitive reading strategies also facilitate learners to comprehend the reading passage deeper and understand the writing style of different writers.

Researches on Metacognitive Learning Strategies (MLS) in Speaking

Researchers who focused on research on MLS in speaking (e.g. Xu, 2012; Wahyuni, 2013; Miller, 2013; Goh, 2014; Sanchez, Hernandez, Giron, & Flores, 2015; Wallace, 2016) has revealed that; (1) metacognitive activities enable learners to monitor their processes of learning and observe the elements of language and discourse required to be successful in fulfilling the speaking tasks, (2) direct metacognitive teaching approach would allow learners to experience the active, strategic and constructive processes of speaking development, (3) improving learners’ metacognitive awareness would enable them to correct mistakes and improve L2 proficiency, (4) metacognitive strategies give a positive impact in the development of speaking proficiency, (5) metacognitive strategies is applied by the learners to organize their learning so that they could proceed to the advanced speaking proficiency, (6) oral English learning under Internet environment could improve students’ awareness of using metacognitive strategies, motivation, and also autonomous learning.
Researches on Metacognitive Learning Strategies (MLS) in Writing

Recent researches on MLS in writing (e.g. Fenghua, 2010; Wei, Chen, & Adawu, 2014; Henter, & Indrecia, 2014; Panahandeh, & Esfandiari, 2014; Ismail, & Aziz, 2015) showed that; (1) metacognitive knowledge components (person, task and strategic knowledge) are all positively correlated with English writing performance, (2) the successful employment of metacognitive knowledge helps facilitate EFL learners’ writing proficiency because metacognition is a significant predictor of English written proficiency, (3) the results demonstrate that a good command of metacognitive knowledge can empower EFL learners in their English writing and cultivate their learning autonomy in English learning, (4) students who apply the metacognitive strategies, are able to adopt new knowledge and apply it in their writing, (5) metacognition enables students who have been taught a particular strategy to retrieve and deploy it in a new context, (6) it also improve students motivation and engagement in writing, (7) implementing metacognitive strategies also helped the students to be independent learners, taking conscious control of learning, planning and selecting strategies, monitoring the progress, correcting errors, analyzing the effectiveness of learning strategies, and changing learning behavior and strategies when necessary.

Instruments Used in Assessing Metacognitive Learning Strategies (MLS)

Quantitative researches conducted in the area of MLS applied various instruments to assess second and foreign language learners’ metacognitive awareness and perceived use of strategies based on both general learning and also specific English skills target, those are:

1. Metacognitive Awareness Inventory (MAI)
   This instrument consists of 17 items, which are used to assess students’ metacognitive awareness in learning in general. This instrument developed by Schraw & Sperling Dennison (1994) and applied in various researches (e.g Haiduc & Liliana, 2011).

2. Metacognitive Awareness Listening Questionnaire (MALQ)
   MALQ seems more popular than the other instruments because more researches were found on the relationship between MLS and listening comprehension. This instrument consists of 21
items used to assess students’ metacognitive awareness and strategy use in listening comprehension. It was developed by Vandergrift, et al. (2006), and was applied by several researchers (e.g. Rahimi & Katal, 2013; Ratebi & Amirian, 2013; Tabeei, Tabrizi & Ahmadi, 2013; Mohaved, 2014; Zarrabi, 2016; Lin, 2017)

3. Metacognitive Awareness Writing Questionnaire (MAWQ)
This instrument was first developed by Farahian (2015). It consists of 55 items which assess the students’ metacognitive awareness in writing instruction.

4. Metacognitive Strategy Knowledge about Academic Writing (MSK-AW)
This instrument was first developed by Karlen (2017). It consists of 20 items which specifically assess the students’ metacognitive awareness in academic writing instruction.

5. Metacognitive Awareness of Reading Strategies Inventory (MARSI)
This instrument was first developed by Mokhtari and Reichard (2002). It consists of 30 items which specifically assess the students’ metacognitive awareness in reading instruction.

Gaps of Researches on Metacognitive Learning Strategies (MLS)
From the review of previous studies concerning metacognition in learning, listening, reading, speaking and writing, it could be seen that there are research gaps in those area of research, those are;

1. Most of the existing studies tend to focus on ESL contexts while there is limited study on EFL especially in Indonesian context. Further research on MLS especially for ELT in Indonesian EFL context would give a valuable contribution for the existing theory about metacognition.

2. There is still limited study that includes the other social cognitive factors, e.g. personal factors (expectation, satisfaction, belief, self-perception, etc.), behavior, attitudes, environmental factors (social influences, social persuasion, social role, social status, etc.)

3. Although there are several studies on the assessment of MLS had carried out (e.g Farahian, 2015; Karlen, 2017), there is still lack studies on metacognitive learning strategy instruments application,
especially in writing and speaking, both to reconfirm the effectiveness of the instruments and developing a more reliable and valid instrument. These gaps give a very broad chance for further research.

4. Most of the researches place the metacognitive learning strategies (MLS) as the independent (in comparative studies)/predictor (correlational studies) variables, while there are very limited study that see the MLS in reverse, as an dependent or predicted variables. An experimental study by Magogwe (2013) shows that metacognition is also affected by writing performance. This statement is one of several statements that support the notion of writing-to-learn approach (Smirnova, 2015). Therefore, further research that would give a clearer view of how actually the position of MLS in learning is needed.

5. The comparability role of MLS in different modes of writing (e.g. paper-based vs internet-based) is probably not given attention yet.

6. Learners’ metacognitive strategies in learning writing in universities is one of the research topics target of Malang State University in 2018, as listed in research topic road map of ELT Department.

Finally, further research on how metacognition and writing contribute each other to form a fruitful means for generating knowledge, promoting personal ability awareness, and are also important to be investigated.

CONCLUSION

The literature review above showed that researches that were done in the area of metacognitive learning strategies seems to have many gaps left. More researches should be applied in different social contexts to see how different backgrounds of demographic, cultures, norms, etc. affect the students’ metacognitive learning strategies. More qualitative studies, e.g. phenomenology, ethno-methodology should be conducted to gain a deeper understanding the role of social factors which affect students’ metacognitive learning strategies use. In quantitative research more research duplication on the application of instruments in assessing MLS especially in writing, reading and speaking should be done to gain more understanding about how to measure the students’ MLS and develop a more reliable and valid instrument to assess
students’ MLS awareness. Finally, research which focused on factors affected students’ MLS and the influence of MLS in writing would be very interesting to be studied.

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