INVESTIGATING METACOGNITIVE READING STRATEGIES WITH MEDIATING EFFECTS OF STUDENTS' READING ENGAGEMENT

By

HUO, Naihean

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

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Committee in charge:

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Abstract

Reading skills play a crucial role in education, yet it is considered as one of the most challenging areas among learners. Prior studies have indicated that a great deal of readers face reading issues and student engagement in reading is at a low level. Wherefore, other studies have demonstrated that metacognitive reading strategies and reading engagement are essential to enhance reading comprehension in reading skills. The present study focused on the metacognitive reading strategies used by readers while reading English academic texts and how these strategies affected their reading engagement. The researcher used Survey of Reading Strategies (SORS) Questionnaires by Mokhtari and Sheorey (2002) to explore the frequent use of metacognitive reading strategies by 146 KDIS students, and Questionnaire Items to Assess the Four Aspects of Engagement by Reeve and Tseng (2011) to investigate their reading engagement. The results showed that global reading strategies affected four aspects of student reading engagement (agentic, behavioral, emotional and cognitive), support reading strategies affected two aspects of student reading engagement (agentic and behavioral) and problem-solving strategies affected only cognitive engagement when students were reading English academic texts. These findings will guide managerial and policy implications for students, instructors and other educational institutions to pay attention to metacognitive reading strategies and reading engagement, which are fundamental in reading skills.

Dedicated to my beloved family

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I. Introduction

1.1. Background of the study

Do you like reading in English? English is defined as an international language that is being used worldwide as the global lingua franca, a communication method between different first language speakers (Seidlhofer, 2005). English language learners have required four macro skills such as reading, listening, speaking, and writing that are basic language skills (Aydogan & Akbarov, 2014). Among the four macro skills, reading is the most dominant skill in English as a Foreign Language (EFL), in English as a Second Language (ESL) learning and in other academic demands. Reading skills are considered as "the main doorway to knowledge" (Shehadeh, 2016, p. 16), which students need to implement for comprehension to succeed in their academic life (Alfassi, 2004; Wei, 2005 & Meniado, 2016). In this perspective, learners need to practice their reading skills to improve their reading comprehension and learning achievement. As can be seen, reading plays a significant role in education (P & Ghosh, 2012; Amin, 2019). Therefore, reading skill can help learners become successful in an academic setting.

1.2. Statement of Problem

Many students have found difficulties while reading English texts for academic purposes. Admin (2019) stated that reading was "considered as one of the most challenging areas, which requires more attention in any education" (p. 35). As studied by previous researchers, EFL/ESL learners face many challenges from secondary school to postgraduate education due to the lack of academic vocabularies, reading fluency/proficiency, background knowledge and reading skills for academic purposes; therefore, readers require lots of inferencing and a set of reading strategies when reading becomes difficult (Grabe & Zhang, 2013). Moreover, not only foreign language readers encounter reading challenges, but also native language readers. As Nezami (2012, p.307) identified both types of readers faced the

same common reading problems (e.g. “slow reading”, “insufficient comprehension” and inabilities to find the main idea, and to summarize, etc.) because they do not know how to read effectively by using reading strategies, which lead to their poor performance in their academic and working life afterwards.

Furthermore, some studies found that both native and non-native English-speaking countries had low reading engagement. Brozo, Shiel and Topping (2007), found that “American teens placed 20th among the 32 participating countries on engagement in reading” and they were ranked 24th as “diversified readers of book” (p. 308), UK students did not have high level of engagement in reading, while students in Ireland, Germany, Belgium and Spain had lower reading engagement. This indicates that numbers of students are lacking reading engagement while studying and reading the academic texts.

1.3. Significance of the Study

To overcome reading challenges, the requirement of reading strategies is necessary to help readers comprehend the reading texts and those reading strategies must be effective to readers; otherwise, they still meet difficulties while reading English academic texts (Hamza & Nur, 2018). Also, improving engagement in reading is also significant to enhance students’ reading comprehension (Guthrie & Klauda, 2014). It concludes that reading strategies and reading engagement play important roles in reading skills.

Reading strategies are highly recommended by many previous researchers to strengthen learners’ reading comprehension and competencies (Shehadeh, 2015). According to Pinninti (2016), reading strategies are known as “deliberate, goal-directed actions to understand and construct meanings of a text” (p.179), or as specific techniques that help readers can use in their reading tasks successfully. Reading strategies are commonly used by readers from English and non-English speaking countries while reading English for academic purposes (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004). In this process, readers

apply reading strategies and other knowledge to comprehend the meaning of the texts and to engage their learning (Songsiengchai, 2010). Those reading strategies can be employed based on the readers' awareness that are suitable for their knowledge while reading the texts (Alfassi, 2004). In this view, readers use different strategies from one another (Ilustre, 2011) and as emphasized by Alderson (2000), good readers are flexible to use their personal reading strategies and the ability to comprehend the texts is significantly dependent on the strategies they use while reading. In brief, it requires readers to learn about the types of strategies and to use the most appropriate ones that fit with them for reading comprehension enhancement.

There are numerous reading strategies discovered by previous researchers. However, this study covered the *metacognitive reading strategies* consisting of global reading, problem solving and supporting reading strategies (Mokhtari & Sheorey, 2002), which help readers know what, when, where, and how the strategies are used while reading English academic texts (Karbalaei, 2010). Among metacognitive reading strategies, readers have different awareness of choosing suitable reading strategies that can help them when reading for academic purposes (Karbalaei, 2010; Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004). This paper will investigate the distinctive use of metacognitive reading strategies that KDI School students employ while reading texts in English for academic purposes.

Furthermore, reading engagement also plays a significant role in the entire discussion and it will be investigated whether it is affected by metacognitive reading strategies. According to the four aspects of students' engagement in Reeve and Tseng's (2011), Reeve's (2012) and Reeve's (2013) studies, reading engagement is divided into argentic, behavior, emotional and cognitive engagements. Previous studies showed that there were noticeable correlations between reading strategies, engagement and comprehension. For instance, Wigfield and colleagues (2008, p. 443) found "reading engagement and reading comprehension were correlated" and reading engagement had significant effects on reading comprehension and

reading strategies. Furthermore, Guthrie, Alao and Rinehart (1997) argued that "engaged readers possess desires to learn and use their best strategies for understanding and interpreting text to enhance that learning" (p. 439). In other words, engaged readers apply reading strategies to foster their comprehension of reading. In addition, other studies found that metacognitive reading strategies had relation with cognitive engagement in reading that helped improve student reading comprehension (Park & Kim, 2016; McElhone, 2012). There are not many researchers who study the relation between metacognitive reading strategies and reading engagement. Therefore, the present paper will study the gap and explore if metacognitive reading strategies used by students who are studying at KDI School of Public Policies and Management affect their reading engagement while reading English scholar texts.

1.4. Objective of the Study

The purpose of this paper was explored throughout the entire study to investigate how metacognitive reading strategies mediated the effects on student reading engagement in pursuit of reading comprehension in reading skill. The subcategories of metacognitive reading strategies were examined how they affected to each aspect of reading engagement such as agentic, behavioral, emotional and cognitive reading engagement.

1.5. Hypothesis

The main theoretical framework underlying this study is to test the hypothesis as below:

1. H1: Metacognitive reading strategies affect student *agentic* reading engagement while reading English academic texts.
2. H2: Metacognitive Reading Strategies affect student *behavioral* reading engagement while reading English academic texts?
3. H3: Metacognitive Reading Strategies affect student *emotional* reading engagement while reading English academic texts.

4. H4: Metacognitive Reading Strategies affect student *cognitive* reading engagement while reading English academic texts.

1.6. Research Questions

1. Do metacognitive reading strategies affect student *agentic* reading engagement while reading English academic texts?
2. Do metacognitive reading strategies affect student *behavioral* reading engagement while reading English academic texts?
3. Do metacognitive reading strategies affect student *emotional* reading engagement while reading English academic texts?
4. Do metacognitive reading strategies affect student *cognitive* reading engagement while reading English academic texts?

II. Literature Review

2.1. Metacognitive Reading Strategies

Metacognition

Many researchers have had interest in metacognition and its meaning has been defined in their studies. Meniado (2016) argued that metacognition basically meant "thinking about thinking" (p.119). Similarly, metacognition, as explained by Papleontiou-louca (2003), refers to "cognition about cognition": "thought about thought", "knowledge about knowledge" and "reflections about actions"; for instance, "if cognition involves perceiving, understanding, remembering . . . metacognition involves thinking about one's perceiving understanding, remembering, etc.," (p.10). This signifies that when learners use their cognition to process the information, metacognition helps them to know that process and how to make it become a good technique of their learning.

Metacognition in Reading

In reading, metacognition has been broadly studied since it helps readers to have their own ways to achieve reading comprehension. According to Carrell, Pharis and Liberto (1989), metacognition is how readers understand the cognitive process, which involves two types of cognition in the reading context: (1) "one's knowledge of strategies for learning" and (2) "the control readers have of their own actions while reading for different purposes" (p. 650). In this meaning, while reading scholarly texts in English, readers have their own approaches to reading in order to understand the reading materials.

In addition, Jacobs and Paris (1987) classified metacognition in reading into two parts: (1) "self-appraisal of cognition" means "the static assessment of what an individual knows about a given domain or task" or "consideration of strategies to be used", and (2) "self-management of thinking" means "the dynamic aspect of translating knowledge into action" (p. 258). According to Jacobs and Paris's study (1987) the categories of metacognition are summarized and illustrated in figure 1:

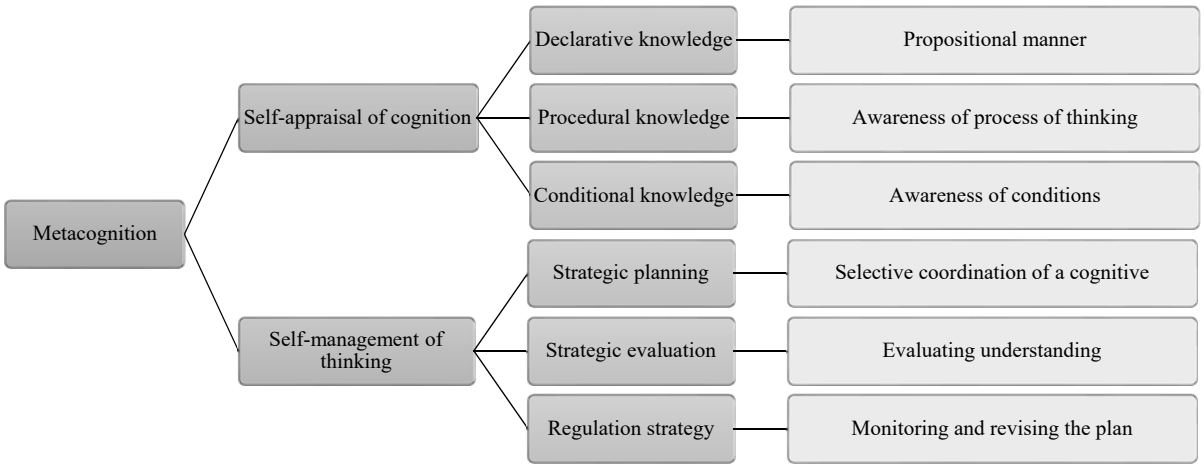

Figure 1. **Summary of the categories of metacognition**

This figure illustrates that readers who have self-appraisal of cognition know the strategies that help their reading comprehension (declarative knowledge), how to use the strategies to understand the reading texts (procedural knowledge) and how to use the reading strategies effectively (conditional knowledge). Furthermore, self-management of thinking

helps readers consider the most preferable and appropriate cognitive strategies responding to their reading purposes (strategic planning), evaluate their understanding by answering questions or summarizing information in the texts (strategic evaluation) and finally, monitor their reading progress and revise the strategic planning after evaluation (regulation strategy). Therefore, metacognition, according to Brown, Armbruster, and Baker's (as cited in Carrell et al, 1989, p. 650), "metacognition plays a vital role in reading" (p. 49). As can be seen, by using the most applicable reading approaches, readers are aware of what and how to do when reading the texts and this helps them improve their understanding of reading

Metacognition Reading Strategies

In the early stage, ESL/EFL reading strategies were divided into three categories: (1) cognitive (i.e. deliberate actions taken by readers when comprehension issues arise), (2) metacognitive (i.e. advanced planning and comprehension monitoring techniques) and (3) support strategies (i.e. tools used by readers to help understanding) (Sheorey & Mokhtari, 2001, p. 1). Later on, according to Chen and Chen (2015), Sheorey and Mokhtari (2002) called metacognitive strategies as global reading strategies and cognitive strategies as problem-solving strategies. Finally, according to Mokhtari and Reichard (2002), the metacognitive reading strategies are divided into *global reading*, *problem-solving* and *supporting reading* strategies.

In the field of reading skills, reading strategies of metacognition are common and have been investigated by previous studies on their positive effects on education. Metacognitive reading strategies refer to methods that allow readers to "think about what they are reading", which helps them "understand the way they learn" (Mukhlif & Amir, 2017, p. 373). Further explanation can be seen in Karbalaei's study (2010), metacognitive reading strategies refer to "metacognitive awareness" that readers understand what to do with their duties of reading and "metacognitive regulation of control" that readers understand how and

when to practice reading techniques while reading texts (p. 166). For instance, readers have reading purposes, preview and check if the texts align with those purposes, determine what to read or ignore (metacognitive awareness), make predictions or guess the text's meaning, check dictionaries, re-read (metacognitive regulation or control), and other reading methods (Sheorey & Mokhtari, 2001). In brief, metacognitive reading strategies help readers know what strategies are the best for them to improve their understanding on what they are reading.

Previous studies have found that all readers, whether native or non-native, use metacognitive reading strategies while reading English texts for educational reasons to understand their reading materials. Metacognitive reading strategies play a crucial role in foreign and second language reading comprehension and in EFL/ESL courses (Farahian & Farshid, 2014) because these strategies help non-native English readers who are lacking English language proficiencies (e.g. lack of academic vocabularies) design their own strategies that improve their learning (Grabe & Zhang, 2013). For example, college students from Saudi Arabia who are non-native English speakers used distinct metacognitive reading strategies to moderately enhance their understanding of English academic tasks since students' reading proficiencies were still limited (Meniado, 2016). Also, native English speakers need to employ metacognitive reading strategies when they are reading English texts for academic purposes. For instance, while reading English academic texts, American readers use the same metacognitive reading strategies as non-native English speakers such as planning, controlling and assessing their comprehension (e.g. setting purposes for reading, predicting, summarizing, questioning, using structural text characteristics, self-monitoring, etc.) (Sheorey & Mokhtari, 2001; Mokhtari & Reichard, 2004). Therefore, when reading English texts for academic purposes, metacognition reading strategies are commonly used among readers who speak English as a first, second or foreign language.

2.1.1. Global Reading Strategies

Strategies for global reading are the first subcategories of metacognitive reading strategies. Mokhtari and Sheorey (2002) identified global strategies as "intentional, carefully planned techniques" monitoring their reading texts by readers (p. 4). It is further explained that readers who use global reading strategies always have the purpose to read, activate previous understanding, verify if the material suits their purposes, skim to find the related information, decide what to read, and use contextual hints, structures and other textual features to increase reading comprehension (Pookcharoen, 2009). This shows that readers who apply global reading strategies while reading English academic texts have specific plans for their reading tasks and try to find ways to fulfill their reading purposes.

In the Survey of Reading Strategies developed by Mokhtari and Sheorey (2002), global reading strategies consist of 13 items such as "I decide what to read closely and what to ignore", "I think about what I know to help me understand what I read", "I have a purpose in mind when I read" and other techniques (p. 10). These questionnaires are "a set of reading strategies oriented toward a global analysis of text" (Mokhtari, & Reichard, 2002, p. 252). These global reading strategies are included in survey questionnaires conducted by other studies to observe whether they are commonly practiced among English readers to understand their reading materials.

2.1.2. Problem Solving Strategies

The second subcategories of metacognitive reading strategies are problem-solving strategies. As described by Mokhtari and Sheorey (2002), problem-solving strategies were "actions or procedures that readers use while working directly with the text" as "localized, focused techniques" to dial with difficulty while reading (p. 4). To diminish the difficulties, these strategies "provide readers with action plans that allow them to navigate through text skillfully" (Mokhtari & Reichard, 2002, p. 252), which contain 8 items (e.g. "When the text

becomes difficult, I reread to increase my understanding" and "I adjust my reading speed according to what I read"). For instance, readers are more attentive to what they are reading, pause to verify their understanding, read again and again until they get the meaning, visualize the information, read out loud, or use their guessing skill when they do not know the vocabularies (Songsiengchai, 2010). In short, readers who use these strategies know what to do when they do not understand what they are reading by practicing effective ways that allow them to overcome the reading problems.

2.1.3. Supporting Reading Strategies

The last subcategories of metacognitive reading strategies is known as supporting reading strategies that are "basic support mechanism intended to aid the readers in [to] comprehend the texts" Mokhtari and Sheorey (2002, p. 4). In Mokhtari and Reichard's study (2002), readers use outside supportive aids, taking notes and other practical techniques known as functional or supporting strategies that consist of 9 items (e.g. "I take notes while reading", "I underline or circle information in the text to help me remember it", "I summarize what I read to reflect on important information in the text", etc.) (p. 252-3). In a following research, Songsiengchai (2010) further stated that readers used supporting reading strategies while reading such as checking a dictionary, underlining the important points, translating from English to their own languages and other outside supportive materials to comprehend their English reading texts. To sum up, supporting reading strategies take place when readers seek for outside helps/aids or individual practical techniques while reading English academic texts to improve their reading comprehension.

2.2. Students' Reading Engagement

Student Engagement

Educational research on students' engagement has been conducted to engage students in their learning. According to Furrer and Skinner (2003), engagement is an "active, goal

directed, flexible, constructive, persistent, focused interactions with the social and physical environments" (p. 149). Later on, Guthrie and colleague (2004) divided the meaning of engagement into two: (1) "time on task" (e.g. "paying attention to text, concentrating on text meaning, and sustaining cognitive effort") and (2) "affect surrounding engagement" (e.g. interacting with external environments) (p. 204). Furthermore, engagement is a multidimensional phenomenon that involves students' emotion (reaction/attitude), behavior (participation/on-task behavior), and cognition (ideas of investment/self-regulation) (Fredricks, Blumenfeld & Paris, 2004). Additionally, Reeve and Tseng (2011) and Reeve (2012) figured out that the three aspects above were inadequate to study about student learning engagement; as a result, another aspect called agentic engagement was added. Therefore, there are four aspects of students' engagement that previous researchers have discovered: *emotional, behavioral, cognitive* and *agentic*, and they will be discussed in the present study.

As stated by many researchers, student engagement plays a major role in education. Student engagement is considered as "an important predictor of student's achievement" (p. 184) and students who have engagement are good learners (Handelsman, Briggs, Sullivan & Towler, 2005). Indeed, Park and colleagues (2012) defined that academic engagement was seen as "active involvement in learning"; therefore, "students who are highly engaged at school are more like to learn more, earn higher grades, and pursue higher degree [s]" (p. 390). This implies that student engagement improves their learning achievement.

Reading Engagement

Based on student engagement, reading engagement includes four processes: behavioral, emotional, cognitive (Fredricks et al.., 2004) and agentic (Reeve and Tseng, 2011; Reeve, 2012; Reeve, 2013). In this study, reading engagement has a strong relation with reading strategies and reading comprehension. According to Guthrie (1996) (as cited in

Guthrie, Alao & Rinehart, 1997), engagement is defined as the motivation of reading strategies and Guthrie et al. (2004) found that "students' amount of engaged reading correlates with achievement of reading comprehension" (p. 405). With the same assumption, the following research by Wigfield and colleagues (2008) found that "reading engagement and reading comprehension were correlated" (p. 443) and students' engagement mediated the effects of instructional group on students' comprehension and strategy use outcomes. During reading comprehension, motivational processes and cognitive strategies are necessary for reading engagement (Guthrie, Wigfield & VonSecker, 2000). In this case, Wigfield et al. (2008) concluded that highly engaged students used more reading strategies to comprehend the reading texts than less engaged students because they were more motivated and strategic. Therefore, reading engagement has a strong correlation with reading comprehension through the employment of reading strategies.

2.2.1. Behavioral Engagement

The first division of students' engagement is behavioral engagement. Students who have behavioral engagement show their on-task attention and concentration, high effort and high task persistence in class (Christenson et al., 2012). According to Fredricks and colleagues (2004), behavioral engagement is related to "student conduct and on-task behavior" or the idea of participation" which leads to academic achievement (p. 60). They divided behavioral engagement into three main categories: (1) positive conduct (e.g. respecting the school rules and regulations) and negative conduct (e.g. skipping school and breaking the rules), (2) learning involvement (e.g. making efforts and paying attention) and (3) school-related participation (e.g. participating in school events). In the following study, Lester (2013) further explained that students who had positive conduct commitments, were involved with learning and participated in school activities had positive learning

performances. In brief, students who have good behavior in their learning engagement are committed to learning achievement.

In reading perspective, Guthrie and Klauda (2015) argued that readers who have strong "intrinsic motivation and self-efficacy" have strong behavioral engagement, which means that readers become "more enthusiastic, confident, and cognitively sophisticated" when they have strong personal interest, commitment, attention and self-belief in their reading task (p. 5). For instance, Lane and Harris's study (2015) showed that engaged readers who had positive behavior read different reading materials related to class, kept their eyes focused on and followed the reading materials in class, prepared printed notes, checked their notes or textbooks when they had doubts, asked/answered questions, and participated in class discussion; in contrast, if students lost their behavioral engagement, they took the time in class to do other outside assignments, played with their phone, listened to music or read non-related material instead. In this case, teachers should try to change their teaching strategies such as adding or reducing class activities that can attract students' attention and effort on reading engagement.

Emotional Engagement

The second category of students' engagement is emotional engagement. Lester (2013) found that emotional engagement had three main components such as students' affective reactions (e.g. "student interest, boredom, anxiety, sadness, and happiness"), emotional reactions (e.g. "positive or negative feelings to the institution and instructors"), and school identification (e.g. "students' feelings of belonging and importance within the institutional environment") (p. 3). It is further explained that emotional engagement refers to the understanding of belonging to school, giving values of learning and showing pleasure toward classroom and afterschool activities, which include two opposite emotions that students have: (1) show of task-facilitating emotions (e.g., interest, curiosity, and enthusiasm) and (2)

removal of task-withdrawing emotions (e.g., sadness, anger, frustration, anxiety, and fear) (Christenson et al, 2012; Reeve & Tsen, 2011). Thus, emotional engagement is related to learners' attitudes that express their positive/negative reactions and willingness to study based on their emotions (Fredricks et al., 2004). In brief, emotional engagement refers to the feeling of students towards their learning.

As can be seen, emotional engagement is one of the other aspect that effect students' learning. Park and colleagues (2012) indicated that "adolescents' emotional engagement plays a critical role in promoting their academic performance as well as overall psychological well-being" (p.390). Similarly, Artino and Jones (2012) found that enjoyment, boredom, and frustration were achievement-related emotions that were overriding predictors of students' learning, self-regulation and achievement. In contrast, students who do not feel emotionally engaged in for their studies, do not feel behaviorally and cognitively engaged; in consequence, they have poor academic outcomes (Archambault, 2009; Green, 2008; Hirschfield & Gasper, 2011). Moreover, low emotional engagement mediates students drop out due to the negative emotions and social difficulties towards teachers and schools (Fredricks et al., 2004). Therefore, in class, learning materials should be interesting (e.g. group work, presentation, video clips, etc.) and school activities should be created for students to learn and relax at the same time (e.g. field trips, dance and song festival, students' club, etc.).

Driving from students' emotional engagement in learning, it can be seen how emotionally engaged readers do in reading activities. In Smith and Ochoa-Angrino's study (2012), many researchers reported that students who have positive emotional engagement in learning feel interested in reading that enables them to improve their reading comprehension. In this concept, emotionally engaged readers enjoy the reading texts and appreciate the reading activities that enable them to comprehend their reading task.

2.2.2. Cognitive Engagement

The third aspect of students' engagement is cognitive engagement. According to Christenson et al. (2012), cognitive engagement was defined as learners' knowledge and belief about learning activities such as self-evaluation, self-regulation and self-perception of competence/motivation that linked to academic achievement and participation. Furthermore, Fredricks et al. (2004) summarized that cognitive engagement had two sets of definition: (1) "investment of learning" (e.g. student's effort on learning and problem solving) and (2) "self-regulation, or being strategic" (e.g. student's learning strategies) (p. 63). This simplifies that cognitively engaged learners know themselves what to do when they are faced with problems and how to improve their comprehension by using personal learning strategies that fit with their competency. For example, learners use "sophisticated (elaboration-based) learning strategies" in which they apply their previous knowledge and experiences during their learning, and "metacognitive self-regulation strategies such as planning, monitoring, and revising one's work" in which learners try to seek for conceptual understanding rather than a brief knowledge (Reeve & Tseng, 2011, p. 4). Therefore, cognitive engagement is the willingness to learn from class, effort to understand learning task, understanding of strength and weaknesses and metacognitive awareness or learning strategies to apply while facing different types of difficulties.

In reading, cognitively engaged readers have high-level thinking about their reading texts, use word-recognition and reading comprehension strategies, and have active involvement in reading activities, which relate to metacognitive thinking and schema knowledge (Taylor, Pearson, Peterson, & Rodriguez, 2003). To measure cognitive reading engagement, McElhone (2012) used Mokhtari and Reichard's (2002) Metacognitive Awareness of Reading Strategies Inventory (MARSI) in which cognitively engaged readers frequently applied metacognitive reading strategies (global reading, problem solving and

support reading strategies) while reading English academic texts. In this view, readers who have cognitive engagement use appropriate reading strategies that are suitable for them to solve reading problems while reading English texts and to improve their reading comprehension.

2.2.3. Agentic Engagement

Finally, agentic engagement is the newest aspect of student learning engagement. Based on many researchers (Fredricks et al., 2004) existing engagement involves only three aspects: behavioral, emotional, and cognitive. However, Reeve and Tseng (2011) newly added a fourth category of student engagements called 'agentic engagements' due to one reason: students learn from teachers in a linear model; for instance, when teachers introduce a topic, students react by either paying attention or not (behavioral engagement), enjoying the topic or finding it boring (emotional engagement) and then finally utilizing sophisticated or only superficial learning strategies to comprehend the topic (cognitive engagement). The explanation continued stating that "students not only react to learning activities but also act on them—modifying them, enriching them" (e.g. transforming into something more interesting, personable, or optimally challenging), and even creating or requesting them in the first priority, rather than merely reacting to them as a given (p. 2). In other words, they are more active by coming up with new ideas to create something new in class, provide input and make some positive changes that make their learning more achievable. This students' contribution is identified as agentic engagement (Reeve, 2013).

Agentic engagement is "a newly proposed student-initiated pathway to greater achievement and greater motivational support" (Reeve, 2013, p.579). It refers to students' proactive, intentional, constructive contribution to the flow of the instruction or learning activities they receive (e.g. offering input, making suggestions, expressing the preferences, asking questions, communicating what they are thinking and need, recommending as a goal,

seeking of adding personal relevance to the lesson, seeking clarification, generating options, communicating likes and dislikes) (Christenson et al, 2012; Reeve and Tseng, 2011). Agentic engagement describes how students have more opportunities to enlarge their freedom of actions, to get strong motivation (e.g., autonomy, self-efficacy) and meaningful learning (e.g., internalization, conceptual understanding) (Bandura, 2006). In short, agentic engagement involves students' participation in class by contributing their ideas, comments or feedback that show how much they are engaged in their learning.

2.2.4. Interrelation between the four aspects of student engagement

In Reeve's (2012) study, the four aspects of student engagement were summarized as illustrated in figure 2 (p. 151):

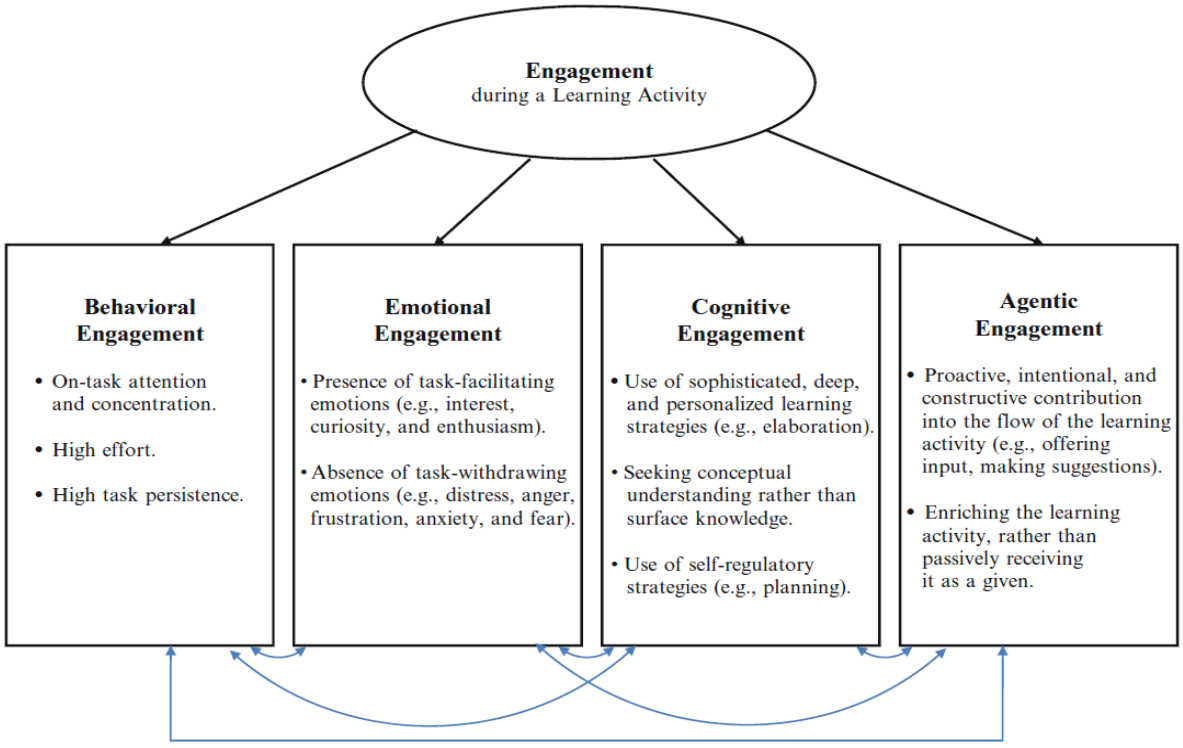

Figure 2. **Four interrelated aspects of students' engagement during a learning activity**

The four aspects of engagement inter-correlate with each other during learning activities as illustrated in the Figure 3. The same purpose of all aspects of engagement is to

make students' learning progress (Christenson et al., 2012). For instance, during learning, students pay attention and make efforts (behavioral engagement), show their interest and enjoyment (emotional engagement), employ personal learning strategies (cognitive engagement), and make contributions (agentic engagement) (Reeve, 2013). Even though the aspects of engagement have defined their functions separately, they are dynamically interrelated within the individual; they are not isolated processes, which can be defined as "engagement as a multidimensional construct" (Fredricks et al., 2004, p. 61). In this perceptive, each aspect of engagement does not only have individual roles but also correlates with each other to improve student learning achievement, simultaneously and dynamically.

The inter-correlation between the four aspects of student engagement was further emphasized and the unique roles of agentic engagement, the newest aspect, were examined in Reeve's study (2013) as shown in figure 3 (p. 580).

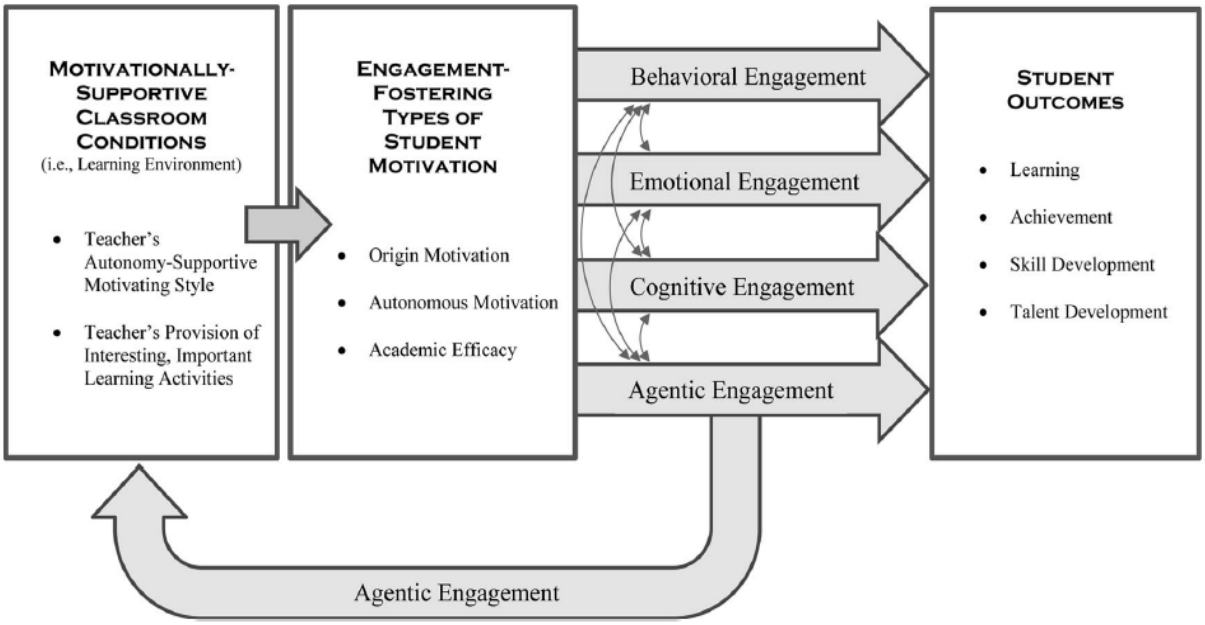

Figure 3. **Four interrelated aspects of student engagement (Reeve, 2013, p. 580)**

This figure illustrates how the interrelation of the four aspects of student engagement improves student's learning, achievement, skill and talent. Furthermore, it manifests that

agentic engagement plays a more uniquely important role in student engagement among the four aspects. Indeed, Reeve (2013) was confident that even though all four aspects of engagement were "constructive student-initiated pathway[s] to academic progress" (p. 581), agentic engagement was more unique since it was proactive and transactional that allowed learners to express their ideas before starting the learning activities (e.g. "I let my teacher know what I am interested in") and during learning of activities (e.g. "During class, I ask questions") (p. 580). In a previous study, Reeve and Tseng (2011) also indicated that agentic engagement had an inter-correlation with other aspects of engagement and uniquely contributes into classroom condition (e.g. learning environment) that allows students to take achievement-fostering action to enhance their learning. Therefore, even though agentic engagement was newly included in student engagement, it is more significant to contribute to a positive learning outcome. Based on this perspective, it also can be assumed that readers who have argentic engagement contribute more in reading and accordingly enhance their reading comprehension.

III. Theoretical Framework

3.1. Schema Theory

In this paper, there are some theoretical explanations about the relationship between schema theory, reading strategies and reading comprehension conducted by previous researchers.

According to Cook (1997), schema theory "was proposed by the gestalt psychologist Bartlett (1932) who observed how people, when asked to repeat a story from memory, filled in details which did not occur in the original but conformed to their cultural norms" (p. 86). This means people use schema theory to recall information that they already knew based on cultural context or individual experiences.

What is schema? Schema is background knowledge stored in readers' long-term memory (Gilakjani & Ahmadi, 2011). Anderson and Pearson (1984) discovered "a reader's schemata, or knowledge already stored in memory, function in the process of interpreting new information and allowing it to enter and become a part of the knowledge store" (p. 255). In other words, schema is what readers have already known, which is necessary to apply while reading the texts to understand reading information.

What is schema theory? Carrell and Eisterhold (1983) defined this theory as "a reader-centered, psycholinguistic processing model of EFL/ESL reading" that involved the combination of readers' background knowledge and reading texts in reading comprehension (p. 554). In this process, to understand English texts, readers check whether their previous experiences or knowledge related to reading content or not. According to Lally (1998) (as cited in Gilakjani & Ahmadi, 2011, p. 143), reading consists of two approaches: (1) bottom-up processing that refers to "text-based variables" (e.g. vocabularies, syntax, and grammatical structures)" and (2) top-down processing that refers to "reader-based variables" (e.g. strategy use, prior knowledge, cognitive development, interest, and objectives). As can be seen, in a top-down view, readers use not only reading strategies, but also their previous information (schema) while reading. Carrell et al. (1988) found three distinct dimensions of schema that strongly interact among readers and the texts: "linguistic" schema (prior language knowledge), "content" schema (knowledge of the topic), and "formal" schema (previous knowledge of the rhetorical structures of different types of texts)" (p. 4). Carrell and colleague emphasized reading could be problematic if one of these schema dimensions was missing and Anderson and Pearson (1984) argued that readers who were lacking schema would be hard to comprehend the texts. Therefore, schema theory helps readers to merge their background knowledge with reading texts and apply reading strategies to the readings to enhance their reading comprehension.

3.2. Self-determination Theory

Another theoretical framework of student reading engagement is self-determination theory (SDT). Appleton, Christenson, and Furlong (2008) believed that SDT provided "an important and comprehensive theoretical framework that helps clarify the functioning of the student engagement construct" (p. 378). According to Reeve (2012), SDT is a "theory of motivation" that has been introduced for 40 years by researchers to understand and improve students' engagement and learning achievement (p. 150). Wigfield and colleagues (2008) believed that "highly engaged readers are internally motivated to read" (p. 443). For instance, "engaged readers have deep-seated motivational goals" (p. 439), including "being committed to the subject matter" (behavioral engagement), "wanting to learn the content" (emotional engagement), "believing in one's own ability" (cognitive engagement), and "wanting to share understandings from learning" (agentic engagement) (Guthrie et al., 1997). Furthermore, in SDT, intrinsic motivation and self-efficacy create behavioral engagement in learning and reading (Guthrie & Klauda, 2014). For example, if learners have "personal interest (intrinsic motivation) and believe in their capacity (self-efficacy), their behavioral engagement becomes more enthusiastic, confident, and cognitively sophisticated" (Guthrie & Klauda, 2015. p. 5), which help learners improve their learning performance. In this view, SDT helps learners engage in confident behavior toward learning achievement.

Additionally, Nie and Lau's (2009) study indicated that SDT helped researchers and teachers include students' engagement and psychological well-being as the key indicators of effective classroom management. In responding to student's psychological needs and engagement, SDT provides understanding conditions that students have emotional engagement in their learning (Park et al., 2012). In this perspective, Reeve (2012) figured out that SDT indicated how learners interacted with their inner resources in a classroom environment that provided possible effects to students' engagement. Therefore, SDT is a

significant factor that motivates students to engage in learning and in the present study, SDT plays an important role to support the investigation of student engagement in reading.

The theoretical framework of this study was illustrated in the research framework as shown in figure 4.

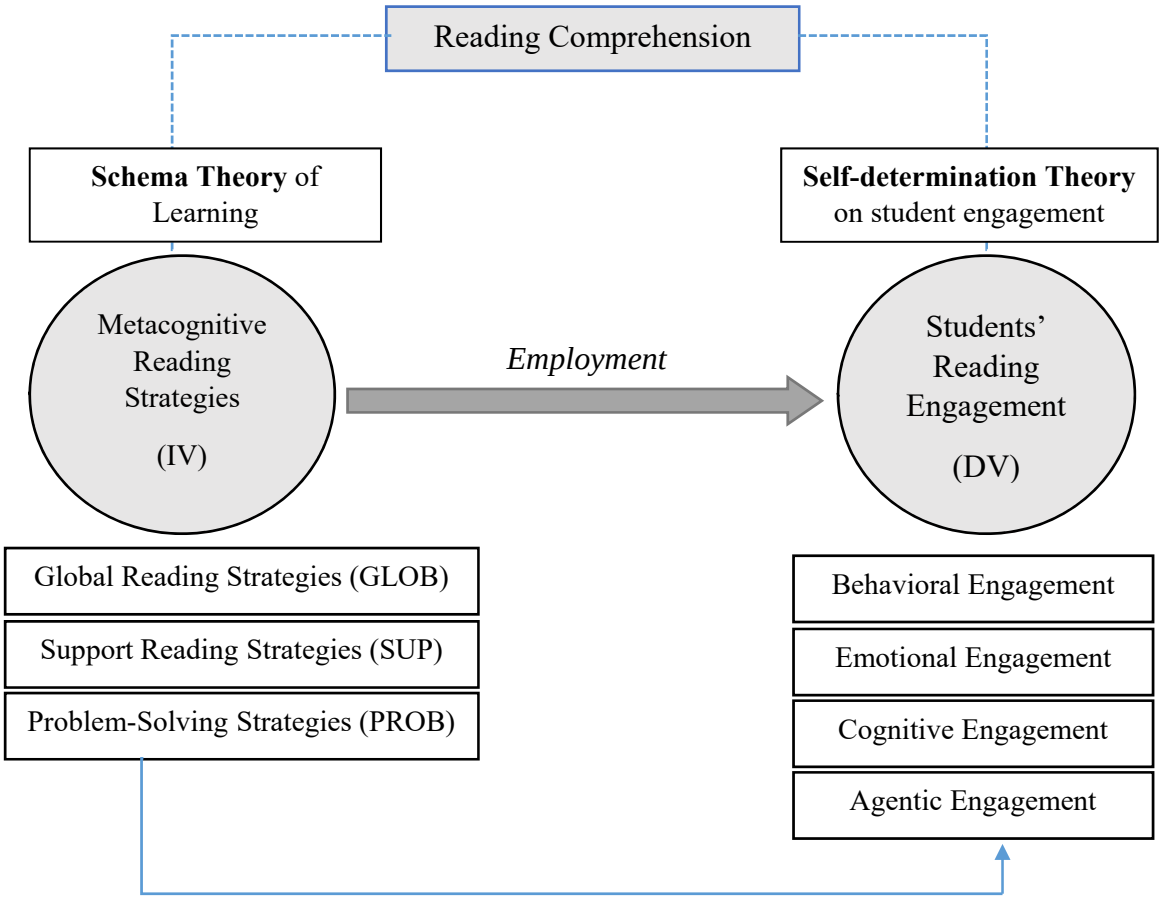

Figure 4. **Theoretical and Research Frameworks**

In this study, the main research framework is the effect of metacognitive reading strategies on student reading engagement while reading English academic texts, where include one main independent variable and one main dependent variable. First, metacognitive reading strategies are independent variable. According to Mokhtari and Sheorey (2002), metacognitive reading strategies consist of three categories: *global reading* (intentional planning techniques), *problem-solving* (techniques used to dial with difficulty) and *supporting reading* (outside aids using techniques). To support the study of metacognitive reading strategies, the researcher of this study chooses Schema Theory proposed by Bartlett

(1932) that examined how people used prior knowledge and experiences to recall the memories (Cook, 1997). Later on, many researchers adopted this theory in reading since schema and strategies uses are important in reading (Carrell and Eisterhold, 1983; Gilakjani & Ahmadi, 201; Anderson and Pearson, 1984). Second, student reading engagement are dependent variable. According to Reeve and Tseng (2011), student reading engagement has four aspects such as *behavioral* (attention, effort and persistence), *emotional* (interest, curiosity and enthusiasm), *cognitive* (schema and strategy use) and *agentic* engagement (contribution and enrichment). The theoretical framework to study student engagement is self-determination theory (SDT) that is comprehensive intrinsic motivation to identify engagement function (Appleton, Christenson & Furlong, 2008; Reeve, 2012). These two variables are investigated their relations by mediating the effect of metacognitive reading strategy use among KDIS students while reading English academic texts on their reading engagement.

IV. Hypotheses Development

To test the hypothesis, the research framework was designed to illustrate the correlation between metacognitive reading strategies and reading engagement with the connection with reading comprehension. The correlation between strategies and engagement in reading has been discussed in several studies. Guthrie and colleagues (1997) argued that "engaged readers possess desires to learn and use their best strategies for understanding and interpreting text to enhance that learning" (p. 439). Based on this assumption, Wigfield et al. (2008) found "reading engagement and reading comprehension were correlated" and engagement in reading had significant effects on reading strategies and understanding (p. 443). As can be seen, these studies found the linkage between reading strategies and reading engagement. For instance, several studies clarified that metacognitive reading strategies had

relation with cognitive engagement in reading (Park & Kim, 2016). Similarly, McElhone (2012) assumed that students' use of metacognitive reading strategies represented students' cognitive reading engagement, which improved their understanding on what they are reading. This indicates that students' use of metacognitive reading strategies have significantly strong effects on cognitive reading engagement.

However, after exploring previous studies, the gaps in the relation between metacognitive reading strategies and reading engagement were found. There was not specific study that discussed about the significant effects of metacognitive reading strategies on reading engagement such as behavioral, emotional and agentic reading engagement. Therefore, to investigate this relation, this study developed four hypotheses that explored the effects of students' metacognitive reading strategy use on student reading engagement while reading English academic texts:

1. H1: Metacognitive Reading Strategies affect student *agentic* reading engagement while reading English academic texts.
2. H2: Metacognitive Reading Strategies affect student *behavioral* reading engagement while reading English academic texts.
3. H3: Metacognitive Reading Strategies affect student *emotional* reading engagement while reading English academic texts.
4. H4: Metacognitive Reading Strategies affect student *cognitive* reading engagement while reading English academic texts.

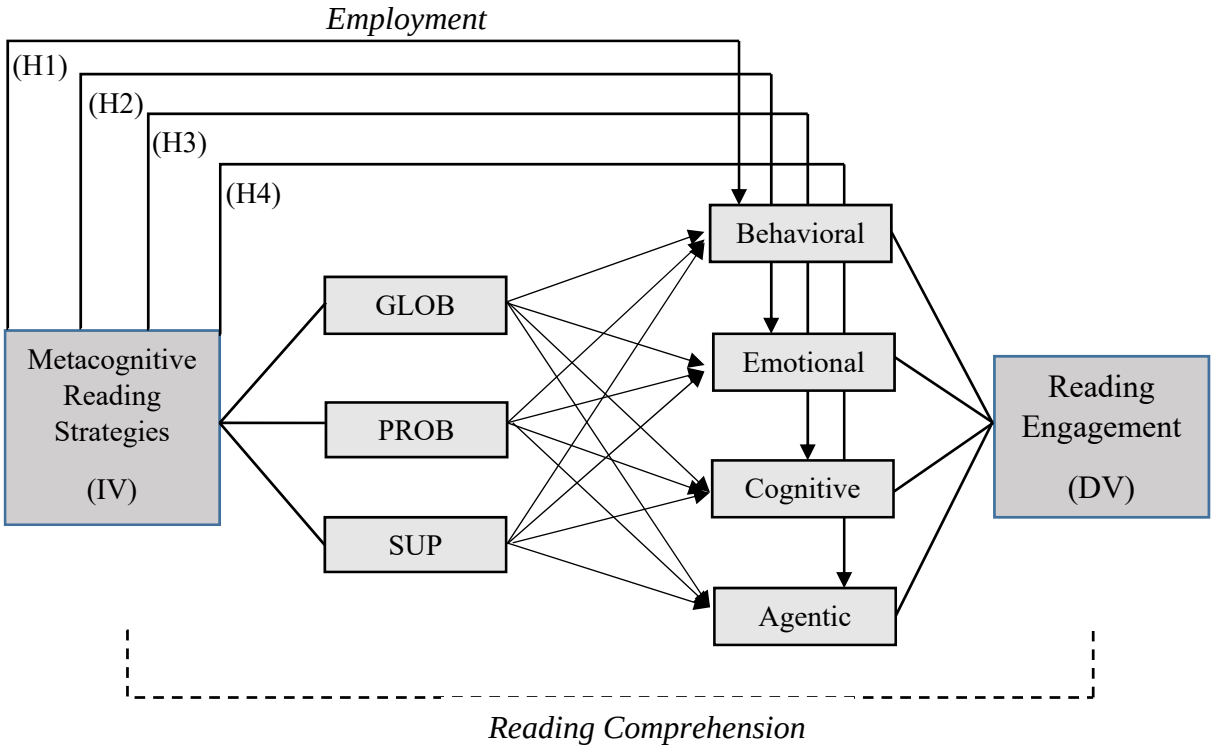

Figure 5. **Proposed Model of Effects of Metacognitive Reading Strategies on Reading Engagement**

V. Research Methodology

5.1. Research Samples

Research samples of this study were 146 KDIS students who are currently taking courses at KDI School of Public Policy and Management since 2017 Fall semester to 2019 Fall semester. KDIS students are from the diverse regions such as Asia, Africa, Europe, North and South America and others that have distinct demographic backgrounds and different levels of English proficiencies. The researcher investigated the different use of metacognitive reading strategies among students at KDI School and their reading engagement while reading English academic texts. Most importantly, this paper examined whether student's employment of these reading strategies mediated any effects of metacognitive reading strategies on reading engagement while they are reading English texts for academic purposes.

5.2. Research Instruments

Survey of Reading Strategies (SORS)

Many studies have explored the use of metacognitive reading strategies among readers. To measure "native English-speaking students' awareness and use of reading strategies while reading academic or school-related materials" (p. 5), Sheorey and Mokhtari (2001) developed an instrument called "the Metacognitive-Awareness-of-Reading-Strategies Inventory (MARSI), which was originally developed by Mokhtari (1998–2000). This instrument was later adopted and adapted by other researchers. In the following studies, MARSI (Mokhtari and Reichard, 2002) was used to observe the frequent use of metacognitive reading strategies in order to assess cognitive reading engagement (Park & Kim, 2016; McElhone, 2012). Based on MARSI, Mokhtari and Sheorey (2002) developed an instrument called "Survey of Reading Strategies (SORS)" to "measure adolescences and adult EFL students' metacognitive awareness and perceived use of reading strategies while reading academic materials such as text books" (p. 2). Both tools consisted of the same 30 items: global reading strategies (13 items), problem solving strategies (8 items) and supporting reading strategies (9 items) (Mokhtari & Reichard, 2002; Mokhtari & Sheorey, 2002). However, in this study, only 12 items were chosen among the 30 items (four from each of categories). A Likert Scale (5-point scale) was used, from 1 to 5: strongly disagree (1) and strongly agree (5) (see Appendix A). This instrument basically intended to observe the discrete use of metacognitive reading strategies among KDIS students while they are assigned to read English assignment for their study.

Questionnaire Items to Assess the Four Aspects of Engagement

Intending to measure engagement in reading such as behavioral, emotional, cognitive and agentic engagement, Reeve and Tseng (2011) developed as instrument tool as 'the Questionnaire Items to Assess the Four Aspects of Engagement' (QIAFAE) (See Appendix

B) (p. 3). In this questionnaire, reading engagement consisted of 22 items: agentic engagement (5 items), behavioral engagement (5 items), emotional engagement (4 items) and cognitive engagement (8 items). Like SORS, only 16 items were selected among the 22 items. 4 items of each engagement were scaled from 1 (strongly disagree) to 5 (strongly agree) (5-point Likert Scale). This tool was created to explore how readers engaged in their reading that enhanced learning.

Based on the two measurement tools, the research questionnaire of this study was designed (see Appendix C). First, SORS helped the researcher investigate students' awareness of metacognitive reading strategy use (global, problem-solving and support reading strategies) while reading English academic texts. Second, QIAFAE adapted in this study to investigate student engagement (agentic, behavioral, emotional and cognitive engagement) while reading English texts for academic purposes.

5.3. Data Collection Procedures

The samples were randomly selected among KDIS students with the total number of 170 questionnaires (80 online respondents; 90 offline respondents). In total, 146 students completed the survey with a response rate of 85.88 percent.

1. **Online Questionnaire:** The researcher developed the online questionnaire by using KDI School Qualtrics website and distributed to 80 KDI students via their emails, KakaoTalks and Messengers. The total number of online respondents was 60 (75%).
2. **Offline Questionnaire:** The questionnaire was also distributed as hard copies to another 90 students who are currently studying at KDI School (KDIS). Out of the 90, there were 86 participants who completed the questionnaire (95.55%).

5.4. Data Analysis

The data analysis was conducted by using a SPSS statistic program. The relationships between variables such as metacognitive reading strategies and reading engagement were analyzed by applying correlation analysis.

Furthermore, Cronbach's alpha was measured to test the reliability of each multi-item scale. First, Crobach's alpha values were 0.668 for global reading strategies, 0.670 for problem-solving strategies and 0.632 for support reading strategies (metacognitive reading strategies). Second, Crobach's alpha values were 0.844 for agentic engagement, 0.75 for behavioral engagement, 0.685 for emotional engagement and 0.718 for cognitive engagement (reading engagement). In short, the analysis of measurement of the study uncloses different quality criteria to be well fulfilled in the study.

Next, a Linear regression analysis was run to scrutinize the effects between independent and dependent variables in order to test hypotheses of the study. In addition, one-way ANOVA was employed to present the significant mean difference for all these variables. Also, factor analysis was applied to check the validity of the major construct.

Finally, the researcher used principal component analyses as the extraction method and Varimax rotation methods with Kaiser Normalization, where the most relevant data emerged. The results of the factor analysis represented the major constructs with Eigen values greater than 1.00.

Table 1, 2 and 3 show the results of factor analysis for the three subcategories of metacognitive reading strategies used by KDI School students while reading English texts for academic purposes.

Table 1. Component Matrix: Global Reading Strategies

Items	Component
	1
I have a purpose in mind when I read English academic texts.	.722
I first read the content of articles or books, before I start reading English academic texts.	.685

When I read English academic texts, I read the related information for my purpose.	.752
I check my understanding before moving to the new section of English academic texts.	.678

Table 2. Component Matrix: Problem-solving Strategies

Items	Component
	1
When I lose concentration, I reread the sentences of English academic texts.	.822
When the English academic texts become difficult, I read slowly.	.805

Table 3. Component Matrix: Support Reading Strategies

Items	Component
	1
I take notes while reading English academic texts to help me understand what I am reading.	.743
I underline or circle information in the English academic texts to help me understand and remember it.	.679
I check a dictionary when I do not understand the English vocabularies in the academic texts.	.674
I go back and forth in the English academic texts to find relationships among ideas in it.	.637

Table 5, 6, 7 and 8 show the results of factor analysis for the four aspects of student engagement in reading such agentic, behavioral, emotional and cognitive engagement respectively while reading English academic texts.

Table 4. Component Matrix: Agentic Engagement

Items	Component
	1
I ask questions while reading English academic texts.	.806
I express my opinions while reading English academic texts.	.867
I let my professor know what I'm interested in reading in English for academic purposes.	.861
I tell my professor what I expect to learn from the English reading academic texts.	.768

Table 5. Component Matrix: Behavioral Engagement

Items	Component
	1
I pay attention while reading English academic texts.	.756
I am active in group discussion with other students after reading English academic texts.	.773
I try very hard while reading English academic texts.	.660
I listen carefully when my professor asks me to read English academic texts.	.841

Table 6. Component Matrix: Emotional Engagement

Items	Component
	1
I enjoy reading English texts for academic purposes.	.842
I feel curious about the English academic texts that I am reading.	.648

I like the school's English reading courses.	.760
I never feel bored with English reading classes.	.639

Table 7. Component Matrix: Cognitive Engagement

Items	Component
	1
Before I begin to read English academic texts, I think about what I want to get done.	.611
As I read English academic texts, I keep track of how much I understand, not just if I am getting the right answer.	.823
I use my personal reading strategies rather than following others.	.790
When I read English academic texts, I try to connect what I am reading with my own experiences.	.716

Table 9 manifests the age and gender of the respondents. Of 146 respondents, 56.85% were male and 43.15% were female. The majority of respondents were between 26 to 30 years old which amounted to 30.14% of total respondents, followed by respondents whose ages were between 31 to 35 years old (22.60%), over 40 years old (19.86%) and between 21 to 25 and 36 to 40 years old (13.01% each). Finally, the minority of the respondents were 20 or younger than 20 years old (1.37%).

Table 8. Respondents' Age and Gender

		Gender		Total
		Male	Female	
Age	≤ 20 years old	1	1	2
	21-25 years old	4	15	19
	26-30 years old	20	24	44
	31-35 years old	20	13	33
	36-40 years old	15	4	19
	> 40 years old	23	6	29
Total		**83**	**63**	**146**

In addition, Table 10 illustrates the educational information of the respondents who were KDIS students. In term of their education background, the respondents were classified into three majors: 39.04% were Public Management (MPM), 35.62% were Public Policy (MPP or PP) and 25.34% were Development Policy (MDP or DP). The majority of respondents were taking a master's program amounting to 96.58% of total respondents. All respondents started their academic career at KDIS from 2017 Fall to 2019 Fall semester, most being 2019 Spring semester students (53.42%).

Table 9. Students' educational information

Major		6. When did you start your academic life at KDI?						Total
		2017 Fall	2018 Spring	2018 Fall	2019 Spring	2019 Fall	Other	
	MPM	0	6	3	34	12	2	57
	MDP or DP	1	3	3	21	8	1	37
	MPP or PP	1	3	6	23	18	1	52
Total		2	12	12	78	38	4	146

Regarding their demographic information, KDIS students were from the diverse backgrounds. However, figure 6 shows the enormous numbers of respondents were from Asia (71.92%) and followed by Africa (17.12%), North and South America (6.16%), Europe (2.74%) and others (2.05%). Based on the English language used by different continents, only 4.64% of the respondents were using English as a First Language, 53.64% use English as a Second Language, 13.25% use English as a Third language and 28.48% use English as a Foreign Language.

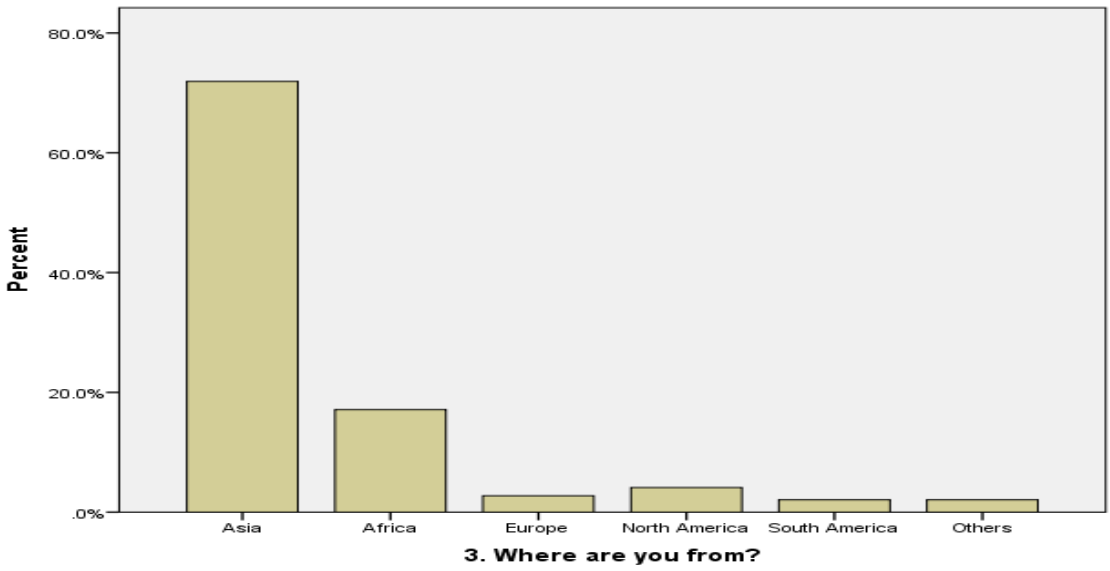

Figure 6. **Students' Region**

VI. Results and Discussion

This research was conducted to explore how metacognitive reading strategies use effected student reading engagement such as agentic, behavioral, emotional and cognitive engagement, which enabled them to improve their reading comprehension.

6.1. Mean and Standard Deviations

According to Oxford (1990) (as cited by Riazi, 2007), the rate mean scores range from high to low: mean of 3.5 or higher (high), mean of 2.5 to 3.4 (medium) and mean of 2.4 or lower (low). This interprets that the number of means can represent the level of metacognitive reading strategies use whether it is high, medium or low (Songsiengchai, 2010). In this perspective, the higher means of reading strategies show that readers apply them more while reading English texts for academic purposes.

Metacognitive Reading Strategies

In Table 11, the means of subcategories of metacognitive reading strategies were 3.79, 3.79 and 3.72 which were higher than 3.5. This result illustrates in general KDIS students used metacognitive reading strategies at a high level while reading English printed texts. Furthermore, the results showed that among the three subcategories of metacognitive reading strategies, there are no difference between the frequent use of each subcategories.

Table 10. Mean and Standard Deviation of Each Subcategory of Metacognitive Reading Strategies

Subcategories	N	Mean	Std. Deviation
Global Reading Strategies (GLOB)	146	3.79	.66242
Problem-solving Strategies (PROB)	146	3.79	.53608
Support Reading Strategies (SUP)	146	3.72	.68702
Valid N (listwise)		**3.76**	

According to Table 12, the big majority of students were reported to have utmost preference for checking a dictionary when they did not understand the English vocabularies in the academic texts with a highest mean of 4.13 (high), which was an item of supporting

reading strategies. The result delineates that dictionary was a useful aid that KDIS students used to support their understanding while reading English for academic purposes since the majority of them were not English native readers.

The following commonly used items by KDIS students were '*when I lose concentration, I reread the sentences of English academic texts'* and *'when the English academic texts become difficult, I read slowly'* with the same mean of 4.12 (high), followed by *'I try to guess the meaning of unknown English words or phrases in the academic texts'* (M = 3.99), which were the problem-solving strategies. In these strategies, In contrast, the results show that item number 8 (*when I do not understand, I skip and move to read the new sections of English academic texts*) of problem-solving strategies with a mean of 2.94, which were used less than other strategies by KDIS students. Since the different results conveyed, the researcher expounded when KDIS students faced reading difficulties, they tried their best to use different strategies that could help them understand what they were reading, rather than skip or move to the next sections.

Table 11. Mean and Standard Deviation of Metacognitive Reading Strategies

Items	N	Mean	SD
1. I have a purpose in mind when I read English academic texts.	146	3.88	.898
2. I first read the content of articles or books, before I start reading English academic texts.	146	3.79	.975
3. When I read English academic texts, I read the related information for my own purpose.	146	3.82	.907
4. I check my understanding before moving to a new section of English academic texts.	146	3.68	.960
5. When I lose concentration, I reread the sentences of English academic texts.	146	4.12	.914
6. When the English academic texts become difficult, I read slowly.	146	4.12	.804
7. I try to guess the meaning of unknown English words or phrases in the academic texts.	146	3.99	.826
8. When I do not understand, I skip and move to read the new sections of English academic texts.	146	2.94	1.122
9. I take notes while reading English academic texts to help me understand what I am reading.	146	3.47	1.052
10. I underline or circle information in the English academic texts to help me understand and remember it.	146	3.93	1.001
11. I check a dictionary when I do not understand the English vocabularies in the academic texts.	146	4.13	.912
12. I go back and forth in the English academic texts to find relationships among ideas in them.	146	3.36	1.015

(GLOB: 1 to 4, PROB: 5 to 8 and SUP: 9 to 12)

Reading Engagement

With regard to Table 13, the result revealed that behavioral, emotional and cognitive engagement had means of 3.9384, 3.6661 and 3.9366, respectively, considering that in general, KDIS students had high reading engagement on behavior, emotion and cognition. Among the four aspects of engagement, students had highest behavioral engagement (M = 3.9384) and cognitive engagement (M = 3.9366) in reading. However, the mean of agentic reading engagement was 3.4195 (medium), which identifies that KDIS students had medium agentic engagement while reading English texts. In other word, an average of KDIS students contributed their ideas or opinions in English reading class.

Table 13. Mean and Standard Deviation of the Four Aspects of Reading Engagement

Items	N	Mean	Std. Deviation
Agentic Engagement	146	3.4195	.79813
Behavioral Engagement	146	3.9384	.61487
Emotional Engagement	146	3.6661	.63333
Cognitive Engagement	146	3.9366	.55849

In Table 14, among the behavioral reading engagement, students were reported to select item number 5 (*I pay attention while reading English academic texts*) with a highest mean of 4.15, followed by the item number 8 of behavioral engagement (*I listen carefully when my professor asks me to read English academic texts*) with a mean of 4.02. This applies that in general KDIS students were mostly behaviorally engaged and had strong attention and concentration on the reading task, great effort and persistence of task in class, which allowed them to actively be involved with reading tasks and activities.

Table 14. Mean and Standard Deviation of Each Item of Reading Engagement

Items	N	Mean	SD
1. I ask questions while English academic texts.	146	3.59	.922
2. I express my opinions while reading English academic texts.	146	3.62	.927
3. I let my professor know what I am interested in reading in English for academic purposes.	146	3.35	1.028

4. I tell my professor what I expect to learn from the English reading academic texts.	146	3.12	.989
5. I pay attention while reading English academic texts.	146	4.15	.718
6. I am active in group discussion with other students after reading English academic texts.	146	3.82	.922
7. I try very hard while reading English academic texts.	146	3.76	.816
8. I listen carefully when my professor asks me to read English academic texts.	146	4.02	.783
9. I enjoy reading English texts for academic purposes.	146	3.86	.844
10. I feel curious about the English academic texts that I am reading.	146	3.89	.771
11. I like the school's English reading courses.	146	3.82	.830
12. I never feel bored with English reading classes.	146	3.10	1.059
13. Before I begin to read the English academic texts, I think about what I want to get done.	146	3.77	.768
14. As I read English academic texts, I keep track of how much I understand, not just if I am getting the right answer.	146	3.99	.743
15. I use my personal reading strategies rather than following others.	146	3.92	.818
16. When I read English academic texts, I try to connect what I am reading with my own experiences.	146	4.07	.701

Agentic engagement: 1 to 4
Behavioral engagement: 5 to 8
Emotional engagement: 9 to 12
Cognitive engagement: 13 to 16

Similarly, the majority of KDIS students were cognitively engaged readers (M = 3.9366). The result showed that KDIS students have self-evaluation, self-regulation and self-perception of competence/motivation while reading, which enabled them to have their personal reading strategies while reading English academic texts to comprehend what they were reading. With the matching results, the study found that KDIS students made use of a high level of metacognitive reading strategies (Mean = 3.7699) while reading English texts for academic purposes. This indicates that metacognitive reading strategies played a significant role to promote cognitive engagement in reading English school texts in pursuit of enhancing reading comprehension.

In Table 14, among the 16 items of the four aspects of reading engagement, item number 16 of cognitive reading engagement (*When I read English academic texts, I try to connect what I am reading with my own experiences*) (M = 4.07) had a higher mean after item number 5 of behavioral reading engagement (M = 4.15). This result expresses that KDIS students use Schema Theory, which was a theoretical framework in this study, which allowed

readers to apply their prior knowledge or experiences when reading English offline documents. However, Table 14 illustrates item number 12 of emotional engagement (*I never feel bored with English reading classes*) had a lowest mean (M = 3.10). This interpreted that an average of KDIS students reported that they felt bored with English reading classes. This negative emotional reading engagement could be assumed that probably because of student's limited English reading proficiencies, complicated English texts or unawareness of effective reading strategies while reading English printed copies. In this perspective, metacognitive reading strategies were strongly recommended in order to help readers overcome their reading challenges and improve reading comprehension.

6.2. Regression Analysis

In order to test the hypotheses, a regression analysis was conducted by using factor scores. The results of the regression analysis for the effects of metacognitive reading strategies such as global reading (GLOB), problem-solving (PROB) and supporting reading strategies (SUP) on reading engagement (agentic, behavioral, emotional and cognitive engagement) while KDIS students were reading English for academic purposes were shown in Table 15, 16, 17 and 18.

1. ***H1: Metacognitive Reading Strategies affect student agentic reading engagement while reading English academic texts***

To test this hypothesis, H1 was divided into sub hypotheses based on the four aspects of reading engagement seen below:

H1-1*: Global Reading Strategies affect agentic reading engagement while reading English academic texts*

H1-2*: Problem-solving Reading Strategies affect agentic reading engagement while reading English academic texts*

***H1-3**: Supporting Reading Strategies affect agentic reading engagement while reading English academic texts*

According to Table 15, the results of the ANOVA in the case of the effects of global reading and support reading strategies on agentic engagement proclaimed the models significant at the 0.01 level and 0.05, respectively with F = 6.614 (R^2 = 0.123). Therefore, Hypotheses H1-1 and H1-3 were accepted, while Hypothesis H1-2 was rejected. This interprets that global reading and supporting reading strategies affected agentic engagement while KDIS students were reading English academic texts, whereas problem-solving strategies did not affect.

Table 15. The Effects of Metacognitive Reading Strategies on Agentic Engagement

Variables (Independent → dependent)	Standardized Coefficients (t-value-Sig)
GLOB → Agentic (H1-1)	.247 (2.894) ***
PROB → Agentic (H1-2	-.068 (-.793)
SUP → Agentic (H1-3)	.202 (2.284) **

*** Significant at 0.01 level (2-tailed).
** Significant at 0.05 level (2-tailed).

The study found global reading strategies affected agentic engagement while KDIS students were reading English academic texts (H1-1 accepted). This implied that when KDIS students had clear purposes for reading (global reading), they asked questions while reading or told teachers what they expected to learn from English reading tasks or what they were interested in reading (agentic engagement). Another finding was that supporting reading strategies affected agentic engagement while KDIS students were reading English academic texts (H1-3 accepted). The explanation was that when KDIS students underlined, took notes or checked the meanings while reading English academic texts (support reading), they had ideas to express more opinions or make contributions in class before or during English reading tasks (agentic engagement).

In contrast, the results showed problem-solving strategies did not affect KDIS student agentic engagement in reading (H1-2 rejected). It could be interpreted that problem-solving strategies were strategies that assisted readers to deal with problems when they did not understand the English reading academic papers. In this case, KDIS students used these strategies to contribute to themselves, which were for reading comprehension rather than for contribution to other students (agentic engagement). Thus, students did not apply problem-solving strategies to improve their agentic engagement in reading but to solve reading problems in order to comprehend what they were reading.

2. ***H2: Metacognitive Reading Strategies affect student behavioral reading engagement while reading English academic texts***

H2-1*: Global Reading Strategies affect behavioral reading engagement while reading English academic texts*

H2-2*: Problem-solving Reading Strategies affect behavioral reading engagement while reading English academic texts*

H2-3*: Supporting Reading Strategies affect behavioral reading engagement while reading English academic texts*

According to Table 16, the ANOVA results in the case of the effects of global reading and support reading strategies on behavioral engagement evidenced the models are significant at the 0.01 level and 0.05, respectively with $F = 7.228$ ($R^2 = 0.132$). Therefore, Hypotheses H2-1 and H2-3 were accepted, while Hypothesis H2-2 was rejected. This interpreted that global reading and supporting reading strategies affected behavioral engagement while KDIS students were reading English academic texts, whereas problem-solving strategies did not affect.

Table 16. The Effects of Metacognitive Reading Strategies on Behavioral Engagement

Variables (Independent → dependent)	Standardized Coefficients (t-value-Sig)
GLOB → Behavioral (H2-1)	.231 (2.717) ***
PROB → Behavioral (H2-2)	.057 (.669)
SUP → Behavioral (H2-3)	.177 (2.012) **

*** Significant at 0.01 level (2-tailed).
** Significant at 0.05 level (2-tailed).

The result showed that global reading and supporting reading strategies affected behavioral engagement while KDIS students were reading English academic texts (H2-1 and H2-3 accepted). In this case, when students had a clear purpose and intentional plan for reading (global reading), they paid attention, tried hard, and listened carefully during reading in class (behavioral engagement). Another situation is that when they took notes and checked the dictionary while reading English academic texts (supporting reading), they understood the English texts and might have lots of ideas to discuss with other students (behavioral engagement).

In contrast, the results show that problem-solving strategies did not affect KDIS student behavioral engagement in reading (H2-2 rejected). This could be interpreted that when KDIS students had reading difficulties, they used reading techniques such as reading repeatedly, reading slowly, guessing the meaning of the word (problem solving) to improve their understanding rather than encouraging themselves to actively participate with others such as in group discussion while reading English academic texts (behavioral engagement).

3. H3: Metacognitive Reading Strategies affect student emotional reading engagement while reading English academic texts

H3-1*: Global Reading Strategies affect emotional reading engagement while reading English academic texts*

***H3-2**: Problem-solving Reading Strategies affect emotional reading engagement while reading English academic texts*

***H3-3**: Support Reading Strategies affect emotional reading engagement while reading English academic texts*

According to Table 17, the results of the ANOVA in the case of effects of global reading strategies on emotional engagement proclaimed the models are significant at the 0.01 level with F = 7.859 (R^2 = 0.142). Therefore, Hypotheses H3-1 was accepted, while Hypothesis H3-2 and H3-3 were rejected. These results explained that global reading strategies affected emotional engagement when KDIS students were reading English academic texts, whereas there was no effect of problem-solving and supporting reading strategies. For instance, when KDIS read the English academic texts that met their purposes and understood before moving to the new section of the reading texts (global reading), they felt that they enjoyed reading and were curious about their reading tasks (emotion engagement) (H3-1 accepted).

Table 17. The Effects of Metacognitive Reading Strategies on Emotional Engagement

Variables (Independent → dependent)	Standardized Coefficients (t-value-Sig)
GLOB → Emotional (H3-1)	.301 (3.563) ***
PROB → Emotional (H3-2)	.074 (.871)
SUP → Emotional (H3-3)	.092 (1.052)

*** Significant at 0.01 level (2-tailed).

In contrast, the results show that strategies of problem-solving and supporting reading did not affect emotional engagement (H3-2 and H3-3 reject). It could be assumed that even though KDIS students tried to solve the problems and used outside aids to overcome their reading difficulties while reading, there was no any significant effect on their emotional reading engagement such as interest, curiosity or enjoyment (emotional engagement). Furthermore, as other results of this study show, an average of KDIS students reported that

they felt bored when reading English academic texts (emotional engagement). This indicates that only global reading strategies (e.g. having a reading purpose) could help improve KDIS students' interest in reading English for academic purposes. In other words, even though students did not have reading problems (e.g. lacking English or reading proficiency), they still did not feel interested in reading English texts as long as they had a clear purpose of reading tasks.

4. ***H4: Metacognitive Reading Strategies affect student cognitive reading engagement while reading English academic texts***

H4-1*: Global Reading Strategies affect cognitive reading engagement while reading English academic texts*

H4-2*: Problem-solving Reading Strategies affect cognitive reading engagement while reading English academic texts*

H4-3*: Supporting Reading Strategies affect cognitive reading engagement while reading English academic texts*

Table 18 shows the ANOVA results in the case of the effects of global reading and problem-solving strategies on cognitive engagement found the models are significant at the 0.01 level and 0.1 level with F = 11.827 (R^2 = 0.200). Therefore, Hypotheses H4-1 and H4-2 were accepted, while Hypothesis H4-3 was rejected. These results indicate that strategies of global reading and problem-solving affected cognitive reading engagement when students were reading English academic texts, whereas there was not any effect of support reading strategies.

Table 18. The Effects of Metacognitive Reading Strategies on Cognitive Engagement

Variables (Independent → dependent)	Standardized Coefficients (t-value-Sig)
GLOB → Cognitive (H4-1)	.300 (3.672) ***
PROB → Cognitive (H4-2)	.159 (1.933) *

SUP → Cognitive (H4-3)	.125 (1.484)

*** Significant at 0.01 level (2-tailed).
* Significant at 0.1 level (2-tailed).

According to these results, global reading and problem-solving strategies affected cognitive reading engagement when students were reading English academic texts (H4-1 and H4-2 accepted). It could be explained that KDI students who had careful and clear intention and purposes of reading (global reading) and knew how to overcome their reading challenges when the reading texts became difficult (problem-solving) had good understanding of their reading texts and applied personal reading strategies rather than following others (cognitive engagement).

In contrast, the results disclosed that support reading strategies did not affect KDIS student cognitive engagement (H4-3 rejected). This rationalized that while reading, students tried to connect their reading tasks with their own experiences or previous knowledge and focused on in-depth understanding (cognitive engagement) rather than using supportive aids such as checking dictionaries, taking notes, underlining or circling information (support reading). In other word, students might think that using supportive reading strategies was not the best way to improve their understanding while reading English academic texts. Therefore, the result of this study showed that KDIS students used supportive reading strategies less than other strategies such as global reading and problem-solving strategies.

6.3. Additional Findings

The analysis of variable (ANOVA) was conducted to test where the means of two or more groups were significantly different from each other and to check the effect of one or more factors by comparing the means of different groups.

Age

The results showed that the mean of age had the same effect on metacognitive reading strategies such as global reading (p-value = 0.118), problem-solving (p-value = 0.787) and support reading strategies (p-value = 0.271) since p-values were bigger than the level of significance at α = 5%. This explained that KDIS students, regardless their ages, applied metacognitive reading strategies at the same level while reading English for academic purposes. In contrast, the mean of age had different effects on the three other aspects of argent engagement in reading (p-value = 0.016 < α = 1%). In other word, KDIS students' agentic engagement differed based on age groups.

Reading Proficiency

The results showed that the mean of student reading proficiencies had different effects on global reading strategies while reading English academic texts (p-value = 0.042 < α = 5%). This interpreted that when KDIS students had different levels of reading proficiencies, they had different purposes and plans of reading too (global reading). Furthermore, the mean of students' reading proficiencies also had different effects on the four aspects of student reading engagement since their p-values were smaller than the significant level at α = 5%.

English Proficiency

Since KDIS students come from different countries, their English language proficiencies have different levels. Consequently, it was conveyed that the means of students' reading and English proficiency levels had different effects on global reading strategies and the four aspects of student reading engagement since their p-values were smaller than the significant level at α = 1%.

English Language Status

English language status is officially used differently according to the continents. As the results showed, the means of English language status had the same effects on all variables

since their p-values were bigger than the significant level at α = 5%. This demonstrates that native and non-native English speakers used the same metacognitive reading strategies and had the same reading engagement when they were reading English texts for class. Similarly, the results reveal that there was not any difference in the effect on all variables based on how long students had known the English language and based on majors at KDIS such MPM, MPP (PP) and MDP (DP). However, the mean of the region that students came from such as Asia, Africa, Europe, North America, South America and others had different effects on their emotional reading engagement.

Number of Reading Hours

Additionally, the results showed that how much students read a day also led to different effects on other variables. The mean of how many hours students spent to read English academic texts a day had different effects on students' use of metacognitive reading strategies and the other two aspects of reading engagement such as behavioral and cognitive engagement. Similarly, the results showed that the mean of reading English academic texts everyday had different effects on global reading strategies and other three aspects of reading engagement: agentic, behavioral and emotional.

VII. Conclusion

7.1. Findings

This present study aimed to investigate the effects of metacognitive reading strategies on reading engagement. The main results were shown. First, global reading strategies affected four aspects of student reading engagement (agentic, behavioral, emotional and cognitive). Second, support reading strategies affected two aspects of student reading engagement (agentic and behavioral). Finally, problem-solving strategies affected only cognitive reading engagement when students were reading English academic texts.

Metacognitive reading strategies were investigated how they affected agentic engagement. First, the effect of global reading strategies on agentic engagement implied that when students had clear purposes of reading (global reading), students asked more questions and let others know about their interest and expectation on their reading task (argentic engagement). Second, the effects of problem solving strategies on agentic engagement implied that student might not apply problem-solving strategies to improve their agentic engagement, while they applied those strategies to solve reading problems in order to comprehend what they were reading. For instance, when students had reading difficulties, they used reading techniques such as reading repeatedly, reading slowly, guessing the meanings of words (problem solving) to improve their understanding rather than encouraging themselves to actively participate with others such as in group discussion while reading English academic texts (argentic engagement). Lastly, the effect of supporting reading strategies on agentic engagement implied that when they took notes and checked the dictionary (supporting reading), they understood the English texts and they had ideas to express more opinions or make contributions in English reading class (agentic engagement).

Additionally, the effects of metacognitive reading strategies on emotional engagement were also examined. First, the effects of global reading strategies on emotional engagement implied that when students read to confirm their understanding before moving on to a new section of their reading texts (global reading), they enjoyed reading and felt curious about their reading tasks (emotional engagement). Second, the effects of problem-solving strategies on emotional engagement showed that how students tried to solve the reading problems and use outside aids to overcome their reading difficulties affected emotional reading engagement was not supported.

Metacognitive reading strategies were further investigated how they affected cognitive engagement. The effects of global reading and problem-solving strategies on

cognitive engagement implied that students who had clear intentions and purposes for reading (global reading) and knew how to overcome reading challenges when the texts became difficult (problem-solving) had better understanding of their reading texts and their own personal reading strategies rather than following others (cognitive engagement). Also, the effects of supporting reading strategies on cognitive engagement implied that KDIS students might think that using supportive reading strategies might not be the best way to improve their understanding of English academic texts.

7.2. Managerial and Policy Implication

The result of this study indicated that engaged readers used metacognitive reading strategies while reading English academic texts to improve their reading comprehension. As many previous studies demonstrated, similar findings revealed that readers who were flexible to employ reading strategies such as metacognitive reading strategies were good readers (Alderson, 2000) since these strategies helped improve students' reading ability or reading comprehension (Shehadeh, 2015). Moreover, readers who had reading engagement were also good readers and had good reading comprehension and achievement (Guthrie et al., 2004). Therefore, metacognitive reading strategies and reading engagement play important roles in reading skill since they improve student learning outcomes.

According to the findings of present and previous studies, there are some managerial and policy implication that students, teachers and other education institutions should consider.

Self-management

In order to apply metacognitive strategies in reading, readers need to have self-management. Metacognition in reading is divided into two parts: (1) self-appraisal of cognition (e.g. readers know what and how reading strategies are used) and (2) self-management (e.g. readers know how to understand their reading task) (Jacobs & Paris, 1987).

According to Jacobs and Paris (1987), readers who have self-management of thinking have strategic planning (e.g. having reading purposes), strategic evaluation (e.g. checking their understanding) and regulation strategies (e.g. monitoring their reading progress and revising the strategic planning after evaluation). This assumes that readers who have good self-management allow them to apply more metacognitive reading strategies while reading English academic texts.

In this implication, metacognitive reading strategies are related to cognitive engagement that is described as readers' knowledge and beliefs about reading activities and themselves such as self-evaluation, self-regulation and self-perception of competence or motivation that is linked to academic achievement and participation (Christenson et al., 2012). Self-managed readers employ "metacognitive self-regulation strategies such as planning, monitoring, and revising one's work" that help them seek for conceptual understanding rather than surface knowledge (Reeve & Tseng, 2011, p. 4). These processes encourage readers to implement reading strategies not only while they are reading, but also require them to practice again and again, which improve their long-term understanding. Therefore, equipping self-management in metacognitive reading strategies helps readers to improve their cognitive engagement and reading comprehension not only in short-term periods but also in long-term memories.

Policy Implication in Education

The purpose in conducting this research is to provide some reading strategies not only to students, but also to instructors of developmental reading courses and other educators at educational institutes to improve reading skills. Eventually, reading plays a significant role in education (P & Ghosh, 2012). However, reading skills are considered as one of the most challenging skills (Admin, 2019). A great quantity of EFL/ESL readers struggle when they

are assigned to read English academic texts due to their limited English language and reading proficiencies (Grabe & Zhang, 2013). The first reason that makes readers, regardless of native or foreign language readers, have difficulties in reading is because they do not know how to use effective reading strategies while reading (Nezami, 2012). Second, a great number of students have low reading engagement (e.g. from US, UK, Ireland, Spain, Germany and Belgium) (Brozo, et al., 2007). Therefore, this study is conducted to introduce metacognitive reading strategies that students, native and non-native English speakers, can apply while reading English academic texts, which provide positive effects to their reading engagement and reading comprehension.

According to the reading issues and the findings of the present study, it is necessary to promote metacognitive reading strategies and improve reading engagement in order to enhance reading skill in education. Therefore, several policy implications in education are recommended.

- Introducing and creating an awareness of metacognitive reading strategies in English reading education, which allow readers to use any reading strategies (global reading, problem-solving and support reading) based on their preferences and competencies.
- Inserting metacognitive reading strategies into teaching methodologies, pedagogies and curriculum which will encourage teachers to use them in appropriate circumstances, in order to help students engage in reading and understand their reading texts well.
- Improving student reading engagement by applying many metacognitive reading strategies including other reading activities during reading classes.
- Monitoring and evaluating student reading engagement and reading comprehension after implementing metacognitive reading strategies by assessing their reading performance and outcomes in reading class.

It is important to put more attention on metacognitive reading strategies and reading engagement since they are the paramount factors to enhance reading comprehension in reading skills.

7.3. Limitation and future research

The participants of this study were limited to 146 current KDIS students who were taking courses at KDI School of Public Policy and Management since 2017 Fall semester to 2019 Fall semester. This study focused on metacognitive reading strategies that were divided into three subcategories: global reading, problem-solving and support reading strategies. The study also investigated KDIS students' reading engagement such as agentic, behavioral, emotional and cognitive engagement when reading English for academic purposes. Ultimately, the study explored how metacognitive reading strategies used when reading English text affected student reading engagement.

In this study, the researcher conducted Survey of Reading Strategies (SORS) Questionnaires by Mokhtari and Sheorey (2002) to explore student preferences for metacognitive reading strategy use and Questionnaire Items to Assess the Four Aspects of Engagement by Reeve and Tseng (2011) to measure student reading engagement while they were reading English for academic texts.

According to the limitations of the study, there are several recommendations to future studies. The sample size should be increased in further research. The future studies should be continued to explore more about the relations between metacognitive reading strategies and reading engagement. First, there should be comparative studies of different metacognitive reading strategy usages between native and non-native English-speaking readers in order to improve their reading engagement. These studies will be helpful for students to know what metacognitive reading strategies are appropriate for them as native English speakers or EFL/ESL readers. At the same time, it will enable teachers who teach students from different

countries to know the suitable reading strategies needed to engage students in reading tasks. Second, comparative studies of metacognitive reading strategies used by low and high English reading proficiency readers to improve reading engagement are also strongly recommended. Indeed, all readers do not use the same reading strategies due to their different levels of English language and reading skills. These studies will help students and teachers who know students' different levels of English competencies use the right reading strategies to help them improve their reading engagement and comprehend their reading tasks quickly.

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Appendix A

Metacognitive Reading Strategies

Survey of Reading Strategies (SORS) (Mokhtari & Sheorey, 2002)

Global Reading Strategies

1. I have a purpose in mind when I read.
2. I think about what I know to help me understand what I'm reading.
3. I preview the text to see what it's about before reading it.
4. I think about whether the content of the text fits my purpose.
5. I skim the text first by noting characteristics like length and organization.
6. I decide what to read closely and what to ignore.
7. I use tables, figures, and pictures in text to increase my understanding.
8. I use context clues to help me better understand what I'm reading
9. I use typographical aids like boldface type and italics to identify key information
10. I critically analyze and evaluate the information presented in the text.
11. I check my understanding when I come across conflicting information.
12. I try to guess what the text is about when reading.
13. I check to see if my guesses about the text are right or wrong.

Problem Solving Strategies

14. I read slowly but carefully to be sure I understand what I'm reading.
15. I try to get back on track when I lose concentration.
16. I adjust my reading speed according to what I'm reading.
17. When text becomes difficult, I begin to pay closer attention to what I'm reading.
18. I stop from time to time to think about what I'm reading.
19. I try to picture or visualize information to help me remember what I'm reading.
20. When text becomes difficult, I reread to increase my understanding.

21. I try to guess the meaning of unknown words or phrases.

Support Strategies

22. I take notes while reading to help me understand what I'm reading.

23. When text becomes difficult, I read aloud to help me understand what I'm reading.

24. I underline or circle information in the text to help me remember it.

25. I use reference materials such as dictionaries to help me understand what I'm reading.

26. I paraphrase (restate ideas in my own words) to better understand what I'm reading.

27. I go back and forth in the text to find relationships among ideas in it

28. I ask myself questions I like to have answered in the text.

29. I write summaries to reflect on key ideas in the text.

30. When reading, I translate from English into my native language.

Appendix B

Questionnaire items to assess the four aspects of engagement (Reeve & Tseng, 2011)

Items to assess agentic engagement

1. During class, I ask questions
2. I tell the teacher what I like and what I don't like
3. I let my teacher know what I'm interested in
4. During class, I express my preferences and opinions
5. I offer suggestions about how to make the class better

Items to assess behavioral engagement

6. I listen carefully in class
7. I try very hard in school
8. The first time my teacher talks about a new topic, I listen very carefully
9. I work hard when we start something new in class
10. I pay attention in class

Items to assess emotional engagement

11. I enjoy learning new things in class
12. When we work on something in class, I feel interested
13. When I am in class, I feel curious about what we are learning
14. Class is fun

Items to assess cognitive engagement

15. When doing schoolwork, I try to relate what I'm learning to what I already know
16. When I study, I try to connect what I am learning with my own experiences
17. I try to make all the different ideas fit together and make sense when I study
18. I make up my own examples to help me understand the important concepts I study

19. Before I begin to study, I think about what I want to get done
20. When I'm working on my schoolwork, I stop once in a while and go over what I have been doing
21. As I study, I keep track of how much I understand, not just if I am getting the right answers
22. If what I am working on is difficult to understand, I change the way I learn the material

Appendix C

Survey of Metacognitive Reading Strategies and Student's Reading Engagement

The purpose of this survey is to collect information about reading strategies you prefer to employ while reading English texts for academic purposes and about your reading engagement. The entire survey will take you approximately 7 minutes. Your response will be confidential and anonymous. Only the researcher of this study will have access to it. Your contribution will be beneficial for the entire study to help learners improve their reading comprehension and reading engagement by using reading strategies in their reading skill.

Please answer the following questions based on your experiences when you are reading English texts for academic purposes. Note that there are no right or wrong responses to any of the items below.

I. Reading Skill

1. Why do you study English? [Check (✓) where apply to you.]

☐ I need to use English in my study. ☐ I want to make communication with foreigners.

☐ English is an international language. ☐ Today job market requires English language.

☐ I am interested in language learning. ☐ Other

☐ I want to be an English teacher.

2. How long have you known English?

( ) < 5 years ( ) 6-10 years ( ) 11-15 years ( ) 16-20 years ( ) > 20 years

3. English language is your:

○ First Language ○ Second Language ○ Third Language

○ Foreign Language ○ Others

4. **Do you think what your level of English proficiency is?**

○ Poor ○ Fair ○ Average ○ Good ○ Excellent

5. **Among the four macro skills, do you think which one is the most important for academic purposes?**

○ Reading Skill ○ Listening Skill ○ Speaking Skill ○ Writing Skill

6. **Do you like reading in English?**

○ Strongly Dislike ○ Dislike ○ Neutral ○ Like ○ Strongly Like

7. **How do you rate your reading skill in English?**

○ Poor ○ Fair ○ Average ○ Good ○ Excellent

8. **How many hours do you spend to read English academic texts a day?**

☐ < 1 hour ☐ 1-2 hours ☐ 3-4 hours ☐ 4-5 hours ☐ > 5 hours

9. **I read English texts for academic purposes every day?**

○ Strongly Disagree ○ Disagree ○ Neutral ○ Agree ○ Strongly Agree

II. Metacognitive Reading Strategies

Please indicate the reading strategies you use when reading English texts for academic purposes. Please tick (✓) where related to you the most. For each statement below, you are requested to respond to the following:

1). Strongly Disagree 2). Disagree 3). Neutral 4). Agree 5). Strongly Agree

Strategies	1	2	3	4	5
Global Reading					
1. I have a purpose in mind when I read English academic texts.					

2.	I first read the content of articles or books, before I start reading English academic texts.					
3.	When I read English academic texts, I read the related information for my own purpose.					
4.	I check my understanding before moving to a new section of English academic texts.					
	Problem Solving					
5.	When I lose concentration, I reread the sentences of English academic texts.					
6.	When the English academic texts become difficult, I read slowly.					
7.	I try to guess the meaning of unknown English words or phrases in the academic texts.					
8.	When I do not understand, I skip and move to read the new sections.					
	Supporting					
9.	I take notes while reading English academic texts to help me understand what I am reading.					
10.	I underline or circle information in the English academic texts to help me understand and remember it.					
11.	I check a dictionary when I do not understand the English vocabularies in the academic texts.					
12.	I go back and forth in the English academic texts to find relationships among ideas in it.					

III. Student's Reading Engagement

Please illustrate your reading engagement. Please tick ( ) where relate to you the most.

For each statement below, you are requested to respond to the following:

1). Strongly Disagree 2). Disagree 3). Neutral 4). Agree 5). Strongly Agree

	Reading Engagement	1	2	3	4	5
	Agentic engagement					
1.	I ask questions while reading English academic texts.					
2.	I express my opinions while reading English academic texts.					
3.	I let my professor know what I am interested in reading in English for academic purposes.					
4.	I tell my professor what I expect to learn from the English reading academic texts.					
	Behavioral engagement					
5.	I pay attention while reading English academic texts.					
6.	I am active in group discussion with other students after reading English academic texts.					
7.	I try very hard while reading English academic texts.					
8.	I listen carefully when my professor asks me to read English academic texts.					
	Emotional engagement					
9.	I enjoy reading English texts for academic purposes.					
10.	I feel curious about the English academic texts that I am reading.					
11.	I like the school's English reading courses.					
12.	I never feel bored with English reading classes.					

	Cognitive engagement					
13.	Before I begin to read the English academic texts, I think about what I want to get done.					
14.	As I read English academic texts, I keep track of how much I understand, not just if I am getting the right answer.					
15.	I use my personal reading strategies rather than following others.					
16.	When I read English academic texts, I try to connect what I am reading with my own experiences.					

IV. Demographic Information (Please select the closet answer for each question.)

1. **Gender**: ( ) Female ( ) Male
2. **Where are you from?**

☐ Asia ☐ Africa ☐ Europe ☐ North America ☐ South America ☐ Other

3. **Age:**

○ ≤ 20 years old ○ 21-25 years old ○ 26-30 years old

○ 31-35 years old ○ 36-40 years old ○ > 40 years old

4. **What is your education status?** ( ) PhD Program ( ) Master Program
5. **What is your major?** ☐ MPM ☐ MDP/DP ☐ MPP/PP
6. **When did you start your academic life at KDI?**

☐ 2017 Fall Semester ☐ 2019 Spring Semester

☐ 2018 Fall Semester ☐ 2019 Fall Semester

☐ 2018 Spring Semester ☐ Other

Thank you for participation!