AN INVESTIGATION INTO ADULT ESL LEARNERS' SELF-REGULATED LEARNING STRATEGIES AND SECOND LANGUAGE READING

by

MINGDA SUN

MIGUEL MANTERO, COMMITTEE CHAIR
ELIZABETH K. WILSON
JANIE HUBBARD
LEE FREEMAN
DOUGLAS MCKNIGHT

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ABSTRACT

The current study explores language learners' use of reading strategies and views reading as an act of engaging in and producing meaningful discourse from shared experiences as framed by sociocultural theory. This study involved three groups of two English learners with low, intermediate and advanced proficiency levels. All the participants were college students from different cultural backgrounds with various first languages. First, a modified strategy questionnaire was used to explore learners' self-reported use of reading strategies. During the research process, six verbal protocols were conducted with each participant in order to determine what strategies the students used in the process of reading. All the participants engaged in stimulated recall immediately after reading a given passage. In the meantime, the participants were asked to complete the self-monitoring form each time they read an article (at least three articles each week). Interviews were another important source of information for this mix-method study. Face-to-face interviews were conducted after all the verbal protocol tasks were completed with each participant in order to acquire how learners perceive SRL strategy use and reading comprehension. Descriptive and correlation tests were used for the statistical analyses; while the verbal protocols, self-monitoring forms, and interview results were thoroughly analyzed with the help of transcribing, coding, and memo writing.

Several implications can be drawn from the results. First, as expected, advanced L2 readers applied more SRL strategies in their learning in general. Second, the results suggest

that readers applied various strategies according to their difficulties in reading, the text content/topics, their reading motivation/interest, reading goals, cultural background, and familiarity with the topic. Last but not least, this study explored the relative effects of cultural and content familiarity on low- and high-level readers' comprehensions.

DEDICATION

This dissertation is dedicated to everyone who helped me and guided me through the trials and tribulations of creating this manuscript. In particular, my family and close friends who stood by me throughout the time taken to complete this masterpiece.

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

This chapter discusses the researcher's motivation for conducting the present study, followed by the researcher's background in the field, then explains the research question, potential significance of the findings, definitions of key terms, and provides a brief outline of the study.

1.1 Motivation for the Study

The study focused on adult ESL learners' use of self-regulated learning (SRL) strategies in their reading. There are several reasons why the researcher chose to conduct this study. First, English language learners often face barriers that challenge their reading goals due to linguistic differences, such as complex sentence structures, strange words, or grammar. For example, there are many phrasal verbs in English that are formed by short verbs and particles, adverbs, or prepositions, such as *take on*, *give in*, *turn off*, and *look up to*. This kind of lexical feature may not exist in other language systems, such as Chinese. Therefore, Chinese learners may experience serious difficulties in comprehending texts containing such verbs. To address this difficulty, self-regulated learners will use appropriate strategies to comprehend the phrases in context. Moreover, the different cultural backgrounds of writers and readers also pose a challenge to English learners' reading; this happens especially when a higher level of reading competency is needed. Students often complete a reading task or assignment without using specific and efficient strategies. They do not realize that linking their own living experience or evaluating their understanding

could make their reading more efficient. Therefore, ESL learners should understand the importance of developing SRL strategies and practice the strategies in their learning behaviors. As described above, learners' lack of strategy awareness provided the impetus for the present study. What follows is a description of the background of the study.

1.2 Research Background

There has been a dramatic increase over the past several years in self-regulated learning (SRL) research in education. The concept of self-regulation was derived from the social cognitive theory of Bandura (1986) and later applied to academic domains by Zimmerman, Schunk, and their colleagues (Dinsmore, Alexander, & Loughlin, 2008). According to Boekaerts and Corno (2005), there is still no plain and straightforward definition of self-regulated learning. With the increased emphasis on students' roles in education, active self-regulated learners who manipulate skills to learn effectively both in school and later in life are needed. Therefore, SRL has been highly praised as the key competence to initiate and maintain lifelong learning (Asmari & Ismail, 2012).

Learners' use of self-regulated strategies is a feature involved in the definitions of students' SRL (Zimmerman, 1990). Self-regulated learners will apply appropriate learning strategies when they encounter difficulties in the learning process. They are aware of strategic relations between regulatory processes and learning outcomes. They select and use SRL strategies to achieve academic outcomes and to improve their learning effectiveness.

Though SRL has been an important area of research in the fields of education and psychology over the last few decades, it is still a relative newcomer to the second language (L2) learning sphere (Collett, 2014). SRL has gained momentum in several educational fields

due to its reported impact on achievement; thus, research is needed into its role in ESL acquisition, particularly in contexts where the focus of instruction shifts from traditional teacher-centered toward learner-centered. Scholars have started investigations concerning the relationship between SRL strategies and English proficiency (e.g., Seker, 2015; Wang, Schwab, Fenn & Chang, 2013), English learners' choices on SRL strategies (e.g., Park, 1997; Kirmizi, 2014), and effects of SRL strategies on different language skills: speaking, reading comprehension, vocabulary, and writing (e.g., Ma & Oxford, 2014; Nash-Ditzel, 2010).

Previous research has shown that there is a positive relationship between language proficiency and SRL strategy use (Oxford, 2001). However, many researchers have approached the two using large-scale survey instruments that were removed from the learners' practical learning progress. The present study represented an attempt to resolve this issue by adopting a mixed methods approach to investigate these learners' use of SRL strategies in reading. Additionally, concerning the variables that influence learners' strategy use, most research has focused on students' individual differences, such as learning styles, motivation, or confidence (e.g., Ma & Oxford, 2014; Uhrig, 2015). The current study constituted an attempt to expand the research findings by examining the effects of external factors on learners' strategy employment, such as reading difficulty, the topics or content of the text, and where and how the reading is practiced. The findings acquired from the study will help to improve the SRL research and provide useful implications for second language (L2) instruction and learning as well.

Specifically, reading can also be affected by SRL strategy usage. First language (L1) studies have shown that good readers use strategies that assist them in building a global

model of text content, such as identifying the most important information in the text that focuses their attention more on larger chunks of text, such as paragraphs which eventually help them regulate the reading process (Asmari & Ismail, 2012). Zimmerman and Martinez-Pons (1986) find that high achievement students report using significantly more strategies than the low achieving students. The argument has been supported by results from other research (see Swalander & Taube, 2007; Filate, 2012). Studies have also been conducted to investigate the relation between SRL strategies and ESL reading. A positive correlation between English reading performance and metacognitive strategies is revealed by Zare-ee (2007) and Nash-Ditzel(2010). It is reported that students with higher levels of reading ability use metacognitive strategies more often than less successful readers. Rather than concentrate on one category of strategies, Asmari & Ismail (2012) investigated the role of all categories of SRL strategies played in reading comprehension. The results report that some of the SRL strategies are predictors of reading comprehension. Researchers also demonstrate interest in the effects of SRL strategy instruction on English reading. In addition, effects of strategy instruction on English reading have been investigated (Koehler, 2007; Maftoon & Tasnimi, 2014). Findings indicate that teaching techniques based on self-regulation can significantly promote reading.

Though studies have been conducted to investigate the relationship between SRL strategies and ESL reading achievements, most research has not approached L2 reading from the perspective of literacy. Rather, most researchers have assessed reading performance according to participants' test scores, whereas the present researcher regarded reading as an act of producing meaningful discourse from text influenced by a sociocultural context (Kern,

2000). Moreover, based on Kern's (2000) discussion on L2 reading, the researcher also examined the effects of possible variables on reading, such as learners' first language (L1), previous experience, and knowledge, and the physical situation of reading.

1.3 Statement of the Problem

With the increased emphasis on students' roles in education, active learners who manipulate skills to learn effectively both in school and later in life are needed. These learners are self-regulated learners in the research context. The notion of SRL emerges from the assumption that active students consciously control and regulate themselves in learning. Within the limits of their capabilities, as well as the constraints and affordances in their environment, students learn actively by setting goals and making choices about how they strive to reach those goals, how intensely they choose to engage in a task, and how long they can persist if the task cannot be completed effortlessly (Winne & Hadwin, 2008). Self-regulated learners will apply appropriate strategies when they encounter difficulties in learning process. They are aware of strategic relations between regulatory processes and learning outcomes and their use of these strategies to achieve their academic goals.

Though SRL has been an important area of research in the fields of education and psychology over the last few decades, it is still a relative newcomer to L2 learning sphere (Collett, 2014). Since foreign language education has shifted its focus from studying "how teachers instruct" to investigating "how students learn," research on SRL in L2 area is needed. The findings could make a significant contribution to the field in broadening understanding of L2 learners' SRL behaviors and develop the empirical and theoretical foundations regarding SRL. Good reading ability is basic and important for language learning and this is

the reason why researchers are trying to explore variables that can explain variations in reading ability and academic achievement. With regard to second language learning, many English language learners struggle their way to become competent readers. Therefore, strategies could be employed by ESL learners in attempting to become better readers.

Several researchers have investigated issues related to SRL strategies (e.g., Seker, 2015; Wang et al., 2013; Park, 1997; Kirmizi, 2014; Ma & Oxford, 2014; Nash-Ditzel, 2010), and others have examined SRL strategies in L2 reading comprehension (e.g., Swalander & Taube, 2007; Filate, 2012; Zare-ee, 2007; Nash-Ditzel, 2010). However, many studies regard the two are based on large-scale survey instruments that are removed from learners' practical learning progress. The facts have triggered the urge to investigate SRL strategies and reading with mixed methods. Additionally, most research did not see L2 reading in the view of literacy. The current study regarded reading as producing meaningful discourse from text influenced by soicocultural contexts (Kern, 2000). Findings acquired from the study will help to improve the SRL research and to provide useful implications to L2 instruction and learning as well.

1.4 Research Questions

The research questions of this study were as follows:

RQ1: What is the relationship between the use of adult English learners' SRL strategies and their reading abilities?

In particular, the researcher addressed the following questions:

RQ 1a: Do adult English learners' reading levels affect their use of SRL strategies? That is, do learners with higher English proficiency use more strategies than low-level

learners?

RQ 1b: To what extent do adult English learners across reading proficiency levels employ different categories of SRL strategies?

RQ2: Do different variables influence adult English learners' SRL strategic behaviors in reading and their reading performance? If yes, how?

In particular, the researcher addressed the following questions:

RQ 2a: Do reading difficulties, content, and topic of the text, and reader's cultural background affect the SRL strategy selection? If yes, how?

RQ 2b: How do readers' L1 and previous experience and knowledge affect their reading results?

1.5 Significance of the Study

The findings of the present study can be used as evidence of the importance of SRL strategies in the ESL learning process, to enhance the learning but especially to identify and help students with poor reading comprehension. The results can also suggest that language instructors should take into consideration learners' awareness of using SRL strategies and integrate appropriate practice into instruction.

1.6 Definition of Key Terms

Self-regulation has been defined in different ways. Within the sociocultural theoretical framework, the current study adopts Wang, Quach, & Rolston's (2009) definition that refers SRL to "a person's continuous adjustment of the use of learning strategies to achieve the self-set goals through interaction with their peers and adults across social and cultural contexts" (p. 75).

Second language acquisition (SLA) refers to the process by which people learn a second language after a first language is already established.

Sociocultural Theory (SCT) argues that human mental functioning is fundamentally a mediated process that is organized by cultural artifacts, activities, and concepts (Ratner, 2002). The theory specially emphasizes the integration of social, cultural and biological elements in learning processes and stresses the socio-cultural circumstances' central role in human's cognitive development (Liang, 2013).

The term "strategy" also needs to be defined. Cognitive psychologists have viewed strategies as "deliberate actions or sets of procedures that learners select, implement and control to achieve desired goals and objectives in the completion of learning or performance tasks" (Manchön 2001, p. 48). For the focused purpose of the present study, SRL strategies were defined as the deliberate and goal-directed skills used to manage and control efforts to improve L2 reading. SRL strategies in L2 reading are regarded as deliberate and goal-directed skills used to design meaning from text across social and cultural contexts.

Reading is readers' active communication with writers. According to Kern (2000), reading is "not simply an act of absorbing information, but communicative act that involves creating discourse from text" (p. 107). Considering reading in L2 context, Carrell (1991) states that "both factors—first language reading ability and proficiency in the second language—may be significant in second language reading, the relative importance may be due to other factors about the learner and the learning environment" (p. 168).

Cognitive strategies refer to strategies helping the learner construct, transform, or apply language knowledge. Metacognitive strategies refer to strategies in the cognitive

dimension that helps the learner control through planning, organizing, evaluating. Affective strategies refer to strategies that help the learners deal effectively with attitudes, beliefs, emotions, and motivation and optimize them for learning. Sociocultural-interactive strategies refer to strategies that help learners with communication, socio-cultural contexts, and identity; structuring of the physical study situation (adapted from Oxford, 2011, Pintrich & De Groot, 1990).

Activating prior knowledge means making connections between the new and the known. Prediction means guessing while reading. Making inference means filling in the gaps left by the author. Making connections is referred to as reading beyond the lines (Zhang 1993).

Hermosa (2002) implicitly defines reading motivation as the interest or desire to read for different reasons or purposes. Motivation is an essential factor to engage students in being actively involved in foreign or second language learning. There are two types of motivation: intrinsic motivation and extrinsic motivation (Brown, 2001). The former refers to internal rewards, and the main objective is to learn. The latter deals with external rewards in terms of money, prizes, or grades.

Mackay and Gass (2005) define stimulated recall as “an introspective technique for gathering data that can yield insights into a learner’s thought processes during language learning experiences. Learners are asked to introspect while viewing or hearing stimulus to prompt their recollections” (p. 266).

1.7 Organization of the study

Chapter 1 introduces the writer's motivation for conducting the present study, followed by a research background to self-regulated learning in second language learning, an explanation of the research question, potential significance of the findings, definitions of key terms, and a brief outline of the study.

Chapter 2 presents the theoretical framework in which the study is framed along with the review of literature in the area of SRL and ESL reading.

Chapter 3 addresses the methodological design for the study and described the data collection procedure, the participants, the instruments, and the data analysis.

Chapter 4 presents the data results from the questionnaire, stimulated-recall tasks, in-depth interviews, and document analyses.

Chapter 5 offers the discussion of the main findings through the lenses of the theoretical framework and literature review. The implications and the limitations of the study are also addressed here. Recommendations for second language instruction and learning, and future research are offered here as well.

CHAPTER 2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This section will review the literature on SRL strategies and reading in order to provide an overview of the topic of the current research. First, the theoretical framework is presented to provide a theoretical foundation for the current study. Next, a review of the literature in the field of SRL strategies is provided including the definitions; categories; and relationships with academic achievements, second language learning outcomes, and ESL learning performance. Finally, the literature concerning reading from the view of literacy and its correlation with SRL strategies are discussed.

2.1 Theoretical Framework

2.1.1 Self-Regulated Learning

It is difficult to define the concept of self-regulated learning (SRL), but scholars have observed self-regulated learners at one time or another. According to Zimmerman (1990), self-regulated learners approach learning tasks with confidence, diligence and resourcefulness. Most importantly, they are aware when they know a fact or possess a skill and when they do not. They will actively seek out useful information and use necessary strategies in order to acquire new knowledge or skills in learning. When they encounter learning difficulties they find a way to overcome the difficulties and to succeed. They may make efforts to adapt learning conditions, asking for help from teachers, or seeking information from other leaning materials. Self-regulated learners view acquisition as a systematic and controllable process, and they accept greater responsibility

for their achievement outcomes (Zimmerman & Martinez-Pons, 1990).

The notion of SRL emerges from the assumption that active students consciously control and regulate themselves in learning. Within the limits of their capabilities, as well as the constraints and affordances in their environment, students learn actively by setting goals and making choices about how they strive to reach those goals, how intensely they choose to engage in a task, and how long they can persist if the task cannot be completed effortlessly (Winne & Hadwin, 2008).

The concept of self-regulation is derived from the social cognitive theory of Bandura (1986) and later applied to academic domains by Zimmerman, Schunk, and their colleagues (Dinsmore, Alexander, & Loughlin, 2008). According to Boekaerts and Corno (2005), there is still no plain and straightforward definition of SRL. Zimmerman (2001) has referred it as to the "degree that individuals are metacognitively, motivationally, and behaviorally active participants in their own learning process" (p. 3). It is also recognized as a learning process in which self-generated thoughts, feelings, and actions are systematically oriented towards attainment of the student's own goals (Schunk & Zimmerman, 2008). According to Zimmerman (2001), self-regulation is not a mental ability, nor is it an academic performance; rather it is academic skills. In line with this, Boekaerts & Corno (2005) argue that self-regulated learning is a "dynamic and developing process" (p. 208) which occurs in various contexts. Zimmerman (2001) defines self-regulated learning as learning that results from students' self-generated thoughts and behaviors that are oriented systematically toward the attainment of their goals. He discusses three important elements of the definition: students' use of SRL strategies, their self-efficacy perceptions of performance skill, and commitment to

academic goals. Within the sociocultural theoretical framework, the current study adopts Wang, Quach and Rolston's (2009) definition that refers SRL to "a person's continuous adjustment of the use of learning strategies to achieve the self-set goals through interaction with their peers and adults across social and cultural contexts" (p. 75). SRL has also been defined as, "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment" (Pintrich, 2000, p. 453).

2.1.2 Second Language Acquisition

Second language acquisition (SLA) refers to the process by which people learn a second language after a first language is already established. According to Gass and Selinker (2008), SLA is "the study of how learners create a new language system with only limited exposure to a second language. It is the study of what is learned of a second language and what is not learned; it is the study of why most second language learners do not achieve the same degree of knowledge and proficiency in a second language as they do in their native language; it is also the study of why only some learners appear to achieve native like proficiency in more than one language" (p. 7).

2.1.3 Sociocultural Theory

Sociocultural Theory (SCT) has its origins in the writings of the Russian psychologist L. S. Vygotsky and his colleagues. SCT argues that human mental functioning is fundamentally a mediated process that is organized by cultural artifacts, activities, and concepts (Ratner, 2002). The theory specially emphasizes the integration of social, cultural

and biological elements in learning processes and stresses the socio-cultural circumstances' central role in human's cognitive development (Liang, 2013).

2.1.4 Self-Regulated Learning, Second Language Acquisition, and Sociocultural Theory

The sociocultural perspectives have been integrated into the field of SLA (Lantolf & Thorne, 2006; Gass & Selinker, 2008). For example, Lantolf and Thorne (2006) argue that the principles of the SCT can also apply to SLA. They explain that L2 learning is embedded within social events and occurring as an individual interacts with people, objects, and events in the environment. Liang (2013) states that SCT provides "a new perspective on the process of SLA, in which learners are encouraged or required to think as well as speak in the target language, that is to say, language and thought should be closely connected with each other. The root for this connection lies in social communication activities" (p. 164).

Mediation is the central construct of the theory. According to SCT, humans do not act directly on the world—rather their cognitive and material activities are mediated by symbolic tools as well as by physical tools. Language learning is a socially mediated process. Mediation is a fundamental principle and language is a cultural artifact that mediates social and psychological activities (Liang, 2013). SLA is a process of mediation that includes experts' support, cultural artifacts, first language, etc. Therefore, in SLA, individuals should try to take advantage of the environment to acquire the target language.

SCT is a theory about the development of human cognitive and higher mental function. Although SRL is inherently a social process, it is generally viewed as an individual construct. Among the theories of learning, Vygotsky's sociocultural perspective provides a unique understanding of SRL (Yetkin Ozdemir, 2011). Vygotsky considered that the

transformation of elementary processes into higher ones required people's conscious awareness and control over his/her own mental processes. In this sense, self-regulation can be seen as a major outcome of development that accounts for the transformations of children's cognitive and social skills (Diaz, Neal, & Amaya-Williams, 1990).

Vygotsky believed that people and their cultural environments constitute an interacting social system. Through social interaction, children actively begin to use cultural mediators in order to influence others and control his or her environment, then to regulate their thoughts and behaviors (Yetkin Ozdemir, 2011). Self-regulatory processes enable individuals actively participate in a cultural activity in order to develop competence. By using mediated signs or symbols within the social system, learners develop higher mental functions, such as concept acquisition and problem solving. According to Schunk (2012), Vygotsky meant a conscious directed thought process by using the term higher mental function. In this case, SRL may be thought of a higher mental function. In the Vygotsky view, SRL involves mental processes such as memory, planning, synthesis, and evaluation (Henderson & Cunningham, 1994). Moreover, the self-regulated processes are valued and taught in the culture of the person's home and school (Schunk, 2012).

Within the sociocultural framework, the development of self-regulated language learning strategies can be seen as a by-product of mediation and socialization into a community of language learning practice. Second language learners acquire conscious awareness and take control over their learning in order to develop higher mental functions that are required for advancing language proficiency. A self-regulatory process encourages L2 learners use cultural mediators, such as their teachers' instructions or peers' help, through

social interaction in order to regulate their thoughts and behaviors in language learning.

2.2 SRL strategies

2.2.1 Definitions

Learning strategies can be globally defined as mental processes that learners can, more or less intentionally, use to help themselves learn and understand something new, and they are seen as essential for self-regulated learning (Somuncuoglu & Yildirim, 1999). According to O' Malley and Chamot (1990), learning strategies are defined as "the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information" (p. 1). Holding the same opinion, Swain, Huang, Barkaoui, Brooks & Lapkin (2009) contend that these strategies are conscious, goal-oriented thoughts and behaviors learners use to regulate cognitive process, with the goal of improving their language use or test performance.

Systematic use of self-regulated learning strategies is a key feature of most definitions of SRL (Zimmerman, 1990). Self-regulated learners will apply appropriate strategies when they encounter difficulties in learning process. They are aware of strategic relations between regulatory processes and learning outcomes and their use of these strategies to achieve their academic goals. SRL strategies refer to actions directed at acquiring information or skills that involve agency, purpose (goals), and instrumentality self-perceptions by learners (Zimmerman, 1990). However, not all strategies are SRL strategies. Pintrich (2004) proposes four important assumptions for SRL strategies: (a) learners are actively constructing meaning, setting goals, and choosing strategies; (b) learners have the potential to control the direction of their learning; (c) the strategies are goal-oriented rather than random; and (d) the strategies

mediate the relationship between personal and contextual characteristics and achievement or performance.

2.2.2 SRL Strategies in Second Language Acquisition

Oxford (2011) defines self-regulated second language (L2) learning strategies as "deliberate, goal-directed attempts to manage and control efforts to learn the L2. These strategies are broad, teachable actions that learners choose from among alternatives and employ for L2 learning purposes (e.g., constructing, internalizing, storing, retrieving, and using information; completing short-term tasks; and/or developing L2 proficiency and self-efficacy in the long term)" (p. 13). What is more, she also summarizes features of self-regulated L2 learning strategies that "are employed consciously, involving four consciousness (awareness, attention, intention, and efforts); make learning easier, faster, more enjoyable, and more effective; are manifested through specific tactics in different contexts and for different purposes; reflect the whole, multidimensional learner, not just the learner's cognitive or metaconitive aspects; are often combined into strategy chains, i.e., groups of strategies working together; and are applied in a given situation but can be transferred to other situations when relevant" (p. 14).

2.2.3 Measurements of SRL Strategies

Researchers have designed various versions of questionnaires in order to evaluate learners' SRL strategy use in different contexts. Motivated Strategies for Learning Questionnaire (MSLQ), published in 1990, was developed by a group of scholars at the University of Michigan. The psychometric properties of MSLQ, which consists of 6 motivation subscales and 9 learning strategy subscales with 81 items, were examined (Wang,

et al., 2013). These 15 subscales can be used together or separately. These items measure student beliefs of how well they can succeed in an undergraduate course, but cannot measure the specifics of language learning (Bandura, 2006).

Asmari and Ismail (2012) modified a questionnaire that assessed students' self regulated learning based on MSLQ and other similar studies in order to suit the Saudi context. The questionnaire design is based on a 5-point Likert-scale that ranged from 1 indicating that the statement is very true of me through 5 indicating that the statement is not at all true of me. The Questionnaire includes three dimensions: cognitive strategies, metacognitive strategies, and different learning resources.

The Self-Regulated Learning Questionnaire was developed for the Program for International Student Assessment. The instrument has 51 items and 14 shorter scales. The scales are constructed and evaluated on theoretical and content issues so that a dimension should contain more than one scale to achieve balance and to prevent overlap between scales (Swalander & Taube, 2007). Likewise, the questionnaire was not designed for second language learners either.

Scholars within the field of second language acquisition (SLA) have also generated different opinions to organize and categorize learning strategies over the last twenty years. On the basis of the findings from their research, O' Malley & Chamot (1990) developed a framework that included cognitive, metacognitive, and social/affective strategies. Oxford (1990) also outlined a classification system based on her and others' studies, and this system was referred by Ellis (1994) as "perhaps the most comprehensive classification of learning strategies to date." Oxford divided the strategies into two broad categories: direct strategies

and indirect strategies. Under either class there are three subcategories: memory, cognitive, and compensation belong to the direct class; metacognitive, affective and social belong to the indirect class. The SILL is currently considered as the most comprehensive and widely used instrument for identifying strategy preferences of language learners throughout the world (Bremmer, 1999).

Although Oxford (1990) did not use the term “self-regulated strategies” to refer to language strategies in this earlier theoretical framework, in her more recent research she re-conceptualizes language learning strategies by employing self-regulation as a way to help learners manage and control their own language learning (Seker, 2015). Incorporating self-regulation into the field of language acquisition, Oxford (2011) developed the S2R model of language learning, which is a dynamic interaction of strategies (cognitive, sociocultural-interactive, and affective) and metastrategies (metacognitive, meta-sociocultural-interactive, and meta-affective). While cognitive strategies refer to strategies used in constructing and applying second language knowledge, the affective dimension involves managing emotions, beliefs, attitudes, and motivation while learning a new language. Socio-cultural interactive dimension includes code-switching, avoidance tactics, or paraphrasing in managing issues related to socio-cultural contexts and identity. Different from the prior models, Oxford (2011) did not include metacognitive strategies in her taxonomy. Instead, she added “meta-strategies” that involve metacognitive (managing cognitive strategies), meta-affective (managing affective strategies), and meta-social strategies (managing socio-cultural strategies).

In the present study, the researcher used a modified version of a measurement instrument based on the analysis of the studies discussed above. The cognitive category included nine subcategories with 21 statements; the metacognitive category involved six subcategories with 10 statements; the affective category consisted of two subcategories with 10 statements; the sociocultural-interactive category included two subcategories with nine statements.

2.2.4 SRL Strategies and Academic Achievements

Numerous studies have already identified the important role that students' use of self-regulated learning strategies plays in their academic achievement through the last few decades (Zimmerman, 1990). More and more researchers have shown their interest in conceptualizing SRL and understanding its role in promoting autonomous lifelong learning (Schunk & Zimmerman, 1997). While the scope of SRL exhibits variations in literature, researchers and educators agree that SRL should be promoted in all teaching contexts for all age levels of learners, as studies have identified numerous positive outcomes (Seker, 2015). Students' learning can be enhanced through the development of SRL (Zimmerman & Schunk, 2008). SRL have also been regarded to foster students' ability to control and shape their own learning (Pintrich, 2004). Moreover, Hofer & Pintrich (1997) discuss the significant role of SRL plays in promoting students' lifelong autonomous learning.

Concerning the roles different categories of SRL strategies play in academic achievements, various cognitive and metacognitive strategies have been found to foster active cognitive engagement in learning and lead to higher levels of academic achievements (Pintrich & De Groot, 1990). Similarly, Al-Khatib (2010) examined the predictive association

between metacognitive SRL, motivational beliefs and United Arab Emirates (UAE) college students' academic performance. His study revealed the influenced of four independent variables: intrinsic goal orientation, self-efficacy, test anxiety and meta cognitive SRL in learning. Data were collected via seven subscales of the Motivational Strategies for Learning Questionnaire (MSLQ). The findings show that the four independent variables are important in resulting in college students' high-level performance.

Researchers have studied the relationship between SRL strategies and different types of disciplines, such as educational psychology (Muis & Franco, 2009), computer and information system (Chen, 2002), engineering (Lawanto & Santoso, 2013), humanity and technical courses (Cobb, 2003). Muis and Franco (2009) report that learning strategies that students self-reportedly use in their educational psychology course predict their final grades. Specifically, metacognitive self-regulation, elaboration, critical thinking, and rehearsal strategies positively predict achievement.

Chen (2002) conducted a quantitative study with 197 undergraduates in order to investigate effective use of SRL strategies in a lecture and in a hands-on computer lab learning environment for an introduction to information systems course. The results reveal that effort regulation leads to achievement in a lecture-style learning environment. The findings also show that students obtain higher test scores when they use appropriate strategies to handle distractions and maintain concentration in studying computer and information system concepts. There is a positive relationship between SRL strategies and students' academic performance.

Lawanto and Santoso (2013) examined engineering college students' SRL strategies

while learning electric circuit concepts using enhanced guided notes (EGN). The results reveal that students who are reported to have greater awareness of planning, monitoring, and regulating strategies show an improvement on their grade performances. The findings suggest that it may be valuable to identify high and low performers according to exam scores, evaluate the content of their notes and encourage the students to share their notes with peers.

Moreover, the correlation between SRL strategies and students' academic performance was also examined in a research done by Cobb (2003). The author investigated 106 distance learners taking humanities and technical courses offered by a community college in Virginia in order to investigate the SRL behaviors and their relationships with academic in web-based courses. The findings indicate that the employment of SRL strategies is differed between humanities and technical courses. Time and study environment management and intrinsic goal orientation categories report significant findings in their relationship to academic performance.

Abbasnasab Sardareh, Mohd Saad and Boroomand (2012) investigated the relationship between the use of SRL strategies and students' academic achievement. The findings of their study revealed that there is a strong relationship ($r = .80$) between the use of SRL strategies and students' academic achievement. The findings of the study showed a difference between males and females as to the use of SRL strategies. Females did better than males in both academic achievement and the use of SRL strategies.

Concerning the preference of strategy usage, Schunk and Zimmerman (1997) point out the differences between novice level students and advanced level students in fostering SRL. Low level students are often poor at using cognitive strategies such as forethought, and

their self-judgment abilities are not well developed. In line with this, across numerous tasks and settings, research has shown that learners with strong SRL skills do better than those who lack these skills (Azevedo & Hadwin, 2005; White and Frederiksen, 2005; Pressley and Harris, 2006).

The studies discussed above support the view that SRL strategies among the important predictors of students' academic achievements. Therefore, understanding the condition of learners' use of SRL strategies is crucial because the involvement of the strategies could help learners achieve autonomy and serve as a means of enhancing their performance.

2.2.5 SRL Strategies and L2 Learning Achievements

Though SRL has been an important area of research in the fields of education and psychology over the last few decades, it is still a relative newcomer to L2 learning sphere (Collett, 2014). With regard to L2 learning, Fleming and Walls (1998) argue that good learners take active responsibility for their own learning and use a range of strategies which enable them to plan, monitor, manage and reflect on the process of learning a second/foreign language. Students who use self-regulated strategies are intrinsically self-motivated and prove to be autonomous learners (Zimmerman & Martínez Pons, 1990).

Oxford (1990) claims that the most successful learners tend to use strategies according to their needs, goals, task, and stage of learning. According to Zimmerman, Bonner, and Kovack (1996), the more strategies a learner uses, the more proficient he/she will most likely be. Language learners can use metacognitive techniques, affective, social, cognitive, memory, and compensation strategies to organize, evaluate, focus, link information, and

overcome gaps in their knowledge base (Koehler, 2007). High achieving students use SRL strategies purposely according to the characteristics of the task and observe covert and overt aspects of their performance outcomes related to a specific task. As a result, these learners take charge of their learning process and use SRL strategies more actively. Strategy training, including information concerning strategy value, can improve performance and enhance learners' confidence (Koehler, 2007). In order to become self-regulated and autonomous, as well as learn how to make their own learning decisions, learners need assistance in planning, goal-setting, effort management, comprehension, monitoring, evaluation, and persistence throughout the learning process (Seker, 2015). When used effectively on a regular basis, these strategies facilitate language learning (Andrade & Bunker, 2009) by leading to deeper learning and higher performance in language skills.

With regard to the connection between SRL strategies and L2 learning performance, Rose (2010) conducted an experiment in order to investigate learners' use of Japanese kanji learning strategies. The participants were twelve university students who were learning Japanese in an exchange program at two universities in Japan. In the one-year study, research data was collected through qualitative methods such as interviews and stimulated recall sessions questionnaires. The study also revealed that some students used strategies to regulate their negative motivational forces, such as goal-setting techniques and regulation over the learning environment.

In another study, Yusri and Rahimi (2010) investigated the usage of SRL strategies among students of Arabic Language as a third language course and intensive Arabic course focusing on Arabic oral skills. Quantitative methods were used, and a questionnaire adapted

from the motivated strategies for learning questionnaire was applied to see the students' use of SRL strategies. The collected data were analyzed by using SPSS version 11.5. The means of scales were interpreted descriptively. The sample of the study consisted of 98 students of MARA University of Technology Malaysia. The results showed that the students used self-regulated strategies in their Arabic oral skills learning. The participants used strategies of controlling learning beliefs, extrinsic goal orientation, task value, intrinsic goal orientation, peer learning, help seeking, self efficacy, effort regulation and rehearsal most; while using strategies of metacognitive self-regulation, critical thinking, elaboration, organization and time, and test anxiety at modest level. The findings demonstrate that students are aware of SRL strategies and use them wisely which is a good sign for their Arabic oral skills learning.

Chinese as a foreign language (CFL) learning and SRL strategies have also been investigated in Wang, Spencer and Xing's (2009) study. The study investigated the effects of second-year university students' metacognitive strategies on learning. Forty-five English-speaking students in Chinese classes at beginners' level at the University of Nottingham were involved in this study. A questionnaire, in three parts, on CFL learning was developed in order to collect the data. Analysis shows that metacognitive strategies influence students' CFL achievement results. Students who show self-regulation by monitoring their progress, persevering at tasks and setting realistic goals are more successful. These are strategies that are essential for learners who wish to assume responsibility for their language learning. The results indicate the importance to students of thinking about appropriate strategies. Successful students practice even when they are not required to do so, trying to find suitable strategies to achieve the goals they set for themselves.

Furthermore, Collett (2014) outlined several main concerns that need to be considered when researching SRL and L2 learning. The author discussed definitional issues related to self-regulation and SRL, matters of context, and debate regarding appropriate measurement. The most valuable factor of the article is that he mentioned one particular case within the area of language learning research that exemplified some of the challenges involved in researching SRL. What is more, some suggestions for research approaches based on contemporary research into areas of language acquisition were introduced. Collett (2014) concludes that SRL, as a learner capacity, underlies and contributes to L2 learning in either positive or negative ways. Since the capacity could vary considerably across learners and learning contexts, it seems to be quite difficult to advance understanding of SRL processes. But at the same time, Collett (2014) argues that these challenges are what will ideally help make this a vibrant area of research in the near future. Besides, foreign language education has shifted its focus from studying how teachers instruct to investigating how students learn. Thus, research on SRL in L2 is needed, and the findings of the current study could make a significant contribution to the field by broadening the understanding of L2 learners' SRL behaviors and developing the empirical and theoretical foundations for SRL.

2.2.6 SRL Strategies and ESL Achievements

SRL has gained momentum in several educational fields due to its reported impact on achievement; thus, research is needed into its role in English language acquisition, particularly in contexts where the focus of instruction shifts from traditional teacher-centered toward learner-centered. Scholars have started investigations concerning the relationship between SRL strategies and English proficiency (e.g. Seker, 2015; Wang et al., 2013),

English learners' choices on SRL strategies (e.g. Park, 1997; Kirmizi, 2014), and effects of SRL strategies on different language skills: speaking, reading comprehension, vocabulary, and writing (e.g. Ma & Oxford, 2014; Nash-Ditzel, 2010).

Seker (2015) examined the impact of SRL strategies on language achievement in attempt to highlight its significance in language teaching. A total of 222 undergraduate foreign language learners were selected in the study. The author collected data from a five-point Likert-type self-regulated language learning questionnaire, adapted from models and research to investigate SRL strategies and the university's English achievement exam. In order to identify the degree of SRL strategies that students employ, SRL components in the questionnaire were descriptively analyzed. Comparing the mean scores of each component, the results reveal that learners use orientation (learning goals) and evaluation (reflecting on outcomes) strategies moderately and performance strategies (e.g. the ability to use materials or coping with obstacles) at lower levels. The results also show that students employ cognitive and metacognitive strategies in similar degrees, though in lower degrees than the orientation and evaluation strategies. The results show that achievement had a significant positive correlation with orientation and a significant negative correlation with evaluation. According to Seker (2015), although participants reported moderate to low levels of the use of SRL strategies, it is a significant predictor of foreign language achievement and had significant correlations with language achievement.

In line with this, Wang et al. (2013) examined the relationship between use of SRL strategies and English language test scores. Two hundred Chinese and 160 German college students completed the survey of Self-Regulated Learning Strategy in China and Germany.

They would complete an English language test after taking the surveys. The English language test was English grammar based in both countries and covered content areas in tense and semantics. The relationship between the use of SRL strategies and English language test scores was positive for Chinese students but negative for German students (due to the interpretation of the survey according to the author).

With regard to the English learners' choices of SRL strategies, Park (1997) states that that cognitive and social strategies are the most used comparing with other strategy categories. The author conducted a study which examined the strategy usage among 332 Korean university students, with a focus on the relationship between participants learning strategies and English proficiency, as measured by a practice version of the Test of English as a Foreign Language (TOFEL). Kirmizi (2014) also conducted a study to explore ESL learners' strategy use in higher education. The participants consisted of 237 students who were enrolled at Karabük University English Language and Literature Department in the 2012-2013 academic year. The sample was composed of regular, evening and distance education students. In this study, descriptive statistics were run in order to see the self-regulation and metacognition strategy level of the participants. The author divided self-regulation strategies into six sub-dimensions which were goal setting, environment structuring, time management, help seeking, self-evaluation and metacognition. Two research tools were used: Online Self-regulated Learning Scale and Motivated Strategies for Learning Questionnaire (MSLQ) in order to be able to research these sub-dimensions. Results show that there are no statistically significant differences between the three groups in terms of goal setting, environment structuring, time management, and help seeking. However, there is statistically a

strong significance in terms of self-evaluation and metacognition between the three groups. The mean scores of low achievers are relatively lower compared to moderate and high achieving groups; whereas the mean scores of high achieving group are significantly higher than the other two groups.

Moreover, Goh and Kwah (1997) planned a survey on the strategy use of college-level students from China learning English as a second language in Singapore, aiming to find out how students' proficiency level influenced their application of strategies. They found that metacognitive and compensation strategies were concluded to be the most frequently used whereas memory strategies were the least used. Cognitive and compensation strategies were positively related to the variation of proficiency level. A similar argument to In line with this, Bremmer (1999) conducted a study on a group of students at the City University of Hong Kong, and the results of the study indicated a more frequent use of compensation and metacognitive strategy categories. Similar to Goh and Kwah's study, the participants with higher language proficiency level were found to select cognitive and compensation strategies most frequently.

With regard to the effects of SRL strategies on different domains of English learning. Ma and Oxford (2014) conducted a study focusing on the use of learning strategies for ESL listening and speaking. In this study, the first author, an advanced learner of English as a second language (ESL) kept a detailed learning strategy diary during the 85 days while living in the U.S. in order to improve her academic language competence. The analysis of the diary showed that the researcher used SRL strategies to fulfill her communicative goals, break the

bonds of reticence that normally bind her, and stretch her learning style. She successfully made herself a more active classroom participant through relevant strategy use.

With regard to English reading, Zare-ee (2007) conducted a study and revealed a positive correlation between English reading performance and metacognitive strategies. The participants included 30 randomly selected EFL learners studying English Language and Literature at Kashan University, Iran. Statistical analysis indicate that the correlation between reading achievement and metacognitive is significant. Results of MANOVA also show that students at higher levels of reading ability use metacognitive strategies more often that less successful readers. The findings of the study suggest that the use of metacognitive strategies can account for variation in EFL reading achievement and needs to be promoted by EFL teachers.

A similar argument came from Nash-Ditzel's (2010) case study that explored the impact of metacognitive strategies on the ability of five college students in developmental courses to self-regulate while reading. The setting of this study was a community college in central New Jersey. A two-semester reading course was designed for the students with strategy instruction. Analysis showed that with increased knowledge of strategies, ability to use the strategies successfully and understanding of the strategies' value after the course, all five students improved dramatically from their earlier performances.

Rather than concentrate on one category of strategies, Asmari and Ismail (2012) investigated the role of all categories of SRL strategies played in reading comprehension. 248 EFL university students were involved in the study. They were asked to answer questions based on a 5-point Likert-scale self-regulated learning questionnaire and asked to read three

different passages and answer the questions that followed each passage. The results of MANOVA analysis reveal that there are differences between students across their different academic levels in self-regulated learning strategies. The results of multiple regression report that some of the SRL strategies are predictors of reading comprehension.

Researchers also demonstrate interest in the effects of SRL strategy input on English reading. Koehler's (2007) examined how strategy instruction could be beneficial to English language learners. The participants were 29 students from China, Malaysia, and India, who were beginning their first year of engineering school at a Malaysian University. Methods such as open-ended questions, pre and post questionnaires, a self-regulation questionnaire, and teacher's observations were used. Results indicate that students' continuous use the strategies they were taught during this study, result in greater comprehension of texts, higher grades, and more positive feedback from teachers and peers.

The results come in line with Maftoon and Tasnimi's (2014) investigation of the effect of SRL strategies instruction on EFL learners' reading comprehension. A sample of 149 female and male Iranian EFL language learners studying at Islamic Azad Universities of Qazvin and Tehran participated in this study. The experimental group received direct teaching of self-regulation strategies in reading, along with task-supported instruction, in ten sessions. The findings indicate that there is a significant difference between the mean scores of the experimental and control groups on the posttest of reading comprehension. Self-regulation has a significant effect on reading comprehension of Iranian EFL learners In other words, it can be concluded that teaching techniques based on self-regulation can significantly promote

reading performance in college students, and it develops students' independent skills in reading.

In line with this, Ammar (2004) investigated the effects of SRL strategies on the prospective EFL teachers' critical reading skills. A cohort of 81 third-year EFL students participated the study and were randomly assigned to either an experimental group or a control group. The experimental group students were taught reading using the suggested program that is based on the self-regulated reading paradigm, while the control group students were taught reading using the traditional approach. Findings of the study indicate that students' self-regulation of their EFL reading resulted in significant gains in their critical reading skills compared to the traditional reading instruction practices.

Concerning the effects of SRL strategies on English writing, Seung (2012) examined how five adult Korean learners of English developed SRL strategies to overcome lexical problems in their English writing. Tutor assistance by the researcher and further independent control of strategy use by participants were developed to gather the data. The intervention lasted for 9 weeks, focusing on developing the participants' SRL skills in writing through the use of various strategies. The author analyzed participants' difficulties and uses of strategies, self-ratings on their essays, and several measures of essay quality to examine changes in their SRL skills, self-efficacy, and writing skills. Results showed that participants took more advantage of consulting a dictionary and rephrasing strategies and less of the other strategies in the translation writing. Furthermore, they reported more avoiding strategies in the argumentative writing. In particular, this study demonstrated that "developing SRL skills for employing lexical strategies to address difficulties in the formulation process of L2 writing

helped to increase the lexical richness, syntactic complexity, and native-likeness of these learners' written texts as well as enhance their self-efficacy beliefs about their L2 writing" (p.199).

Furthermore, Ping and Siraj (2012) attempted to examine the use of self-regulated learning strategies for vocabulary learning among a group of 38 pre-university Chinese EFL learners studying at University of Malaysia. an adapted questionnaire and a structured interview were used to investigate participants' use of SRL strategies in vocabulary learning. Findings indicated that cognitive deep processing strategies and metacognitive strategies are rarely applied by the learners; whereas the low processing vocabulary learning strategies are dominant among the learners,

Although previous research has indicated that a positive relationship exists between ESL learners' academic achievements according to their SRL strategy choices, many researchers have approached the two by adopting large-scale survey instruments that are removed from learners' practical learning progress. This study represented an attempt to resolve this issue using mixed methods to investigate language learners' strategies for reading. Additionally, concerning the variables that influence learners' strategy use, most research has focused on students' individual differences, such as students' learning styles, motivation, or confidence (e.g., Ma & Oxford, 2012; Uhrig, 2015). The current study constituted an attempt to expand the research findings by examining the effects of external factors on learners' strategy employment, such as reading difficulty, and topic or content of the text.

2.2.7 Learning Goals and SRL Strategies

Students' effectiveness in their self-regulated learning process varies depending on their personal goal orientations. To achieve intended goals and implement activities to achieve the goals, a number of cognitive and meta-cognitive factors, related to the control of these activities, are needed. Therefore, students' abilities to use strategies that help them to direct their motivation towards action, in the set-goal direction, are a central aspect of SRL (Wolters, Pintrich, & Karabenick, 2003).

In addition, students' effectiveness in the process of SRL varies depending on the academic environment and their personal goal orientations. Specifically, perceptions of a learning-oriented classroom structure are positively related to more adaptive learning patterns, such as the use of effective learning strategies, as well as to involvement in the class, motivation, effort, affective states, and eventually academic achievement (Sideridis, 2005). In contrast, a performance-oriented classroom structure has been associated with negative learning patterns (Ryan, Gheen, & Midgley, 1998).

González (2013) developed a study with 268 4th-grade secondary school students. The analysis of the proposed model showed that a personal learning goal orientation relates positively to the use of meta-cognitive strategies, and the use of volitional strategies has a mediating effect between a learning goal orientation and the use of meta-cognitive strategies. Goal orientation appears to define the strategies that students use to take responsibility (or not) for persevering towards their goals attainment, by controlling their motivation and emotion (Wolters & Rosenthal, 2000). This effort and persistence for goal achievement has a positive effect on the use of strategies to control and direct their mental processes for the SRL.

2.2.8 Motivation and SRL Strategies

Everyone has needs, values, motives, goals, expectations. The basic need theory of motivation views needs as dispositions toward action. Needs can be biological, affective, emotional, cognitive, aesthetic, volitional, behavioral, spiritual etc., and they can explain the actions of the individuals. These activities are engaged to attain the fixed goals. Motivational components within student approach include students' beliefs about the importance and value of the task, students' beliefs about their ability or skill to perform the task, students' feelings about themselves or their emotional reactions to the task (Kivinen, 2010).

While most SRL theorists acknowledge the influence of motivation on self-regulation, Pintrich's (2000, 2003) model of SRL stresses the importance of motivation in all phases of self-regulation. Pintrich and his colleagues have demonstrated that effective and less effective self-regulated learners differ in several motivational processes. For example, their research suggests that learners' task value (i.e., the extent to which they find a task interesting, important, and/or valuable) relates positively to their use of SRL strategies. Similarly, Schunk (2005) concluded, "Students with greater personal interest in a topic and those who view the activity as important or useful are more likely to use adaptive self-regulatory strategies" (p. 87).

In line with this, Wolters, Yu, and Pintrich (1996) examined the relation between motivation and self-regulated learning in research with junior high students. Regression analyses across three subject areas (English, social studies, and mathematics) yielded a positive pattern of motivational beliefs for a mastery-approach goal and a performance approach (relative ability) goal orientation to include adaptive levels of self-efficacy, task

value, and test anxiety, along with higher levels of cognitive strategy use, self-regulation, and academic performance. In contrast, an extrinsic goal orientation reflecting a desire to obtain good grades was linked with motivational and cognitive outcomes.

2.3 Reading

2.3.1 Reading in Literacy

Reading is readers' active communication with writers. It is not only reproduction of the texts but also a learning from writing. According to Kern (2000), reading is "not simply an act of absorbing information, but communicative act that involves creating discourse from text" (p. 107). It requires learners to understand what the writer has assumed to be shared cultural knowledge and to elaborate an appropriate context in which to interpret the text.

Moreover, reading is not merely an individual, personal act that involves imagination, creativity, and emotion, but also a socially-embedded activity. Elley (1992) refers reading as "the ability to understand and use those written language forms required by society and/or valued by the individual" (p. 3). Reading is in part a cultural activity and occurs in a cultural context. Kern (2000) also confirms that readers' interpretation of a text is influenced by the larger sociocultural context that has to do with "the functions of reading in the home, school, and society, the social status of readers, and where and how reading is practiced in various contexts with various kinds of materials" (p. 117).

2.3.2 Reading and SRL Strategies

Based on the previous discussion on SRL strategies and reading, SRL strategies in the current study are regarded as the deliberate and goal-directed skills used to manage and control efforts to learn reading. They basically concern with students' continuous adjustment

of the use of learning strategies that support to generate meaning from text through interaction with their peers and adults across social and cultural contexts.

First language (L1) studies have shown that good readers use strategies that assist them in building a global model of text content, such as identifying the most important information in the text that focuses their attention more on larger chunks of text, such as paragraphs which eventually help them regulate the reading process (Asmari & Ismail, 2012). Based on a study by Zimmerman & Martinez-Pons (1986) that bears on the issue of the relationship between learning strategies and reading achievement, it is found that high achievement students report using significantly more strategies than the low achieving students.

Swalander & Taube (2007) conducted a study to investigate the effects of self-regulated learning, reading attitude and family based prerequisites on reading ability. The statistical results show that all three scores of reading ability is significantly positively correlated to all the measured variables. The correlations between the scales of goal oriented strategies and the scales of verbal/general self-concept are all positive and significant. The strongest correlation is between control expectation and control strategies.

Similarly, Filate (2012) attempted to determine whether or not SRL strategies were significant predictors of high school students' reading performance. The study sample involved 107 Grade 9 students. Questionnaire, interview and tests were used to study cognitive strategies (memorization, elaboration, and organization) and meta-cognitive self-regulation (planning, monitoring, and evaluating). The results show that the students' use of cognitive strategies is a significant predictor of their reading performance.

Another study conducted by Aregu (2013) also examined effects of use of SRL

strategies on critical reading performance among second year distance education students taking critical reading course. The participants included 140 students. Both descriptive and inferential statistics were applied to analyze the data. The results reveal that all the variables are interrelated positively. Among these, use of behavioral self-regulated learning strategies is found to have great effects on performance in critical reading. Based on the discussion above, we can argue that SRL strategies are important for reading ability and achievement.

2.3.3 Reading and Second Language Acquisition

Reading is an essential skill and probably the most important skill for second or foreign language learners (Grabe, 1991). It is an interactive and complex process influenced by linguistic and cognitive, social and cultural, and affective and motivational factors (Lu, 1989). Cummins (1996) argues that being able to read in one's first language is one of the most important factors in learning to read in a second. The use of native language helps to provide not only a source of lexical structure, but also an alternative processing space in which to generate meaning from text (Kern, 2000). However, successful L2 reading is not simply a matter of transferring L1 reading abilities (Kern, 2000). As Carrell (1991) states, "both factors—first language reading ability and proficiency in the second language—may be significant in second language reading, the relative importance may be due to other factors about the learner and the learning environment" (p. 168).

What is more, sufficient or appropriate background knowledge is also required and important for L2 reading, which, as stated above, is viewed as an interactive process between the reader and the text (Carrell, 1984). When reading in L2, readers' ability to relate his or her own experiences to a text is critical. In this sense, language learners often face difficulties

reading in English. This is because the cultural backgrounds of these students are usually very different from the culture embedded in the English reading materials they encounter (Costantino, 1999).

By presenting reading as a social and cultural act, differences in cultural and sociopolitical in nature between the two languages can also influence L2 reading. It is quite possible that there is a discontinuity between the culture of their school and that of their home in terms of educational values and expectations. There may be a mismatch between the two in definitions of literacy, in beliefs about teaching practices, and in defined roles for parents versus teachers (Snow, Burns, & Griffin, 1998).

2.3.4 L2 Reading and SRL Strategies

More and more researchers on L2 reading now are aware of the important roles effective SRL strategies play in increasing students' reading achievements (e.g. Asmari & Ismail, 2012; Maftoon & Tasnimi, 2014). Considering the factors that are significant for L2 reading discussed above, SRL strategies in L2 reading are regarded as deliberate and goal-directed skills used to design meaning from text across social and cultural contexts. These strategies are supposed to help improve learners' L1 reading ability and L2 proficiency, to raise their awareness of background knowledge of the text, and to help learners with socio-cultural contexts and structuring of the physical study situation.

Block (1992) explored differences of reading strategy use between proficient ESL readers and non-proficient ESL readers and drew the results that less proficient readers used local strategies and more proficient readers relied on global strategies. Al-Nujaidi (2003) conducted research on the relationship between reading comprehension and reading strategy

use of EFL learners in Saudi Arabia and concluded that there is a significant but weak correlation between them. Al-Nujaidi (2003) also added that types and frequencies of reading strategies students use are different according to the students' reading comprehension ability. Wu (2005) conducted research on the use of metacognitive reading strategies of EFL Taiwanese college students. As a part of the results, Wu reported that there is gender difference in the frequency of use of metacognitive reading strategy and students' academic major difference in the use of the reading strategy. Like the result of Al-Nujaidi's, Wu concluded that student's English reading proficiency is a significant factor of students' use of reading strategies when they read materials in English.

Meanwhile, Brantmeier (2000), performing research toward native English speakers learning Spanish as a second/foreign language, showed different results from those of Wu's in terms of the gender difference. According to Brantmeier's results, there is no gender-related difference in reading strategic behavior. Males and females use almost the same number of global and local strategies. Young and Oxford (1997), conducting research with a similar research setting (similar characteristics of participants but a different instrument) as Brantmeier's, reported that there are no significant gender differences in the use of global and local strategies, which is the same result found by Brantmeier. Brantmeier (2002), who comprehensively but not exhaustively, reviewed the research on reading strategies, stated the following: "Because of the wide variety of participants, tasks, and reading materials employed in studies that examine L2 reading strategies, it is difficult to compare results across studies" (p. 2). This could be the reason why it is crucial to replicate research in reading strategies and reading comprehension in different cultures and language learning

environments.

Anderson (1991) conducted research on reading strategy use of Spanish speaking adult ESL students and reported that students who used more strategies comprehend better and that there was no significant relationship between the amount of unique strategies and comprehension. He concluded from his study that "strategic reading is not only a matter of knowing what strategy to use, but the reader must also know how to use it successfully and orchestrate its use with other strategies. It is not sufficient to know about strategies, but a reader must also be able to apply them strategically" (pp. 468-469). Carrell et al. (1998) stated that "the relationships between strategies and comprehension are not simple and straightforward; use of certain reading strategies does not always lead to successful reading comprehension, while use of other strategies does not always result in unsuccessful reading comprehension" (p. 99). Anderson's (1991) conclusion and Carrell et al.'s (1998) statement showed needs of readers' awareness of their own comprehension and strategy use in reading.

Apart from the two problems mentioned earlier (research methods and negligence in external factors when considering variables influencing SRL strategy use) involved in the previous studies (see 2.2.6 SRL strategies and ESL achievements), another concern can be raised that most research did not see L2 reading in the view of literacy. In their studies, the researchers assessed reading achievements according to participants' test scores; whereas the current study regarded reading as an act of producing meaningful discourse from text influenced by socio-cultural contexts (Kern, 2000). In addition, based on Kern's (2000) discussion on L2 reading, effects of possible variables on reading, such as learners' first language, learners' previous experience and knowledge, and physical situation of reading,

were also examined. Moreover, with the view that reading is a socially-embedded progress, the current study also attempted to examine how sociocultural context—such as the social status of readers, where and how reading is practiced (Kern, 2000)—affected participants' selection of SRL strategies in reading English texts.

2.3.5 Difficulties in L2 Reading

There is a large body of research indicating that L2 learners often have troubles when they read. Bean (2011) identified ten contributing causes of students' reading difficulties that are misunderstanding of the reading process, failure to adjust reading strategies for different purposes, difficulty in perceiving the structure of an argument as they read, difficulty in assimilating the unfamiliar, difficulty in appreciating a text's rhetorical context, difficulty seeing themselves in conversation with the author, lack of the "cultural literacy" assumed by the text's author, inadequate vocabulary, difficulty in tracking complex syntax, difficulty in adjusting reading strategies to the varieties of academic discourse. Similar researchers have been done to discover the mains sources of language difficulties including illegibility, unfamiliar words, lack of background knowledge, difficult concepts, complex syntax, nominalization, polysemy, complex noun groups, and advanced cohesion. Based on the previous studies and response of participants in the current study, the author planned to investigate the relation between learners' SRL strategy use and reading difficulties of unknown words (including technical words, idioms, and large numbers), complex syntax and long texts.

Various studies have been constructed to study the reading difficulty of vocabularies in L2 reading. Learners often transfer their L1 processing routines over to the L2 in their

attempt to process the L2 forms, whether those routines are appropriate to the L2 form system or not. According to Ffrench (1983), foreign language learners, as well as native speakers, certainly make use of guessing, and rely heavily on it when they encounter new words while reading. Social strategy is another strategy. It is a means to discover meaning by asking someone who knows. This strategy has been reported by many researchers, including O'Malley et al. (1985), who reported that questioning for clarification, which involves contact with another person for additional information, was the next strategy in frequency after note-taking and repetition.

A great number of studies have found that grammatical complexity presents a reading problem for students. Schlesingear (1966), Bormuth et al (1970), Pearson (1974) and Richek (1976) all provide evidence that complex sentences pose reading problems for students. Complex sentences are often characterized by the use of anaphora, since referencing is required in order to embed ideas in sentences. Studies by Chomsky (1969), Lesgold (1974), Richek (1977), and Barnitz (1979) indicate that children have difficulty dealing with anaphora. Complicated sentence structure is thus known to cause reading difficulties for students.

With regard to the difficulty of text length, some studies have investigated the influence of text length on EFL text comprehension. For example, Newsom and Gaite (1971) investigated the learning and retention of prose materials. In their study, subjects read either a 2300-word long passage or a 300-word short passage. The results indicated that participants who read the short passage significantly outperformed those who read the long passage. Strother and Ulijn (1987, cited in Alderson, 2000) compared native and non-native subjects'

reading comprehension scores. The comparison was carried out by reading original passages and passages which had been simplified syntactically but not lexically. The study's results did not show a significant difference between the two groups' performances and simplified syntax did not necessarily lead to more readable texts.

2.3.6 Reading Motivation/Interest and Reading Comprehension

Hermosa (2002) implicitly defines reading motivation as the interest or desire to read for different reasons or purposes. She believes that positive reinforcements have favorable effects towards motivation in reading; hence, it is a must that teachers design motivating and engaging reading activities for learners to develop the real love and passion for reading. Baker, Dreher, and Guthrie (2000) suggest that for students to be motivated to read, teachers and parents alike must provide children good foundation at the word level, serve as guide on the side, provide opportunities to read to learn with sufficient interesting reading materials, create a sharing community of learners, make learning contexts stress-free and fun, identify specific child's strengths and weaknesses, provide ample time to read, coordinate with other teachers and administrators for a wholistic reading program, partner with parents, and learn the strategies for engaging and fruitful learning.

Komiyama (2013) examined the factors underlying second language reading motivation of adult English for Academic Purposes (EAP) students. She found that adult EAP students' L2 reading motivation is comprised of both extrinsic and intrinsic factors, confirming the multidimensional nature of reading motivation. Jafari and Shokrpour (2012) also investigated the EAP students' reading motivation of English academic expository texts in Iran. They found out that there is a significant and positive relationship between reading

motivation and reading proficiency.

Ahmadi, Ismail, and Abdullah (2013) examined the relationship between students' reading motivation and reading comprehension in the Malaysian context with inclusion of expanded motivational multiplicity as the scope of investigation in order to come up with broader identification of reading comprehension growth predictors. In their study they included motivation constructs (interest, perceived control, collaboration, involvement, efficacy), text genres, specific versus general contexts, and the self versus other evidence sources about motivation as multiple components under investigation. Using qualitative research, they found out that reading motivation has a positive impact on reading comprehension. Students with higher motivation can score higher in reading comprehension tests. In Saudi Arabia, the level of reading motivation of students is low. In the study of Alsamadani (2001), he revealed that 50% of his respondents mentioned that they do not read unless it is required. Al-Nujaidi (cited in Alsamadani, 2001) also found out in his study that extensive reading among Saudi EFL learners is an unpopular activity and that they do not voluntarily read English materials outside the class.

2.3.7 Topic Familiarity in Reading Comprehension

A number of studies have provided empirical evidence to support the notion that topic familiarity can be an important factor affecting both L1 reading and L2 reading (Johnston, 1984; Recht & Leslie, 1988, Brantmeier, 2005; Carrell, 1987; Chen & Graves, 1995; Droop & Verhoeven, 1998; Johnson, 1982; Krekeler, 2006; Malik, 1990). Several researchers have pointed out that this non-decoding variable may impact reading comprehension much more than readers' language proficiency (Hudson, 1988; Shapiro, 2004); as Erler and Finkbeiner

(2007) argued, “the major difference between L1 and L2 reading is that L2 readers who are not familiar with content schema or do not process appropriate L2 sociocultural knowledge will have comprehension difficulties in that they cannot perceive the L2 text in a culturally authentic way” (p. 198). Thus, background knowledge facilitates reading in a more effective way and has a marked impact on reading comprehension.

Students reading about topics with which they are familiar comprehend and recall more important and correct textual information better than those who are unfamiliar with the content of the text, which indicates that prior knowledge exerts a positive effect on measures of reading comprehension. It has been argued that with the assistance of prior knowledge, “readers at a lower level of [second] language proficiency could perform better than, or at least as well as, readers at a higher level of language proficiency” (Tsui, 2002, p. 29). In addition, prior knowledge helps readers to fill in the gaps when information in the text is not explicitly stated (Alderson, 2000; Leeser, 2003; Lin, 2002). In this way, readers draw inferences using prior knowledge related to the content to decode ambiguous messages in a text. Therefore, topic familiarity helps readers to contextualize textual ideas and facilitates their comprehension.

Studies have been conducted and results suggested that different types of text structure affected comprehension and recall (Bean, Potter, & Clark, 1980; Carrell, 1984). Some studies also showed that there might be differences among language groups as to which text structure facilitate better recall (Carrell, 1984). For example, Carrell’s (1984) study showed that Arabs remembered best from expository texts with comparison structures, next best from problem solution structures and collections of descriptions, and least well from

causation structures. Asians, however, recalled best from texts with either problem-solution or causation structures, and least well from either comparison structures or collections of descriptions. These results, however, must be taken as tentative as further studies examining the interaction of language background with text structure are needed.

2.3.8 Topic Familiarity and Self-regulated Reading Strategies

A great deal of research has been conducted in the area illustrating that readers' prior knowledge affecting comprehension and recall. Less attention, however, has been paid to the relationship between prior knowledge and the reading strategies used by readers on reading tasks (Singhal,). In Singha's study, the author investigated the reading strategies the participants used when reading engineering texts and literature texts. The results suggested that readers appeared to be using a wider range of cognitive strategies on less familiar texts than on more familiar texts.

Using think-aloud protocols, Olson, Mack, and Duffy (1981) investigated readers' prediction strategies as they read two specific genres, or types of text: essays and short stories. Subjects were asked to give verbal reports of their use of specific comprehension processes, including predictions, elaborations, and inferences. Subjects read texts in a sentence-by-sentence manner, as the researchers were interested in examining the information contained in each sentence which was used in generating predictions. From the results, the researchers concluded that text genre had a significant influence on whether or not readers used predictions in constructing meaning for a text. It was proposed that a story genre encouraged the use of prediction strategies, whereas texts in essay form discouraged readers' use of prediction.

Similarly, Afflerbach's (1990) study examined the influence of prior knowledge and text genre on readers' prediction strategies. Three groups of subjects read two genres of text (short stories and essays), and gave verbal reports of their prediction strategies while reading. Next, subjects rated the texts in terms of relative familiarity of text content. Quantitative analysis of the think-aloud protocols indicated statistically significant differences in frequency of reports of predictions for particular texts. Subjects reported making significantly more predictions on the essays rated more familiar, and on the story which was rated more familiar. Results indicate that readers' prior knowledge for the content of the text may significantly influence the nature of readers' prediction strategies.

2.4 Cultural Differences

Language stores all the social lives and experience of a nation, and reflects all the characteristics of a nation's culture. If a person is not familiar with the culture of a nation, he cannot learn the language of the nation well. Language is inextricably bound up with culture. Culture values are both reflected by and carried through the language. Cultural influence on language mainly embodies in cultural differences' influence on language (Xiao, 2010).

2.4.1 Cultural Differences and ESL Learning

The number of students who speak or write ESL is steadily increasing in all colleges and schools in the U.S. In addition to possessing diverse language backgrounds, second language learners bring with them diversity of cultures, past experiences with different educational backgrounds, and perspectives concerning social and economic power structures (Clair & Adger 1999; Storti 1999). ESL learners differ according to culture, and therefore may face different challenges, stereotypes, etc. A study by Zhang, Ollila and Harvey (1998) adopted

a socio-cultural perspective which defines literacy in cultural terms and views children as becoming literate within the cultures of their communities and their families. They pointed out that cultural background is an essential aspect of personal identity that interacts with the education one receives in a certain society, because values advocated in the Canadian education system may not be consistent with Chinese cultural and educational values.

Differences in education between an English-speaking country such as the U.S. and China bring challenge to Chinese English Language Learners. Palmer, Chen, Chang, and Leclere (2006) indicate three educational differences in learning styles, teacher/student-centered teaching, and explicit/implicit learning. First, comparing with English-speaking learners, Chinese learners require a large number of facts to be committed to memory (Li, 2004). This difference reflects the unique characteristics of Asian cultural concepts of literacy acquisition. Second, Chinese students are accustomed to teacher-centered classrooms in their home country. By contrast, teachers in the U.S. are more student-centered with teacher-student and student-student interactions being the norm. Third, by citing a saying "Master 300 *Tang* (Tang Dynasty) poems, and you become a poet yourself," they also indicate implicit learning used by Chinese speaking students. Similarly, Zhang, Ollila, and Harvey (1998) indicate that a main difference between Chinese and Canadian education is, that traditionally, in Chinese schools, content and curriculum are often standardized across the nation. In Canada, teachers provide guidance only; learning is open and at the initiative of individual students.

Mahrous and Ahmed (2010) describe the unique characteristics of the educational environment in the Middle East. For example, teachers in public Middle Eastern schools tend

to use direct lecturing illustrating concepts and reading from textbooks. Moreover, assessment relies almost entirely on examinations, and the Middle Eastern education system as a whole is an examination-oriented system, dependent on memorizing facts and not on applying concepts. This is in sharp contrast with pedagogic and assessment systems in Western countries such as the United States or United Kingdom, which tend to focus on interactive education and assignments that bring up more complex practical problems. School-age students in the Middle East are expected to regard teachers as an absolute authority and to work hard to meet performance standards. They are not encouraged to learn about issues unless they directly affect their curriculum, and are assigned solo rather than team activities (Mahrous & Ahmed, 2010).

Solak and Bayar (2015) conducted a study to investigate the current challenges in English language learning and teaching in Turkey from high and low achievers' perspective. Although Turkish education system has undergone some renewal activities including foreign language education from time to time; this study shows that there are still recurring challenges for language learners in Turkish context. For example, foreign language teaching in Turkey had lack of realistic objectives**;** even though English education should be based on four skills at the same time, teaching grammar has been mostly focused in their English education classes; lack of practice was one of the most important aspects in English teaching.

Phil. (2013) stated that today in India the major challenges being faced by the students in schools and Universities are concerning the fact that the students are slow and weak to listen, speak, read, write and understand English correctly and properly. It is often seen that these students commit common mistakes because of confusion and lack of conceptual clarity.

Even in higher classes the students are not up to the mark due to the weak foundation at the primary stages of their education. Many American Indian ELLs are already speakers of the English language, but they need an adapted curriculum that addresses their unique needs and supports them in the four domains of speaking, listening, reading, and writing in Standard English in order to improve their academic literacy (August, Goldenberg, & Rueda, 2006; Bilagody, 2014).

2.4.2 Cultural Differences and SRL Strategies

The learners' face different language learning challenges across due to their cultural differences. Therefore, they are likely to use various language learning strategies to overcome specific difficulties in their learning. Li's study (2005) examined language learning strategies used by a cohort of 221 ethnic Chinese students, and discovered that the compensation category was reported as most frequently used by these students, followed by the affective, metacognitive, social and cognitive categories, and the memory category was reported as the least frequently used. Similarly, the findings from other studies looking at strategy use among Chinese learners (Chang, 1991; Goh & Kwah, 1997; Phillips, 1990, 1991) investigating Chinese students learning English in the USA and Singapore reported compensation strategies as being the most frequently used, falling in the high range of use; while all other strategy categories fell in the medium range.

In Feleciya and Meenakshi's critical review of literature concerning learners' language learning strategies in the Indian context, the authors stated that a variety of studies on LLS have taken place in other contexts (ESL/EFL) with a variety of students. But, comparatively, there is a lack in variety and the number of studies that have been conducted in India. However,

the authors also admitted that the cultural and educational background of the students influenced some of the strategies they used.

Sadiq Abdulwahed Ahmed and Ahmad Z. Al (2013) investigated the patterns of language learning strategies used by 190 students in the United Arab Emirates University, and The results demonstrated that these learners were overall medium strategy users. Metacognitive strategies were the most frequently used among the six strategies followed by social strategies, compensation strategies, affective strategies, cognitive strategies and memory strategies respectively.

Deneme (2008) conducted a study aiming at examining the use and preference of language learning strategies of Turkish students while they are learning English. The results showed that high use of compensation and metacognitive strategies, and medium use of memory, cognitive, affective and social strategies. In line with this, Erarslan and Höl's study (2014) indicated that adult EFL learners have a moderate use of language learning strategies, and the highest strategy use is meta-cognitive strategies, while the lowest strategy used by the participants is affective strategy. Özmen (2012) discovered that compensation, metacognitive and social strategies were the most commonly used ones; while affective strategies were the least used ones.

Parry (1993) conducted research about Chinese and Nigerian readers' strategies in reading English texts. The results showed that Chinese students focused on the details of language and preferred bottom-up reading methods, whereas Nigerian students were more interested in comprehending English in broad concepts and used more top-down reading methods. Parry concluded that different cultural groups used different reading strategies,

which were related to readers' language and literacy backgrounds. Abbott (2006) collected verbal reports from 15 ESL participants after they finished an English reading assessment. Seven Arabic and eight Mandarin-speaking intermediate language-ability students participated in the study. The differential item functioning method (DIF) was used to investigate whether the participants from different populations performed the same in their reading strategies selection. The results showed that Mandarin speakers preferred bottom-up strategies, such as focusing on lexical items and matching key vocabulary in the text. In contrast, Arabic participants used more top-down strategies, for example, skimming for gist and drawing inferences based on the information of the text. Abbott concluded that learners from different pedagogical 27 cultural and geographical backgrounds favored distinct reading strategies when approaching the same reading material. Kohn (1992) hypothesized that Chinese-speaking learners preferred bottom-up strategies because K-12 Chinese teachers encourage students to (a) read slowly and take care that they know each word as they go; (b) vocalize or voice the reading, either loudly or silently; (c) reread difficult sentences until they are understood; (d) look up definitions of all unknown words in a dictionary; and (e) analyze complex structures carefully (p. 121). The way they were taught to approach reading may explain Chinese EFL students' tendency to use bottom-up reading strategies. As a result of this teaching approach, Chinese EFL learners may attend highly to details and encounter problems with integrating the text as a whole compared to learners who are more familiar with using global strategies. Some pedagogical cultural and educational factors have been shown to influence strategy preferences, which supports the contention that the approach and comprehension of L2 reading depends on readers' L1 sociocultural and educational

backgrounds (Upton & Lee-Thompson, 2001). For this reason, readers' pedagogical cultural background should be one of the variables in strategy investigation.

The above review of the language learning strategies used by learners from China, Turkey, India, and Saudi Arabia shows that learners from different cultural backgrounds have different preferences for language learning strategies. It can be concluded that cultural differences have an impact on learners' choice of strategy. All of the reviewed studies adopted a quantitative research method and provided descriptive data for scholars and educators in the field, while the current study offers narrative data and discourse reports from participants from the four countries and a data analysis from cultural and educational perspectives. The results serve as supportive evidence and information in the related research area.

2.4.3 Cultural Differences and L2 Reading

Kern (2000) takes us beyond the linguistic design of the text itself to the cognitive social dimensions of discourse. Readers take active role in creating meaning from textural, contextual, and knowledge-based resources. He summarized that reading is a dynamic rhetorical process of generating meaning from texts (i.e. realizing them as discourse) that draws on all of one's semiotic resources. Every text a reader encounters is the result of a particular act of design. The particular ways they do this will depend on their purpose, the topic and how much they already know about it, their social role, and the physical situation. Finally, all of them are influence by the larger sociocultural context that has to do with the functions of reading in the home, school, and society, the social status of readers, and where and how reading is practice in various context with various kinds of materials.

Several studies have reported positive effects of cultural familiarity on reading

comprehension (Alptekin, 2006; Steffensen, Joag-Dev, & Anderson, 1979), for example, demonstrated that when students are familiar with cultural norms, they make a better interpretation of the text than when they are not. Further, in cases of unfamiliar cultural norms, students tend to refer to their own cultural properties, which results in poor interpretations of the text.

Carrel's (1987) study involved 28 Muslim Arabs and 24 Catholic Hispanic ESL students of high-intermediate proficiency enrolled in an intensive English program at a Midwestern university. Each student read two texts, one with Muslim-oriented content and the other with Catholic-oriented content. Each text was presented in either a well-organized rhetorical format or an unfamiliar, altered rhetorical format. After reading each text, the subjects answered a series of multiple-choice comprehension questions and were asked to recall the text in writing. Analysis of the recall protocols and scores on the comprehension questions suggested that schemata affected the ESL readers' comprehension and recall. Participants better comprehended and remembered passages that were similar in some way to their native cultures, or that were deemed more familiar to them.

Steffensen and Joag-Dev (1984) conducted a study using two descriptions of weddings both written in English. One was a descritption of an American wedding, while the other was of and Indian (subcontinent) wedding. Both the Indian students, for whom English was an L2, and the American students, for whom English was the L1, read the descriptions and were asked to recall the descriptions. It was found that readers comprehended texts about their own cultures more accurately than the other. While the readers indicated that the words were easy to understand, the unfamiliar cultural protocol of an Indian wedding made the

passage more difficult to remember.

Johnson's (1981) study investigated the effects of the cultural origin of prose on the reading comprehension of 46 Iranian intermediate advanced ESL students at the university level. Half of the subjects read the unadapted English texts of two stories, one from Iranian folklore and one from American folklore, while the other half read the same stories in adapted English. The subjects' reading comprehension was tested through the use of multiple-choice questions. The recall questions and the texts were also given to 19 American subjects for comparison purposes. Results revealed that the cultural origin of the story had a greater effect on comprehension than syntactic or semantic complexity of the text.

In line with this, Erten and Razi (2009) conducted a study with 44 advanced-level students of English at a state university in Turkey in order to investigate whether cultural familiarity influences comprehension of short stories. The results confirmed what has been widely acknowledged as the positive effect of background knowledge and cultural familiarity on reading comprehension. Overall, readers appear to have a higher level of comprehension when the content was familiar to them.

2.5 Summary

In summary, this chapter has explained sociocultural theory and how L2 acquisition and SRL are understood in such theory, which established the theoretical framework for the present study. An examination of the literature on the interplay between SRL strategies, L2 learning, and reading in the field of literacy follows. The investigation, strengths, and limitations of the literature have been highlighted, thus leading to the adapted changes in the current research. The following chapter reports the methodology employed in the study.

CHAPTER 3. METHODOLOGY

The previous chapter described the research studies and reviewed the literature in the field of SRL strategies and L2 reading. This chapter documents the methodology used in the present study, including the research methods, participants, instruments, procedures, and data analysis.

3.1 Why Mixed Methods?

On the basis of the above discussion and review of the literature concerning SRL and reading, it can be concluded that most studies in this area used large-scale survey instruments that were removed from the learners' practical learning progress. The present study represented an attempt to resolve this issue by adopting a mixed methods approach to investigate learners' SRL behaviors in ESL reading.

Mixed methods give complementary and mutually enhancing ways of reaching richer interpretations of observed phenomenon than may be possible from a quantitative or qualitative approach alone (Calfee & Sperling, 2010). In the current study, The statistical analysis of the self-reported questionnaire data provided a general picture of the participants' SRL strategy use in English reading, while the qualitative data enriched the results acquired from the questionnaire. In the current research, the complex realities of English learners' use of learning strategies were demonstrated through both the quantitative and qualitative data sources and interpretive lenses. Therefore, the researcher opted for a

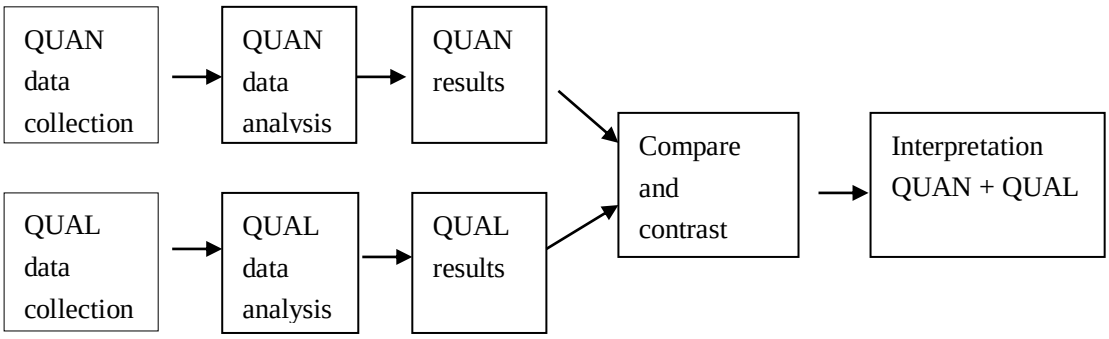
mixed methods approach as the research method. The researcher planned to collect quantitative data from questionnaires and qualitative data from analyzing the participants' interview results.

As Johnson and Onwuegbuzie (2004) state, the rationale for mixed methods is to corroborate findings from different methods, seek contradictions in findings that might help reframe the issues, to use the findings of one method to help inform the other, and extend the reach of the research project in order to encompass varied facets of the issues or problems under study. Taking the current study into account, the rationale/purpose for mixing quantitative and qualitative analysis was "complementarity" (i.e., results from one analysis type-qualitative in this study-are interpreted to enhance, expand, illustrate, or clarify findings derived from the other strand) and "expansion" (i.e., quantitative and qualitative analyses are used to expand the study's scope and focus) (Greene, Caracelli, & Graham 1989).

In order to answer the first research question concerning the relationship between learners' use of self-regulated strategies and reading abilities, the approach of Concurrent Triangulation Design (Creswell, Plano Clark, Gutmann, & Hanson, 2003) to mixed methods was employed (see figure 3.1). The intent in using this design is to bring together the differing strengths and non-overlapping weaknesses of quantitative methods (trends, generalization) with those of qualitative methods (details, in depth) (Patton, 1990). It generally involves the concurrent, but separate, collection and analysis of quantitative and qualitative data so that the researcher may best understand the research problem. The researcher attempts to merge the two data sets, typically by bringing the separate results together in the interpretation to facilitate integrating the two data types during the analysis

(Creswell, 2006). When exploring the correlation between learners' SRL strategies and reading abilities, the researcher collected and analyzed quantitative and qualitative data with the aim of validating and expanding the quantitative results from the questionnaires with qualitative data from simulated recall tasks and interviews.

Figure 3.1 Concurrent Triangulation Design (Creswell et al., 2003)



With regard to the second research question concerning the effects of different variables on learners' strategy use and reading comprehension, the researcher conducted interviews with each participant to investigate if reading difficulty, reading topics/content, reading environment, and cultural background would affect the strategy use, and to explore how the learner's L1, previous experience and knowledge, and reading environment affected reading.

3.2 Participants

This study involved six English learners across different reading proficiency levels. All participants were chosen from the language institute of the researcher's university. Every Friday an international coffee hour is held at the institute, where students from the institute meet to enjoy some snacks and communicate with each other in English. The author attended this meeting twice and distributed a recruitment letter there to attract research subjects. The letter described the rationale, purpose, and requirements of the study and included a simple

questionnaire asking about the respondents' ages, educational levels, and reading levels (Appendix A). Learners who were interested in participating in the study completed the questionnaire, provided their contact information, and returned this with the letter to the researcher. 10 students responded to the questionnaire and six were chosen on the basis of the following criteria. First, the six individuals had to volunteer to participate in the study. Second, the students had to be more than 18 years old.

First of all, the six individuals must volunteer to participate in the experiments. Secondly, the age of these students must be more than eighteen years. Research has shown that adult learners have greater cognitive and linguistic capabilities and conceptual complexity than younger learners (Robinson, 2005), although these capabilities (e.g., attention span, information processing of a rich and complex range of input, memory storage capacity) may vary from learner to learner. In this regard, adults are capable of recalling their strategic behaviors after completing a task and identifying whether they used the strategies purposely or not. Adults are able to discuss their learning styles and strategies in ways that children and adolescents are unable to (Cohen, 1998). In addition, adults are mature, competent, experienced, multitalented individuals, who live complex lives and fulfill a variety of different life roles. As language learners, adults have multifaceted identities in their dynamic and changing lives. They may have their own interpretations of their culture and belief systems as well (Smith & Strong, 2009). Therefore, adults can provide comprehensive and solid evidence to enable us to examine how social and cultural variables influence learners' SRL behaviors.

Besides, the potential participants had to be university educated or higher. As

discussed above, L2 reading requires learners' L1 ability. High academic-level students can usually communicate confidently and effectively in their L1 and may code switch between several other languages. Thus, they are capable of using their native language to provide not only a source of lexical structure but also an alternative processing space in which to generate meaning from a text. In addition, the potential participants had to read at least five articles every week. In order to answer the research question regarding how variables, such as reading difficulty, article contexts, and physical situation, affect learners' strategy usage, the participants had to read on a regular basis so as to provide sufficient research data.

Two participants at each reading level—low, intermediate, and advanced levels—were purposively identified to gain a broad picture of SRL strategy use among L2 learners. The standard used for dividing the groups was based on the division of the English Language Institute. The institute divides learners into different classrooms according to their reading scores on placement tests. Since most previous studies concerning the relationship between SRL across academic levels adopted large-scale instruments and a large number of subjects, the current study focused more on learners' narrative descriptions of how they consciously used strategies to generate meaning from texts. In looking specifically at the correlation between SRL strategy and L2 reading, methods such as stimulated recall sessions, self-monitor forms, and open-ended interviews were used. Therefore, it was expected that qualitative data from the six subjects would support the evidence from the previous research and enrich the understanding of L2 learners' SRL strategic behaviors. The six participants' background information is provided in Table 3-1. To ensure their anonymity to those outside of the study, the participants were assigned pseudonyms.

Table 3-1 Profiles of the participants

Identification pseudonym	Age	Gender	Native language	Level of education	Reading level in ELI	Major	Length of learning English (years)	Length of stay in the U.S.
Tony	18-30	M	Hindi	G	H	Technical engineering	7.5	2 years
Erbu	18-30	F	Turkish	G	H	Literature	5	1 year
Chuchu	18-30	F	Chinese	U	I	Business	6	6 months
Esma	18-30	F	Turkish	G	I	Engineering	4.5	3 months
Hamit	18-30	M	Turkish	G	L	Business	5	8 months
Bandar	18-30	M	Arabic	G	L	Business	5	6 months

Note: M=Male F=Female G=Graduate U=Undergraduate H=high-level I=Intermediate-level L=Low-level

3.3 Instruments

Mixed methods approaches usually involve the use of closed-ended questionnaires (numerical data), interviews, and classroom observations (text data) to collect information (Zohrabi, 2013). Since strategic behaviors—the topic of this study—are driven by mental processes that rarely lend themselves to direct observation (Tseng, Dornyei, & Schmitt, 2006), observation was replaced by stimulated recall tasks in this study. Therefore, a closed-ended questionnaire, stimulated recall tasks, and interviews were used to gather data from the participants. A description of each instrument is given below.

3.3.1 SRL Strategy Questionnaire

The questionnaire used to explore learners' self-reported SRL strategy use was modified according to previous models of SRL that urged for adapted versions of the questionnaire in different contexts. The reason for using an adapted version rather than a standard inventory was to have a tool that was specifically tailored for our particular context. Griffiths and Oxford (2014) point out that using a tool developed for a different context may not yield valid data for other situations. Therefore, they encourage researchers to adapt the

pre-existing tools to fit their situational factors, such as the needs and characteristics, cultural features, or teaching community of the learners (Seker, 2015).

The questionnaire for the study was developed following several steps. The first step involved researching and analyzing different versions of strategy questionnaire (e.g. O'Malley & Chamot, 1990; Pintrich & De Groot, 1990). Second, appropriate versions of formations were elicited. The questionnaire utilized in the study was mainly based on Oxford's (2011) strategic self-regulated model and Pintrich and DeGroot's (1990) Motivated Strategies for Learning Questionnaire (MSLQ). The development of the questionnaire used in this study was guided by two points: scales and their subscales selected from the above were used to solicit participants' self-regulated strategies and involved strategies that were used to help learners design meaningful discourse through reading. As a result of the analysis, the emerging themes were coded and grouped under four dimensions: cognitive strategies, metacognitive strategies, affective strategies, and sociocultural interactive strategies. Since there were two low-level learners involved in the participants who had little experience with language learning strategies, avoiding complex or unfamiliar concepts and themes would help them to better understand and respond to the items in the questionnaire. Thus, the next step involved examining the themes and eliminating potentially complex ones (Seker, 2015). At this stage, the author brought the questionnaire to the writing center where native English speakers were asked to proofread the items in the questionnaire and to give feedback on ambiguous or inaccurate statements. Based on their feedback, the statements were revised. The final version of the questionnaire consisted of 50 statements in a five-point Likert Scale format that ranged from 1 indicating that the statement is not at all true of me (strongly

disagree) through 5 indicating that the statement is very true of me (strongly agree) (Appendix B).

The questionnaire included four components: cognitive strategies, metacognitive strategies, affective strategies, and sociocultural interactive strategies. The cognitive scale consisted of 21 items (e.g. I mentally scan what I already know about the topic of the text. To do this, I see it in my mind as linked pieces of information.). The metacognitive scale consisted of 10 items (e.g. I adjust my reading speed according to the difficulty of the article.). The affective scale included 10 items (e.g. When I succeed in doing any task, I reward myself.). The sociocultural interactive scale included 9 items (e.g. I ask the teacher about useful references to help me understand the text.

According to Richards & Schmidt (2002), when designing a questionnaire, the researcher should ensure that it is "valid, reliable and unambiguous" (p. 438). Therefore, the reliability analysis of the scale is provided. Internal reliability coefficients (Cronbach's Alpha) for all dimensions range from 0.69 to 0.84 and the total internal reliability coefficient is .86, which depicts a reasonable level of reliability.

3.3.2 Verbal Protocols through Simulated Recall/Think-aloud

Protocol analysis is the main methodology through which the reading comprehension is investigated (Singhal, 2001). Researchers use think-aloud methods, providing a task and asking subjects to say aloud everything they think and everything that occurs to them while performing the task (Garner, 1987). Think-aloud requires a reader to stop periodically, reflect on how a text is being processed and understood, and relate orally what reading strategies are being employed. In other words, think aloud involves the overt, verbal expression of the normally covert mental processes readers engage in when constructing meaning from texts

(Singhal, 2001). Research has demonstrated the credibility of protocol analysis in investigating the range of reading strategies and behaviors as subjects read, and to better understand the cognitive processes during reading (Pressley & Afflerbach, 1995; Wade, 1990).

In line with this, Tseng et al. (2006), concerning strategy research, offer the recommendation that "since strategic learning is driven by mental processes that do not often lend themselves to direct observation and, therefore, for an accurate assessment of the extent of their functioning we need to draw on the learners' own accounts. We must note at this point that increased utilization of stimulated recall methodology offers a promising future research direction in this area" (p. 82). Mackay and Gass (2005) define stimulated recall as "an introspective technique for gathering data that can yield insights into a learner's thought processes during language learning experiences. Learners are asked to introspect while viewing or hearing stimulus to prompt their recollections" (p. 266).

From the discussion above, we can see that there are overlapping features of think-aloud in the reading research and stimulated recall in the strategy research. As a matter of fact, they are the same thing with different names. The credibility of the above two methods led to the employment of verbal protocols through stimulated recall in the current study (the researcher used the term *stimulated recall* to stand for the method). The verbal protocols were conducted with each participant in order to determine what SRL strategies the students used in the process of reading. All participants engaged in stimulated recall immediately after reading a given passage. They were given a recall instruction designed by Swain et al. (2009) before they started reflecting (see Appendix C). After the recall session, the researcher asked general questions about the participants' experience of reading the draft in order to draw on the effects of possible variables on strategy use and reading results (see Appendix C). The stimulated recall activity took approximately one hour to complete and

was audio-recorded.

The suggestions of Mackay and Gass (2005) and Swain et al. (2009) were followed to increase the reliability of the protocols. The researcher made sure that the protocols were administered as soon as possible after the participants completed the reading task; each participant was interviewed in a private room on the university campus; the purpose and instruction of the activity were clarified to the participants; and as little input as possible was offered to minimize researcher bias. In terms of the accuracy of reporting, stimulated recall is more focused and specific than interview or questionnaire data with respect to a specific event. The researcher believed that the stimulated recall protocol was one of the best available means to achieve the goal of gaining a greater understanding of the strategic behaviors that the participants used during a specific reading task. Stimulated recall is a useful instrument for examining the cognitive and metacognitve strategies that a student uses when reading. Other strategies of a non-cognitive nature, however, are applied outside of the context and are often part of a regular study regime (interview and self-monitoring forms allowed participants to comment on these strategies).

3.3.3 Reading Materials

The reading materials used in the study comprised two parts. The materials utilized in the stimulated recall tasks were determined by the researcher. These materials were selected from the resources provided on the official website of Center for Adult English Language Acquisition (CAELA). The organization has compiled an annotated list of publishers of books and other materials related to ESL literacy and instruction for adults and out-of-school youth. Under each publisher name, a brief introduction and descriptions of the publisher's

popular titles are given. Language skills (i.e., listening, speaking, vocabulary, reading, grammar) and associated proficiency levels (i.e., beginner, intermediate, advanced) are illustrated for each title. According to the website, these materials often provide a framework for instruction, integrating the development and use of the four language skills. Many may also include life skill components. For the reading task, the researcher selected six articles on different topics (Appendix D). Two articles were found for each level in accordance with the classification of the website. In addition, there was at least one article that every participant found easy and one that they found difficult. This resulted from Kern's (2001) argument that "we may all 'read' the same text but no people ever 'read' the same discourse because they never bring exactly the same knowledge, expectations and contexts to bear on the text" (p. 109) and the assumption that reading difficulty and the context of a text affect learners' strategy use when reading. Another source of the reading materials was the participants' daily reading activities. All participants were required to read at least three passages every week. They could read articles in their textbooks or passages from other resources to which they had access, such as newspapers, magazines, and novels.

3.3.4 Self-Monitoring Forms

The participants were asked to complete the self-monitoring form each time they read an article (Appendix E). Since they had to read at least three articles every week, they would turn in at least three forms per week. This form was adapted from Seung (2012), who provided a similar sample form to determine the lexical problems that Korean learners encountered in writing, and the strategies they used to solve them. In accordance with the research questions and specific context of the study, this form was adapted to help the participants monitor their strategic behaviors in overcoming the difficulties in reading, especially the use of sociocultural interactive strategies. Learners were asked to reflect on these issues and keep a record of what they did each time they finished reading a passage.

The form required the participants to write down their reading goals for each task; indicate the degree of difficulty of the text and how much time they spent reading the text; briefly describe what the difficulties were, why they found those aspects difficult, and what they did to address these difficulties; respond if they had tried to improve the physical situation and seek assistance; and state the effects of the native language and individual experience and knowledge of comprehension through reading.

3.3.5 Interviews

I Interviews were another important source of information for this mixed methods study. Interviews are appropriate "where depth of meaning is important and the research is primarily focused in gaining insight and understanding" (Gillham, 2000, p. 11). Face-to-face interviews, thus, were conducted with each participant in order to learn how the learners perceive SRL strategy use and reading comprehension. Interviews are particularly useful for obtaining the story behind someone's experiences. They allow the interviewer to pursue in-depth information around the topic. Furthermore, interviews may be useful for following up on the answers from certain questionnaires (McNamara, 1999). In line with this, the data collected from each interview, as a follow-up to the SRL strategy questionnaire, could allow for deep exploration of how learners understand the topics in the field. In addition, according to Glastonbury and MacKean (1991), "interviewing offers the flexibility to react to the respondent's situation, probe for more detail, seek more reflective replies and ask questions which are complex or personally intrusive" (p. 228). With such flexibility, the participants in this study could freely set a time and place for the interview so that they could provide more variable and comparable data.

The interviews were carried out in this study after all the verbal protocol tasks were completed. As stated above, the meeting time was decided by the participants. The whole process lasted no longer than one hour and took place in a private room at the university. Since

the participants' native languages were not English, it was understood that they might feel uncomfortable communicating in English. Therefore, in order to acquire more valid and reliable information, the students were first required to provide written responses to the question items. Then follow-up clarification was sought to decipher written statements that were short and unclear, not very relevant to the questions, and contradictory in ideas. The researcher used a tape recorder as well as hand-written notes for the future data analysis. The interview questions were developed by the researcher, and some interview questions were adapted from Gu's (2003) general interview questions. Fifteen questions were designed to investigate the participants' perspectives on SRL strategies and reading comprehension in detail and in depth (see Appendix F). The first six questions concerned the learners' general opinions on English reading and variables that affect reading comprehension; the next four questions regarded the learners' perceptions of self-regulated strategy use and the factors that influence their strategy use; the final five questions concerned the learners' use of the four categories of SRL strategies.

3.4 Data Collection Procedure

As described in 3.2, the researcher distributed the recruitment letter to the English Language Institute tudents at the coffee hour held at the institute. Over a period of two weeks, according to specific criteria, six students were selected as the research subjects from a total of 10 tudents who had volunteered to participate in the study. The researcher and participants set the first meeting time and place via e-mail. The researcher met with them individually at the university library, where the participants had indicated they preferred to meet. At the first meeting, the researcher administered a detailed background questionnaire (Appendix G) to obtain the participants' demographic information. Next, the researcher explained the details of the study and answered any questions related to the study. The participants signed the consent form and were informed that the research results would be made available to them,

and they were duly given the results after the data were analyzed. Finally, the SRL strategy questionnaire modified by the researcher on the basis of previous studies was administered to the participants. The response rate was 100%. The participants were informed that the questionnaire was not a test, and there was no right or wrong answer. Rather, what they needed to do was circle the choice that best reflected their actual conditions. It took approximately 40 minutes to collect the participants' background information and quantitative data regarding their strategy use.

In order to answer the research questions, the researcher examined the participants' strategic behaviors by conducting stimulated recall with each participant every week. The participants were asked to read a text offered by the researcher and reflect on what they thought before, during, and after reading the text. Six articles were chosen by the author from CAELA's website. During the recall session, individual participants were required to describe their thoughts in front of the researcher. They were reminded that they should report "what they were thinking at the time, not what they thought they should have thought or done, or how they thought they should have responded." Possible questions that the researcher could ask were "What were you thinking at this point?" "What were you thinking just then?" "Can you tell me what you were thinking at that point?" "I see you are… What were you thinking then?" "Is there anything else that comes to your mind?" "Can you remember what you were thinking when…?" By reviewing the text again with the participants, the researcher tried to probe into their difficulties and the associated use of strategies. After the recall session, participants still needed to answer several general questions about the reading. An outline of weekly topics, titles of the readings, and levels of the passages were listed in Appendix D. The author listened to the participants' recalls after the weekly meetings and performed the data analysis in order to identify which strategies the learners had employed in reading, compare the strategy use across reading levels, and draw on the effects of different variables

on strategy use and reading performance.

In the meantime, the author collected the participants' self-monitoring forms on a weekly basis in order to elicit more valid qualitative data. The participants were required to read at least three articles of their choosing and monitor their reading process by completing the form each time they read a passage. They were requested to turn in the forms every week during the research period. In essence, the self-monitoring form required the participants to keep a record of the words, phrases, and sentences that caused them difficulty in reading and of the strategies they utilized to cope with the problems. The author reviewed the forms to ensure that the participants had a clear idea of what they were required to do. Each week, the author carefully examined the participants' revisions on the self-monitoring forms and analyzed the documents for evidence of strategy usage.

After all the stimulated recall and think-aloud tasks were completed, an interview was conducted with each participant during the next two weeks. The meeting time and place were also determined by the participants according to their preference. The participants were asked to write down any ideas they had in mind under each question item and review them with the author. The interview meeting would last no longer than one hour. The data acquired from the interview was intended to probe further into the participant's perspective on SRL strategies and reading.

In summary, the focus of the data collection was on recording in as much detail as possible the participants' strategy use for reading and their perceptions of the topics. An outline of the data collection procedure is provided in Table 3-4. The questionnaire provided statistical evidence; the verbal protocols and sell-monitoring forms provided detailed information about what the participants had read and how they read; and the interviews confirmed and expanded upon what the participants had reported previously. During the study, each participant contributed data from one questionnaire, six verbal reports, at least 18

self-monitoring forms, and a one-hour interview. The above evidence provided the basis for the results presented in this study.

Table 3-2 Data collection procedure

Research question	RQ 1	RQ 1 , RQ 2	RQ 2
	Week 1—Week2	Week 3—Week 8	Week 9—Week 10
Researcher activity	Participants selection; statistical analysis	Protocol analysis Interview analysis	Interview analysis
Participants' activity	Complete background questionnaire and self-regulated strategy questionnaire	Stimulated-recall; Read texts and turn in self-monitoring forms	Interview

3.5 Data Analysis

The data analysis in this mixed methods research consisted of "analyzing the quantitative data using quantitative methods and the qualitative data using qualitative methods" (Creswell, Plano, & Clark, 2007, p. 128). Descriptive and correlation tests were used for the statistical analyses, while the verbal protocols, self-monitoring forms, and interview results were thoroughly analyzed with the help of transcribing, coding, and memo writing.

Descriptive and correlation tests were conducted to analyze the data from the questionnaire. First, descriptive statistics were run in order to acquire a general view of the participants' SRL strategy use. Using SPSS 20.0, the means for each SRL strategy category and the overall average for the whole questionnaire for all participants were calculated in order to address the first question. The data would reveal if learners with higher reading abilities were more likely to use more strategies and to what extent the learners across reading proficiency levels would employ different categories of SRL strategies. Later,

one-way analysis of variance (ANOVA) tests were run in order to compare the low-, intermediate-, and advanced-level students in terms of their use of self-regulated strategies.

A thorough analysis of the qualitative data gathered from the verbal protocol through stimulated recall and think-aloud, self-monitoring forms, and interviews was performed to address both research questions developed for the study. The oral reflection data obtained from the stimulated recall tasks were fully transcribed and coded. The participants reported employing a range of self-regulated strategies while reading the text; therefore, the researcher carefully examined the participants' responses and analyzed the strategies they had used. The strategy codes were adapted from previous research in this field (see Asmari & Ismail, 2012; Koehler, 2007; Maftoon & Tasnimi, 2014), the taxonomy of Oxford's (2011) strategic self-regulated model, and Pintrich and DeGroot's (1990) motivated strategies for learning questionnaire (MSLQ). Four dimensions were involved in the strategy coding scheme: cognitive strategies, metacognitive strategies, affective strategies, and sociocultural interactive strategies. The cognitive category consisted of sub-categories such as activating knowledge, sequencing, comparing, predicting, analyzing, elaboration, organizing, combining, making distinctions, and summarizing. The metacognitive category consisted of sub-categories such as obtaining resources, evaluation, paying attention, monitoring, planning, and setting goals. The affective category included sub-categories such as generating and maintaining motivation, activating supportive emotions, beliefs, and attitudes.

Self-monitoring forms were used to solicit information about the participants' strategy use throughout the research period and effects of the variables on strategy selection and reading performance. The participants were asked to provide various types of information. The information they supplied regarding the strategy use was also coded according to the coding scheme discussed above. In addition, information on the variables' effects was coded. Codes for the influential variables were created on the basis of the research questions and

conceptual framework of the study and were derived from Kern's (2000) discussion of L2 reading. The list of codes used in this study is shown in Appendix H. It is important to clarify that this list of codes changed and developed as the data were collected and analyzed.

Regarding the interview analysis, apart from transcribing and coding, code memos were written for each interview. Since the possible variables may affect strategy use and reading performance in a positive or passive way, a clearer tool was needed. As Charmaze (2000) noted, writing memos prompts researchers to elaborate processes, assumptions, and actions covered by codes or categories. In addition, due to the great number of questions in the interview, it would not be easy to look through every single word of the transcription every time. Thus, memos could facilitate organizing the data and also free the mind for new thoughts and perspectives. Glesne (2005) also stated, "even as you become intimately familiar with your data, you can never be sure of what they will tell you until analysis and writing are complete. As you work with data, you must remain open to new perspective, new thoughts" (p. 189).

In summary, to answer the first research question concerning the relationship between learners' strategy use and reading abilities, the author analyzed statistical data from the questionnaire, coded and analyzed the participants' strategic behaviors in the stimulated recall tasks and on the self-monitoring forms. In order to answer the second research question regarding the effects of possible variables on learners' strategy use and reading performance, the author analyzed the participants' perceptions obtained from the interview immediately after the stimulated recall tasks, the self-monitoring forms, and the final interviews.

3.6 Ethical Considerations

The current study addresses the following ethical concerns: (1) informed consent; (2) anonymity of participants; and (3) beneficence and reciprocity. Consent was obtained from all participants in the study. All participants were given a consent statement, which described

the nature of the study and participants' voluntary role, thus, complying with ethical research. The form was adapted from the consent form template on the IRB official website (see Appendix I). Besides, the current study used anonymity through the use of pseudonyms and took extra precautions to ensure anonymity of the university in which the study was conducted. It also aimed to exclude non-essential private information in the data analysis, thus taking reasonable precautions to ensure anonymity. Additionally, the study could benefit the participants through the research activities. They would be aware of the strategy use in reading and possibly improve their reading abilities in the end. The information of the benefits was provided in summary in the consent form.

3.7 Validity

In order to triangulate the data, the researcher obtain information through different procedures to heighten the dependability and trustworthiness of the dada and their interpretation. Closed-ended questionnaire, stimulated recall tasks, self-monitoring forms and interview were used in this study to gather data from the participants. A quantitative instrument was first used to obtain a representative sample, with the goal of enhancing the generalizability of qualitative findings; whereas the results from the qualitative methods expand and enrich the results from quantitative analysis. Conducting a mixed methods study can enhance the validity and reliability of findings for the exploration of contradictions found between the quantitative and qualitative results.

3.8 Summary

In summary, this chapter has examined the methodological considerations of the study. To triangulate the data, mixed methods—closed-ended questionnaire, stimulated recall tasks, self-monitoring forms and interview—were applied in this study. Statistical analysis and an outline for coding data were also provided. Ethical considerations were discussed to

show the current study was conducted within ethical guidelines. Finally, the validity of the methodology was discussed. The following chapters will present the results of the research.

CHAPTER 4. RESULTS

In this chapter, the author first presents the results of the descriptive and correlat2`zsWZSion tests, which were guided by the first research question concerning the relationship between learners' use of SRL strategies and their reading proficiency levels. Next, the author presents the correlations between learners' strategic behaviors and variables of reading difficulties, such as unknown vocabulary, complicated sentence structure, technical terms, idioms, large numbers, long texts, etc. This is followed by how the content and topic of the text affect learners' choice of strategy. The study included five topics that ESL learners may often encounter: stories, history, business, science, and social studies. Next, the results regarding readers' cultural backgrounds and the strategies learners used are presented. Last but not least, a description of how readers' cultural background knowledge, previous experience, and first language influence their reading comprehension is provided.

4.1 Relation between Learners' Use of SRL Strategies and Reading Levels

In order to answer the first research question of the relation between learners SRL strategy use and proficiency levels, descriptive and correlation tests were conducted to analyze the data from the questionnaire.

4.1.1 Overall SRL Strategy Use and Reading Levels

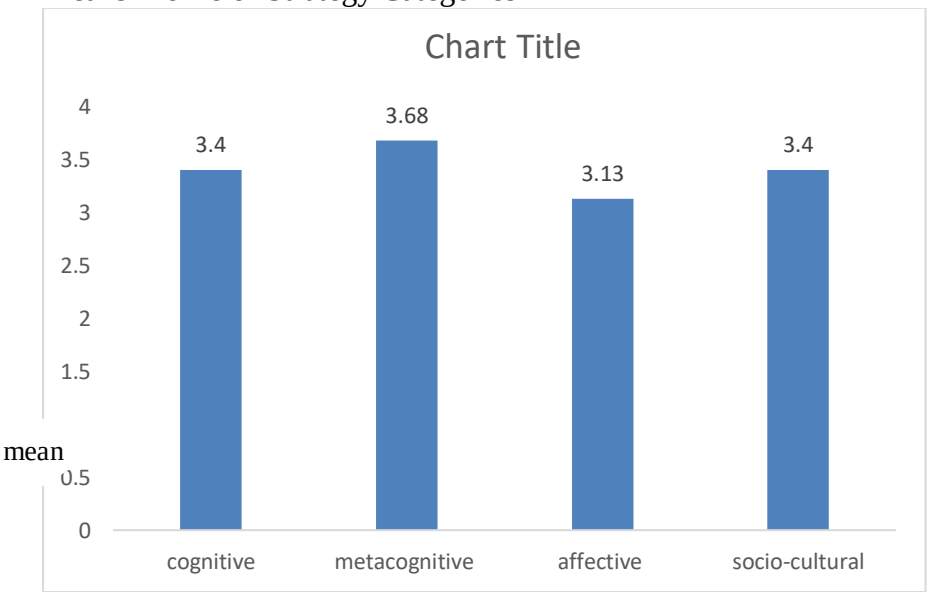
Descriptive statistics were run in order to acquire a general view of SRL strategy use by the participants. Using SPSS 20.0, the means for each category of SRL strategies and the overall average for the whole questionnaire for all participants were calculated. The means were calculated as shown in Table 4-1. The results indicated that the proficiency level led to positive influences on learners' language learning strategy use, i.e. the higher the level, the higher the use of the strategies.

Table 4-1: Learning Strategy Table

Strategy group	Means for advanced level	Means for intermediate level group	Means for low level group
B cognitive	3.70	3.55	2.95
D metacognitive	4.25	4.15	2.65
E affective	3.80	2.75	2.85
F social	4.30	3.30	2.60
The overall average	4.01	3.44	2.76

In order to investigate the general situation of learners' use of different categories of strategy use, the means of the four categories were calculated as shown in figure 1. Based on the means of the four categories, the metacognitive strategy had the highest mean (M=3.68), followed by cognitive (M=3.4), social (M=3.4), and affective (M=3.13). Figure 1 shows the means profile of the types of strategy used by the six students.

Figure 4.1
Means Profile of Strategy Categories



As can be seen from Figure 1, the six students reported using metacognitive strategies more frequently than all the other types of strategy.

4.1.2 Subcategories of SRL Strategies and Reading Levels

In order to determine whether learners of different language proficiency vary in their use of reading strategies, statistical analysis showed that some groups of strategies were significantly influenced by the variable of reading levels. Table 4-2 provides the descriptive

results of the relation.

Table 4-2 Descriptive Statistics for Cognitive, Metacognitive, Affective, Socio-cultural Strategy Use across Proficiency Levels

		n	Mean	Std. Deviation	Std. Error
Cognitive strategies	Low level	2	2.9500	.07071	.05000
	Intermediate level	2	3.5500	.07071	.05000
	High level	2	3.7000	.00000	.00000
	Total	6	3.4000	.35777	.14606
Meta-cognitive strategies	Low level	2	2.6500	.63640	.45000
	Intermediate level	2	4.1500	.21213	.15000
	High level	2	4.2500	.07071	.05000
	Total	6	3.6833	.85654	.34968
Affective strategies	Low level	2	2.8500	.07071	.05000
	Intermediate level	2	2.7500	.35355	.25000
	High level	2	3.8000	.56569	.40000
	Total	6	3.1333	.59889	.24449
Socio-cultural strategies	Low level	2	2.6000	.14142	.10000
	Intermediate level	2	3.3000	.14142	.10000
	High level	2	4.3000	.70711	.50000
	Total	6	3.4000	.83187	.33961

According to the information from the above table, the high proficiency group used more cognitive strategies (M=3.7) compared with the intermediate (M=3.55) and the low level proficiency groups (M=2.95). The results were similar for metacognitive strategies: high proficiency group (M=4.25), intermediate proficiency group (M=4.15), low proficiency group (M=2.65). The socio-cultural category had the same results: high proficiency group (M=4.3), intermediate proficiency group (M=3.3), low proficiency group (M=2.6).

To examine whether differences exist between the students' strategy use and students' reading levels, the results of strategy questionnaire and reading proficiency of the subjects were statistically compared using a one-way ANOVA. This question investigated the possible differences between participants' use of strategies and reading levels. Table 4-3 presents the results of the use of strategies by all participants.

Table 4-3 ANOVA Results for Strategy Subcategory Differences across Proficiency Levels

		Sum of Squares	*df*	Mean Square	*F*	Sig.
Cognitive strategies	Between Groups	.630	2	.315	9.4500	.002
	Within Groups	.010	3	.003		
	Total	.640	5			
Meta-cognitive strategies	Between Groups	3.213	2	1.607	10.593	.044
	Within Groups	.455	3	.152		
	Total	3.668	5			
Affective strategies	Between Groups	1.343	2	.672	4.478	.126
	Within Groups	.450	3	.150		
	Total	1.793	5			
Socio-cultural strategies	Between Groups	2.920	2	1.460	8.111	.062
	Within Groups	.540	3	.180		
	Total	3.460	5			

As Table 4-3 shows, preferences for cognitive strategy use differed significantly across the three levels of reading (F = 9.4500, p = 0.002), and metacognitive strategies had a significant effect in the same way (F = 10.593, p = 0.044). However, there was not a significant difference between affective strategy use and reading levels (F = 4.478, p = 0.126) or between socio-cultural strategy use and reading levels (F = 8.111, p = 0.062).

4.1.3 Summary

Overall, the above quantitative results indicated that advanced second language readers will apply more self-regulated learning strategies. In addition, metacogntive strategies were reported to be the most used strategies. What is more, advanced learners tend to use more cognitive and metacognitive strategies. However, if the reader's proficiency levels can be regarded as a predictor of their use of affective strategies or socio-cultural strategies cannot be decided.

4.2 Reading Difficulties and Self-Regulated Reading Strategies

In order to investigate the effects of different reading difficulties on ESL learners' SRL strategy use, the author purposefully selected six articles for the participants to read that included six common reading difficulties that the participants and previous studies had proposed: unknown vocabulary, complicated sentence structure, technical words, large numbers, idioms, and long articles. The following is the result of the participants' stimulated recalls relating to how they use different strategies in order to overcome difficulties.

4.2.1 Unknown Vocabulary and Strategy Use

Different levels of English learners used different reading strategies when coming across unknown vocabulary. Low level learners tended to (1) look up a dictionary; (2) read again and guess the word's meaning; and (3) skip and continue to read. Both of the two low-level students mentioned they would refer to a dictionary in order to deal with difficult words when reading the six reading materials. Bandar stated that he needed to read again if there were too many difficult words in a sentence and then tried to guess the words' meanings (e.g. "household," "appliance," "equivalent" in the first paragraph of the third reading material). In order to guess the meaning, he might connect the previous and following information in the text. If they failed to guess the words' meanings, they would skip the words and then continued to read. Hamit mentioned that he did not pay much attention to the single unknown words, while he focused on more the general idea of the text. He would not feel frustrated even though he came across many strange words, since he got used to it. He said he had a lot experience that when he read a text form newspaper or magazines, he would easily skip the unknown words and continued without any hesitation. From the analysis of their self-report, they stated to use dictionary most, while they would guess and skip sometimes.

When coming across unknown words while reading the texts, middle-level and

advanced-level learners reported determining methods for acquiring the words' meanings most of the time. For this they used both cognitive and metacognitive strategies. They used reason and conceptualized broadly with details (e.g., analyzing and decoding, comparing across languages). They reported distinguishing the words first and then determining whether they needed to search the meaning of a particular word. Most of them reported that if an unknown word was used as a subject or verb, it was important for them to understand the word's meaning, while if the word served as a modifier, they did not pay much attention to it. For example, in the sentence "This is an experimental house…," even though Erbu did not know the meaning of "experimental," she thought this was not a big problem, since the word was used as an adjective to modify the attributes of the noun. In contrast, in the sentence "Ms. Kelly's debt woes are also mostly a matter of interest, not principal, a growing problem for the nation's student debtors," Erbu believed she needed to know the meaning of "woes," since it was the subject of the sentence and the subject usually conveys the main information. To acquire the meaning of the unknown word, she relied on the context of the sentence. Since "woes" was used after the word "debt," Erbu believed the unknown word "woes" must relate to the meaning of "debt." Additionally, the high-level learners occasionally went back to evaluate whether they had understood the correct meaning of a word. It is likely that they, too, came across several unknown words in a sentence. In this case, Erbu argued that she tried to decipher the general idea of the sentence or the paragraph. For example, when she read the fourth text that discussed student loans, she was unfamiliar with many economics-related words, but she summarized the main idea by recognizing the words "borrowing" and "government" and the many numbers in the sentence. She believed that the topic must be related to money.

By comparing the participants' reports, it is reasonable to conclude that when coming across unknown vocabulary, the low-level learners tended to look up those words in a

dictionary and ignoring, while the middle- and high-level learners preferred analyzing the role of the word and determining its meaning by linking it to, or comparing it with, previous or subsequent information, inferring the general idea of the text, and evaluating their conclusion. If several unknown words appeared at the same time, the low-level learners tended to skip them and continue reading, while the advanced learners connected to the general idea of the text.

4.2.2 Complicated Syntax and Strategy Use

Second language readers may come across a text with complicated grammatical structures that are long and include clauses. In such a case, the two low-level readers reported skipping the current sentence and continuing to read the following text. Hamit even stated that he did not care; his approach was to divert his attention to the following sentences, because he thought he could find supporting sentences to help explain the previous sentence. If he failed to grasp the meaning of the sentence, he would simply skip it and continue reading.

When high-level readers saw a long sentence, they split the sentence into parts and broke those parts into subject, verb, adverb, etc. to determine the meaning (the category of analyzing and decoding cognitive strategies). For example, concerning the sentence "Students can take out feral loans to pay for the full cost of attending graduate school, including both tuition and living expenses such food, rent, transportation and child care," Erbu reported recognizing the main clause in the first section prior to "including…," then she identified the subject as "students" and the main verbal action as "pay for graduate school." Thus, the student gleaned the main idea of the long sentence by comprehending the first clause. In addition, Esma reported that when confused about the meaning of the first section/clause of the sentence, she tried to focus on other parts/clauses, since she thought there must be a correlation between the two parts of the sentence. With the help of linking words (if there are)

or other words indicating sentence correlations, she could acquire the general idea of the whole sentence. For example, Esma stated that when she saw the sentence “Wasteful colleges raise tuition every year, we are told, even as middle-class wages stagnate and unscrupulous for-profit colleges bilk the unwary,” she did not understand the second part of the sentence starting with “even as,” but she knew the meaning of the first clause, and with the help of the linking phrase “even as,” she could predict that the latter clause had a progressive relation with the former one, so the latter clause would provide supportive evidence or further details of the former clause. In another case, Chuchu mentioned that if the sentence consisted of many unknown words, she tried to grasp the general meaning of the sentence by relying on the words that she already knew. For example, regarding the sentence “The American student loan crisis is often seen as a problem of profligacy and predation,” she did know the words “loan,” “profligacy,” and “predation.” However, she interpreted the general idea of the sentence by depending on her knowledge of the words “crisis” and “problem.” She then determined that the sentence conveyed a negative message.

It is also noteworthy that when discussing the methods for dealing with long and complicated sentences, all the male learners mentioned that despite being unable to decipher the meaning of a sentence, they did not feel frustrated, while all the female learners reported that the inability to understand a sentence affected their motivation to read through the rest of the text.

4.2.3 Technical Words and Strategy Use

There is considerable research evidence about the nature and coverage of high frequency and academic words. According to Chung and Nation (2003), there are two reasons that technical vocabularies are difficult in ESL reading. Firstly, the English teacher does not usually have specialist knowledge of the learners' technical areas. Secondly, technical vocabulary needs to be worked on while getting on top of the specialized field. Therefore, the

author purposely chose the reading materials that contained technical words regarding economics, mechanics, and science. Additionally, there were two articles contained a lot of people's names and movies' names.

To analyze learners' strategies for dealing with technical vocabulary, two aspects needed to be considered: content knowledge and reading level. First, if learners' technical skills are the same as, or related to, the technical vocabulary in a text, no matter which reading level they have attained, they grasp the general idea of the text, even without knowing the meaning of every technical word. For example, when reading the fourth text, which discussed energy, Tony, a high-level reader, reported that he had sufficient prior content knowledge because he was a science major. He had read many articles on similar topics in the past and he already understood the technical vocabulary in the text. Similarly, Esma, a middle-level reader, stated that the text was related to her major, and she did not have to read word by word, since she had already acquired enough background knowledge to understand the text. There was a specific word that she did not understand, but this did not frustrate her. She liked the topic and remained focused and confident. Second, learners lacking background knowledge would deal with technical words differently according to their level of fluency. From the students' report analysis, it can be concluded that high-level learners successfully interpreted the meanings of technical words by recognizing them, deducing their meaning from other words, and linking them to the context. Chuchu reported that although her major was not related to energy or science, she had read a lot of related articles and could guess the meaning. Take the following paragraph as an example:

> For heating, the house uses direct solar energy (sunshine heating water that circulates through a radiator system), or geothermal energy. This takes low-level heat out of the ground, and uses a heat-pump to convert it into high-level heat for use in radiators-the same principle as a refrigerator, but in reverse.

She did not know the meaning of *radiator* or *geothermal*, but she recognized that they

were technical words. Thus, she believed that these two words must relate to the other technical word *solar*, and she deduced their meanings from the meaning of *solar*. Comparatively, Hamit reported doing nothing with those words, while Badar reported looking them up in the dictionary.

4.2.4 Large Numbers and Strategy Use

Large numbers appeared in the texts now and then. The English cardinal number system may be different from that in other languages. In this line, ESL learners may take a lot of time to read large numbers. The following is a discussion concerning the number systems in the participants' native languages. To begin with, In English, large numbers are listed in order of size, biggest first. Large numbers are described with a series of different figures, grouping numbers in hundreds and tens, starting with the biggest number. People describe hundreds/tens of millions, then thousands, then hundreds. Constructing numbers in Turkish is simple and straightforward. The rule is to line up the parts in decreasing magnitude like in English, but without putting any conjunctive words in between. Similarly, Arabic numbers are read in the same order as English numbers, from the largest to smallest place, except for the ones digit, which comes before the tens, though it can be confusing when concerning the more advanced rules for case and gender. So 1964 would be read "one thousand, nine hundred, four, and sixty." On the other hand, the number system in Indian and Chinese are different. Numbers in Indian over 9,999 are written in two-digit groups (or a mix of two- and three-digit groups) rather than the three-digit groups used in most other parts of the world. The terms *lakh* (100,000 or 1,00,000 in the Indian system) and *crore* (10,000,000 or 1,00,00,000 in the Indian system) are used in Indian English to express large numbers. In addition, the manner in which large numbers are broken down in Chinese is a little different from English. Unlike in English, where large numbers are broken down by the number of *thousands* they have, Chinese forms numbers between 10,000 and 100,000,000 based off

of how many *tens* of thousands they have (with another set of rules for numbers 100,000,000 onwards that will be explained later). Mandarin has two units that English doesn't have (or at least, it has unique words for these units, whereas English describes them with combinations of other units). These are: 万 (wàn): ten thousand; 亿 (yì): hundred million.

Regarding large numbers in English readings, the participants did not report using any strategies. Those with both low and advanced proficiency stated that they skipped large numbers without understanding what they meant. When reading the fourth text that contained several big numbers, Erbu, a high-level reader, stated that since she is not good with numbers, she just skipped them, even though the number systems in Turkish and English are the same. She thought the numbers were too big and difficult to read. In line with this, Chuchu believed that these numbers were only evidence that the writer used to support the main idea, and she passed over them as well. She also mentioned that if questions were put forward to ask about these numbers, she would go back to check their meaning. Therefore, she underlined these numbers while reading. It is also worthwhile noting that irrespective of the similarity between the number systems in the participants' native languages and English, the participants from professions dealing with numbers very often reported that they did not worry about large numbers, since they were already used to reading numbers every day.

4.2.5 Idioms and Strategy Use

According to Bores (2008), idioms are fixed expressions that are typically used in a figurative sense. All languages are full of idioms, and native speakers use them spontaneously without even thinking about their figurative nature. Language learners generally find idioms hard to understand, and this is not surprising. For example, learners are often not sure what image the idiom is based on. If a native speaker proposes to *show you the ropes* and you are not familiar with this expression, you might not immediately understand that she is proposing to teach you how to do a certain job. It would help if you knew that the expression

was originally used in the context of sailing, where an experienced sailor had to show a novice how to handle the ropes on a boat.

The results of Angel's (2014) study showed that trained students use more strategies to deal with idioms in reading, for example, inferring from text, words' meaning, interlingual similarity, or metaphor; consulting the dictionary; asking teachers or peers; ignoring; inferring plus verifying; and dictionary plus verifying. Additionally, the author also discovered that when learners codebreak the meaning of idioms through analysis of their individual meanings, they are more successful than when they use the context for this purpose. Understanding the content of texts is helping learners to do appropriate inferring and to be more engaged and interested in continuing with the reading.

With regard to the current study, Erbu reported focusing on the words' meanings and trying to determine if the words should be understood by their linguistic meaning or metaphorically. She stated that the words in idioms should most often be understood by metaphorically. In addition, the learner mentioned that she tried to understand the meanings of idioms according to the context. For example, the character in the reading was described as happy, followed by an idiomatic expression; therefore, the learner inferred that the idiom was related to the character being happy. Furthermore, Erbu reported linking the meanings or previous and following sentences to understand the idioms' meanings. For example, when she read the sentence "She was no spring chicken," she tried to infer its meaning by reading the following sentence explaining "how hard she was trying to maintain her youth." On the other hand, Esma, from the middle-level group, thought idioms were only a small part of the text. As long as she could get the main idea, she did not worry about the idioms. Hamit, from the low-level group, stated that he ignored the idioms and continued reading.

When discussing how to learn idioms as part of daily learning, Erbu stated that she thought idioms were more important for daily communication than for academic learning.

She argued that it was important to know the history of an idiom in order to understand its meaning. She believed that there must be a story about each idiom; therefore, knowing the story was crucial to understand the idiom's meaning. Esma, from the middle-level group, reported that communicating with native speakers is the best way to learn idioms. When others use an idiom during communication, she can acquire and remember the idiom's meaning easily, whereas if she has to learn an idiom from a textbook, she may forget it quickly. Hamit thought that reading more was a helpful approach for learning idioms. In addition, he stated that he takes classes on idioms on the computer sometimes.

4.2.6 Text Length and Strategy Use

Taferner and Murray's (2013) study investigated the influence of timed readings of different lengths on reading fluency and comprehension. The results of this study show that there is a significant effect on reading speed when text lengths vary. The results indicated that the longer texts of 400 words in length led to gains in fluency that more than doubled the fluency rate of those participants reading 200-word texts. In addition, the length of the texts did not have a significant impact on changes in comprehension gains in reading comprehension. Similarly, Jalilehvand's (2012) investigation on Iranian English students gained the same result that length had no significant effect on reading comprehension. The results from the current study confirmed the previous findings that the participants stated that they could understand the long story very well even though it was very long.

Regarding the strategy used by ESL learners across reading proficiency levels for dealing with long articles, Tony, from the advanced-level group, reported that he would reward himself after finishing reading a very long article. He stated that if the article is too long and does not sustain his interest, he would read part of the article and then take a rest to drink some coffee or listen to music for a while; this would enable him to refresh his mind and then continue reading the remainder of the article. By contrast, if the text was a story or

concerned a topic in which he was interested, he would eagerly read more and predict what was going to happen next, what the climax would be, etc. Esma reported that she would skip a paragraph, if she could not get the main idea from it, and continue reading the following paragraphs. After that, she would go back and try to determine the paragraph's meaning. Bandar reported that if he had enough time, he would read the text twice in order to understand its meaning.

4.2.7 Summary

The above discussion reported the results of the weekly interviews with the six participants about the different reading difficulties the participants experienced and the possible strategies they might use. It was informative to note that learners from the middle- and advanced-level groups were likely to use more strategies than those from the low-level group. The former preferred to use cognitive strategies to deal with unknown words, complicated grammatical structures, idioms, and technical words, while the latter would ignore or look up words in the dictionary in response to the same problems. In addition, all the participants reported ignoring large numbers unless there were questions afterward about those numbers. Moreover, when reading a very long article, the learners from these three groups reported different answers. Table 4-4 provides the information concerning how the participants dealt with reading difficulties.

Table 4-4 Reading Difficulties and Strategy Use

Reading difficulties	Low-level participants	Inter-mediate level participants	Advanced-level participants
Unknown vocabulary	Skipping; looking up dictionaries	COG: inferring; META: evaluating	
Complicated syntax	Ignoring	COG: analyzing and coding	
Technical words	Nothing or look up dictionary	COG: recognizing, deducing, and linking	
(with background knowledge)	No need to know every technical word's meaning		
Large numbers	Ignoring		

Idioms	Ignoring Reading more times		COG: inferring, coding, linking
(to learn idioms in daily lives)	Reading more, taking classes	Communicating to native speakers	Learning the history of the idioms
Long texts	Reading more times	Ignoring some unimportant paragraphs	COG: Splitting the text into parts, and reading separately; AFF: rewarding

4.3 Text Content/Topics and Strategy Use

This section presents the ways in which learners across proficiency levels use SRL strategies to deal with different topics in English texts. The given topics included narrative stories, history, business, science, and social studies. The results were obtained from the learners' self-reports and self-monitor forms.

4.3.1 Narrative Stories and Strategy Use

Mallan (1996) explains that the story is essential to human existence. The story told has distinctive characteristics that make it an excellent technique to foster oral language development and provide a rich foundation for literacy. In fact, cultures all around the world have always used storytelling to pass knowledge from one generation to another. Our ancestors understood very well that this was the best way to make sure our histories and information about how to relate to others and to our world was not only understood, but remembered too. Children learn as they participate in meaningful experiences and interact with adults, constructing language during the process. Adults also have meaningful interactions with the authors when reading texts.

The current study included long and short narratives. It is interesting that the participants from all three reading level groups recognized both the long and short narratives as easy to understand. They reported understanding the general idea, even though they came across several unknown words. When they saw unknown words, they were likely to ignore them and continue reading. They did not think that those words were essential to the meaning

of the larger text. They reported that these texts convey complete ideas, and not knowing one or two words would not impede grasping the whole idea. In addition, they had more success when they used a cognitive strategy and inferred the meaning of the words from the context. For example, several participants mentioned that they did not know the meaning of the word "handyman" in the first story. All of them tried to guess the word's meaning by inferring from the context, and they all correctly guessed the meaning. They reported that the paragraph containing the word described how poor the man was, and when he introduced himself to the girl, the most likely characteristic to describe should be his poverty.

> Three months later we went to Salvo's restaurant again. I said: "Gina, I love you. I want to marry you…but we need more money." We were so happy, but we had no money. I was a handyman and I didn't make much money. And Gina was a teacher of small children. She was poor.

Moreover, all the participants reported that they were most interested in reading stories. They reported that "the story encourages me to turn the next page and read more. I want to find out what happens next, what the main characters do, and what they say to each other." Stories made them feel excited, sad, afraid, angry, or really happy. This is because the experience of reading a story is likely to make them feel that they are part of the story: "Just like in our 'real' lives, we might love or hate different characters in the story. Perhaps we recognize ourselves or others in some of them. Perhaps we have similar problems." The experience of reading a story allowed them to escape their own lives for a moment and live another life in a fun and safe way. Therefore, they like to link their own experiences to the stories they read. For example, Erbu reported in the first simulated recall that "I just like the topics, about real life and relationships between men and women. It's kind of familiar to me… I know how they are talking and how men are trying to talk to women, or I know how women give an answer."

While all participants used the same strategies, there were also differences in the strategies they used across proficiency levels. Compared to low and intermediate readers,

high-level readers reported using the strategies of predicting, summarizing, and brainstorming. Erbu reported that she would predict the next part of the plot when she read something familiar: “I think maybe they will talk about marriage, and I wonder what will happen next.” Tony reported combining similar topics in order to understand the whole story, since the story contained many paragraphs, and he noticed that several paragraphs discussed the same topic. Thus, it would be helpful for him to link these similar topics and create a story line. In addition, while reading, he brainstormed about what he already knew. For example, when he read the description of movies in the first story, he reported, “I thought about myself. I also like movies, so initially I thought the article was about some movies and was focusing on different kinds of movies or something like that…” Here, we can also conclude that he used prediction as a strategy to determine that the topic of the article was movies.

4.3.2 Historical Articles and Strategy Use

The second reading used in stimulated recall activity concerned the history of the American Girl Scouts and the founder of the Scouts. ESL learners have a doubly difficult task with regard to history. Not only are they challenged with learning core historical knowledge and skills but also with learning English. Therefore, all participants reported being unfamiliar with the given topic, and it affected their reading speed and comprehension significantly.

> It makes (much) harder because I don’t know about the United States, the other state, and the man, and their purpose, the organization. If I read something about maybe my culture, my country, if I know the organization and maybe their aims, it would be easy to understand.

Esma reported that the history article included many professional names, which affected her comprehension and motivation strongly. Moreover, according to Bandar, history articles are written with too many details and information, which make him too bored to read them. They reported different methods for understanding the main idea of the given article. Tony reported that he would link his own experience and compare the information he knew about the organization to the description in the article:

> …back in India, I also was a member of the Scout. So, for a second, I went back to the good old memories back in India…I don't know exactly what the Scout in U.S. means. I suppose it is the same back in India. Also, here, it is said that opportunity to get out of the house, get an … in the community, and outdoors. From those three words, I could find out that the Scout which is meant in India and U.S. are the same.

In addition, both Tony and Erbu stated that they would summarize the main idea of each paragraph in order to generalize the main idea of the article:

> This paragraph tells about the person who started the Scout, how did she get the idea of starting a Scout over here in the United States. Also when I read this paragraph, it gave me more and more idea about how she formed the Scout and all those things. (from Tony's second self-report)

> …what can girls do, or what can boys do, what kind of things. It gives information about where the idea came from and how it comes from Untied States, where it began. (From Erbu's second self-report)

Bandar and Hamit, alternatively, reported that they would search the Internet to help them find background information about the given topic, if there were allowed to.

The names of people or locations commonly appear in historical articles. Generally speaking, most participants believed that being unfamiliar with these names would not affect their comprehension, while participants at different reading levels still responded differently to the special names. Tony and Erbu, from the high-level group, reported that they would deduce the references to special names from the context and then check if they were correct while reading the following passage. The following is an example of Tony inferring the meaning of the name *Low*:

> When I read the first line, it was 'Low took these ideas back to the U.S.' I was thinking it was a printing mistake. I was thinking instead of Low, it should be 'now took these ideas back to the U.S.' then I found out that Low is the name of the person who founded them; her name is Juliette Gordon Low when I continue and found out here.
> Here is another example when Erub inferred the meaning of the place's name:

> I know the Georgia State, but I don't know the meaning of Savannah. I just think about the Geogia. Maybe it's near the southern of , and the last sentence, it's a museum in Savannah, I think that maybe I can go and visit…

Since Savannah and Georgia appear together in the text, the student believed that their

meanings must be connected to each other. And through the following reading, the reader further evaluated herself and made sure that Savanna was a place's name that was next to or in Georgia State.

In line with this, Esma reported inferring the meaning from the context, but she did not state that she would monitor or evaluate her inference. Moreover, she was the only participant who felt frustrated when coming across many professional names in the text:

> I don't know this one, this one, and troops. I don't know. I didn't know two sentences, so when I read third sentences, I feel bad because reading something, but I don't know. It's go down my motivation.

The low-level participants reported that the special names were not important to them, and they would focus more on the main idea. They would just pass the names and continue reading, since there was no need to worry about a single name. They thought it would not affect their general comprehension or confidence at all.

4.3.3 Scientific Articles and Strategy Use

ELLs may lack of background knowledge in science. The "hands-on" approach is different from what they are used to. Drawing conclusions on their own may be difficult for ELLs. In their own culture students may not have been trained to make guesses. Haynes (2009) concluded several challenges that ELLs face when studying science: the vocabulary of science presents a huge difficulty. There are a special set of terms for the student to learn. Even simple words that the student may know, could have another meaning in science; material is covered very fast; directions are often multistep and difficult; there are too many concepts explained on each page of a science text; cooperative learning may not fit in with students experiences in learning; visuals may be confusing and difficult to understand; sentence structure is complex and the passive voice is used in textbooks; what was taught in class does not always match the assessment; ELLs are not used to science labs or equipment; students lack background in scientific method; there is no standard form of delivery of

information.

In line with this, the organization of NYSUT (2009) reported that learning the language of science and the vocabulary of science presents multiple challenges for ELLs. The language and concepts of science are often abstract. This level of abstraction goes beyond the understanding of individual vocabulary words. It is embedded in the basic syntax of sentences, the language functions connected to science, and the patterns of discourse of science. One issue for ELL students is that understanding polysemous words which are words with multiple meanings. These words may have everyday meanings and, at the same time, very specific meanings in science. A class of animals is not connected to a school. You do not sit at the periodic table. There are also words with very particular meanings in science that have very different definitions in other subject areas such as power (exponent of an expression in math, energy transferred per unit of time in physics), replicate, translate, and conservative.

The participants reported using several strategies to overcome the above difficulties that they faced in reading. To begin with, two of the six participants majored in scientific engineering, which provided them with many opportunities to read scientific articles in their daily lives. In this regard, both students reported linking their prior knowledge and comparing it with the text when they came across difficulties while reading. Tony, from the advanced level group reported the following:

> I couldn't find any, any of those words (difficult) because it is somewhat related to my major because my major is mechanical engineering. So during my studies i came across a lot of those terms. So i couldn't find such difficulty to know...So I was trying to think what's the principle for the refrigerator because I have studied, I have studied the principle of the refrigerator when I was a college student. So I was just trying to remember what the principle of the refrigerator so that I can put it in the best manner and I can find the meaning of these words.

Though she was from the middle-level group and felt that the other articles were difficult, Esma found the science article easy and interesting, whereas most participants found

it difficult. She also reported linking to her own major while reading the science article:

> It said, it's about kinetic materials--first of all. I don't know. And then it involves small engines and energy, solar panel-I know solar panels. Maybe it's about specific parts. Solar panels. When I read here, I don't remember reading this part what is. But I read this paragraph interesting and. I know solar energy and so I didn't read this information and I know this term. Maybe it's about something... And I'm not sure this word but I read this part-maybe it's about for credits. They are using the small machines to... So I don't worry about this problem because I know something about thermal energy.

The participants whose majors were not related to science reported using different strategies. Erbu, from the advanced-level group, reported analyzing and decoding the complicated sentences when reading:

> I read it then I come back and try to read it again. I read to the comma then I read the next one. If I read the part of the sentence it's easy to understand, but if I try to read the whole sentence it's confusing.

Chuchu, from the intermediate-level group, reported underlining the unknown terms, then looking them up in the dictionary and memorizing them if necessary.

4.3.4 Business Articles and Strategy Use

Reading business material in English will English learners learn what's happening in English-speaking markets; discover new ideas and motivation to go further in your career; make informed decisions based on the information you read; and gain power by not relying on others to translate for you. Understanding business English material is different from understanding other material in English. First of all, certain industries have a set of vocabulary words that only people who work in the industry understand. Additionally, reports, instructions, contracts, newspapers and magazines use sentence structures rarely seen in the latest bestselling novel. Writers of business material may use the passive voice and long, complicated sentences.

The business articles used in the current study were two pages long and contained several professional terms and subheadings. In order to comprehend the material, participants across reading proficiency levels applied different strategies. Overall, all participants,

irrespective of their reading levels, reported inferring the meanings of specific terms from the context:

> I don't know some words here--like stagnate and unscrupulous. I don't know what they mean. But when I read these sentences about college and tuition, it creates a view about this. Maybe (it means) college doesn't profit much like that (Hamit, from the low-level group).
>
> In the first three paragraph; it's very hard for me. I don't know words in here--lawn, propagate...When I read text, I saw students, college, and some price. I think it's about school price. (Esma, from the intermediate-level group).
>
> In the second paragraph, still a lot of words that I don't understand but I start to understand the main idea about this article because I see borrow and I see numbers and I think it's about money. I know this article may be about student borrow money from the government. (Chuchu, from the intermediate-level group).
>
> I don't know the meaning of the second sentence...I try to guess the meaning, depending on the first sentence because it will be an explanation of the first sentence. (Erbu, from the advanced-level group).

The two participants from the low-level group reported skimming and scanning the articles, since they were too long for them. Bandar reported scanning the first paragraph because it contained a lot of unknown words,

> I read the first sentence, then scan the first paragraph, if I don't understand every word. I hate reading all the paragraph to understand what's going on.

Compared to the two low-level students, who thought the subheadings were not helpful, participants from the other two groups reported that this information helped them get an idea of what they were about to read.

For example, Erbu reported the following:

> ...because they separate the paragraph and I start kind of new chapter and I can maybe guess the topic without... They have subtitles. They are helpful. Because the passage is really long and I have to divide to understand. And its words are hard then for passages.

In addition to paying attention to the subheadings, the participants from the intermediate- and advanced-level groups reported analyzing and decoding sentences to determine their meaning, as well as stopping and summarizing paragraphs to summarize the

general idea of the text. For example, in order to understand the sentence "According to the Federal Reserve Bank of New York, the number of active borrowers enrolled in college has declined to roughly nine million todays from about 12 million in 2010," Erbu reported the following:

> If I read the whole sentence one time, it's hard to understand, but I try to read part, part. I read until comma, then I read until word, and again the other sentence word, and compare the numbers.
> In addition, Tony summarized the paragraph by reporting that

> the next paragraph, they are just talking about a high school teacher who had a huge debt. So they are just giving an introduction about the high school teachers, how she coped.

4.3.5 Social Studies and Strategy Use

Similar with U.S. history, social studies provide big challenge to ELLs. They have very limited background knowledge to activate. ELLs lack prior knowledge of U.S. and U.S. history, geography, and current events needed. Many students will memorize information, but it has no relevance for them so the information is quickly forgotten. Haynes (2009) discussed several ELL's difficulties when studying social studies: use of higher level thinking skills for reading and writing; lack of familiarity with historical terms, government processes, and vocabulary; social studies text contains complex sentences, passive voice, and extensive use of pronouns; ELLs may not be used to expressing their personal opinions; nationalistic and cultural focus of maps; concepts which do not exist in all cultures are difficult. This includes privacy, democratic processes, rights of citizens, free will; no concept of movement within the structure of a society; ELLs are seldom asked to contribute an alternate view that reflects conditions in other countries; use in our schools of "timeline" teaching vs. learning history by "dynasty" or "period"; difficulty with understanding what is said by the teacher and being able to take notes; and amount of text covered and the ELLs' inability to tell what is important in the text and what is not important.

The material in the field of social studies in the current study provided an introduction

to, and description of, the feature “Angelyne”—which is known to most native English speakers in the United States—while many English language learners are not familiar with the story. In order to understand the meaning of the text, the participants reported using various strategies. First, the low- and intermediate-level participants reported checking the dictionary when they came across “big” words that hindered their comprehension of the text. For example, Hamit reported the following:

> After I read--if I don’t understand, after if I read--even if I don’t understand, I can check my dictionary. (If) I don’t have a dictionary, I cannot ask seek my friend or my teacher--I read again and again.

From his report, we can see that he tried to read as many as he could in order to understand the meaning; if he still felt that he could not understand, he would refer to the dictionary. In line with this, Chuchu, from the intermediate-level group, also used the dictionary for help:

> I think during the reading, I can only guess or pass but if I can use the dictionary, maybe I will look up these words in the dictionary and I think that can help me understand this paragraph.

From Chuchu’s report, we can see that she preferred consulting the dictionary to using other cognitive strategies to understand the text. In addition to using the dictionary, the intermediate-level participants would infer the words’ meanings when reading, as evinced in Chuchu’s example above. Moreover, they reported analyzing and decoding sentences to ascertain the main idea. For example, Esma stated the following:

> Perceptions of reality, when I look here, I think about the grammar. And this is noun and it’s extra information about reality. It’s about reality’s small part. And fictitious--I don’t know what it means...this is an adjective so I don’t worry about it.

From the above report, we can see that Esma analyzed the speech of the word and determined which one was more essential for comprehension. In order to understand the important words, she would guess the meaning on the basis of the contextual information at hand.

The participants from the advance-level group also reported inferring and analyzing using cognitive strategies when they came across difficult vocabulary. They also reported summarizing the paragraph and planning their reading in advance in order to better understand the reading material. For example, Tony stated the following:

> I first skimmed through the article, and I could learn that it is two pages long, so I feel like it will be easy. I read the title, and for a second, I was thinking what can be the meaning of the heading. (planning)
>
> The first two paragraphs were just introduction paragraphs. They are just giving a short description about what they are talking about. In the third paragraph, they are throwing out more details and ideas about what they are talking about. (summarizing)

From Tony's discussion, we can see that before reading through the text, he first got the basic information from the length and title of the text and then made a plan for how he would continue reading. Then, after reading the first three paragraphs, he would choose to stop and summarize the previous text to see if he had understood it successfully.

4.3.6 Summary

The reading materials used in the current study contained five main topics that students may come across in their academic and daily lives: native stories (one short, one long), history, science, business, and social studies. From the above demonstration of the participants' self-reports of the strategies they used, we can deduce that the intermediate- and advanced-level students applied more cognitive strategies (inferring, summarizing, analyzing and decoding, comparing and linking, etc.) than the low-level students did, while the low-level students preferred ignoring the obstacles, re-reading, or looking up words in the dictionary. Meanwhile, the advance-level participants used more metacognitive strategies, such as monitoring, evaluating, and planning. It is worthwhile mentioning that the results are based on the majority of the strategies used. This means that even though the results showed that the low-level students reported ignoring difficulties, it did not mean that they did not use any strategies at all. Only if both participants in each group mentioned using a strategy did

the author record it in the results. The results showed that the high-level learners used different cognitive and metacognitive strategies when reading the texts; however, this does not mean that they never used the dictionary or easily ignored difficult terms. The reason the author did not include these latter strategies in the results is that only one participant mentioned this approach or used it only one or two times. The following table provides a general demonstration of the contents of the articles or topics and strategies used by participants at different reading levels.

Table 4-5 Text Content/Topics and Strategy Use

Topics	Low-level participants	Intermediate level participants	Advanced-level participants
Narrative	Ignoring unknown words; COG: inferring from the context; linking to own experience		
			COG: predicting, combing/linking similar things; brainstorming
History	Soc: Using internet		COG: comparing, summarizing
Names:	Ignoring	Inferring	Inferring, monitoring, evaluating
Science	Looking up dictionary; underlining; memorizing		COG: analyzing and decoding
Related majors	COG: linking and comparing		
Business	Inferring		
	Skimming and scanning	META: paying attention COG: analyzing and decoding; summarizing	
Social studies	Looking up dictionary		
		COG: Inferring Analyzing and decoding	
			COG: summarizing Meta: planning

4.4 Cultural Background and Strategy Use

A typical North American classroom in present days is comprised of individuals from all areas of the globe with a myriad of cultural norms and social mores. This tremendous diversity and lack of cultural commonality can lead to feelings of alienation, anxiety and tension (Mohammed-Al, 2004). These learners will find that studying English in North America is quite different from what they have experienced and accustomed to in their home countries. Culture is believed to serve as a framework for the perception of others and guides the interpretation of classroom interaction. It is necessary to examine the cross-cultural differences that occur in the process of learning in order to analyze not only how learners make sense of the what they have read every day, but also how these culture differences influence learners use varieties of learning strategies to overcome difficulties in language reading and language learning. Due to the limited number of participants in the current study, the author believed that a narrative analysis of the participants' discourse reports from the stimulated recall tasks could provide useful information and evidence. The data collected reflect the following themes, and the remarkable responses from the participants are given in text format below.

4.4.1 Indian Learners and Strategy Use

Tony, from India, talked about using a lot of cognitive strategies. For instance, he stated the following

> I couldn't find any, any of those words (difficult) because it is somewhat related to my major because my major is mechanical engineering. So during my studies i came across a lot of those terms. So i couldn't find such difficulty to know...So I was trying to think what's the principle for the refrigerator because I have studied, I have studied the principle of the refrigerator when I was a college student. So I was just trying to remember what the principle of the refrigerator so that I can put it in the best manner and I can find the meaning of these words (linking and comparing).

> This paragraph tells about the person who started the Scout, how did she get the idea of starting a Scout over here in the United States. Also when I read this paragraph, it gave me more and more idea about how she formed the Scout and all those things (summarizing).

> When I read the first line, it was 'Low took these ideas back to the U.S.' I was thinking it was a printing mistake. I was thinking instead of Low, it should be 'now took these ideas back to the U.S.' then I found out that Low is the name of the person who founded them; her name is Juliette Gordon Low when I continue and found out here (inferring).

Tony also reported to use metacognitive strategies, but not as many as the use of cognitive strategies:

> I first skimmed through the article, and I could learn that it is two pages long, so I feel like it will be easy. I read the title, and for a second, I was thinking what can be the meaning of the heading (planning).
>
> I skimmed through this paragraph. After making a rough interpretation of what's written in the paragraph, I again just went back through this sentence again and again (monitoring and evaluating).

Concerning socio-cultural and affective strategies, the student mentioned once he would reward himself and he did not report to use any socio-cultural strategies:

> Maybe having coffee might help me reading, because it is nightmare, or if I'm feeling sleepy, of course, having a cup of coffee will help me to concentrate, to help me keep awake (rewarding).

As discussed in the literature review, there is little research concerning strategy use and ESL learning in the Indian context. Therefore, it is difficult to find similar results from previous studies that can support the findings from the results above.

4.4.2 Turkish Learners and Strategy Use

Erbu mentioned that she would use different cognitive strategies when reading. For example, she affirmed by saying the following:

> I just like the topics, about real life and relationship between men and women. It's kind of familiar for me…I know how they are talking and how men are trying to talk to women, or I know how women give an answer (linking).
>
> I think maybe they will talk about marriage and I wondered what will happen next (predicting).
>
> If I read the whole sentence one time, it's hard to understand, but I try to read part, part. I read until comma, then I read until word, and again the other sentence word, and compare the numbers (summarizing).

In a similar vein, Esma said that:

> I don't know this one, this one, and troops. I don't know. I didn't know two sentences, so when I read third sentences, I feel bad because reading something, but I don't know. It's go down my motivation (inferring).

> Perceptions of reality, when I look here, I think about the grammar. And this is noun and it's extra information about reality. It's about reality's small part. And fictitious--I don't know what it means...this is an adjective so I don't worry about it (analyzing and decoding).

Even though Hamit, from the low-level group, did not report to use many strategies, he also stated that he used cognitive strategies the most:

> I don't know some words here--like stagnate and unscrupulous. I don't know what they mean. But when I read these sentences about college and tuition, it creates a view about this. Maybe (it means) college doesn't profit much like that (inferring).

The three Turkish participants did not state that they used socio-cultural or affective strategies very much. This finding showed that the strategies Turkish students used the least often were affective strategies.

4.4.3 Chinese Learners and Strategy Use

Chuchu reported to use a medium use of cognitive and metacognitive strategies. She uttered:

> In the second paragraph, still a lot of words that I don't understand but I start to understand the main idea about this article because I see borrow and I see numbers and I think it's about money. I know this article may be about student borrow money from the government (inferring).

> I think the subtitles are useful, and they told me the topics of each part (paying attention).

This result reflected that all categories of strategies, except compensation, fell in the medium range. It is also noteworthy that the Chinese participant was the only learner who mentioned paying attention to the information that she thought could be included within a test question.

4.4.4 Arab Learners and Strategy Use

Bandar was the participant with the lowest English reading proficiency. He reported referring to electronic resources to help him understand the materials most of the time:

> I underlined the word, and then I translated them. I use Google translation.

> I don't have strategy to read the paragraph, to help me or (make it) easy. But i have knowledge. I depend a lot on my knowledge. If I know, I understand. If I don't understand, I translate, or ask help from teacher.

4.4.5 Summary

Analyzing the participants' self-reports from the stimulated recalls and self-monitor forms enabled a discussion of the relationship between learners' cultural backgrounds and their strategy use. The Indian participant claimed to use mostly cognitive strategies, followed by metacognitive strategies, but he did not mention using many socio-cultural strategies. Similarly, the Turkish participants reported using mostly cognitive strategies, with little use of socio-cultural and affective strategies. The Chinese learner used a medium range of cognitive and metacogntive strategies. The low-level Arab student reported using few strategies, but he said that he preferred using electronic dictionaries to help him understand the texts. Comparing the above results with those of previous studies, we can see that some of the results supported the previous studies, while others contradicted them. An explanation for this will be offered in the next chapter.

4.5 Effects of Cultural Background Knowledge on Reading Comprehension

This section will discuss the results of the effect of cultural background knowledge on reading comprehension. Different from previous studies that investigated the topic via a quantitative approach, the current study focused on learners' discourse from stimulated recall and interviews. All the participants agreed that they felt more comfortable and confident, and understood the reading material better when the text contained content that related to their own culture. For instance,

> Because some actions I know before the reading. When I read that, I can really afford for understand(ing). So it's very helpful (Esma, Turkish, intermediate level).

> My culture affects my language. But when I think English, we don't have the same culture. It is exactly separate each other. Of course, it affects because when I explain my culture, and my culture has a lot of different things from English (Hamit, Turkish,

low proficiency level).

> Sometimes if the topic is related to my culture it's easy to understand. But it's not related to my culture or it's really different from my culture, I try to understand what the reading; vocabulary and maybe sentences. And also about culture backgrounds, why do people act like that? Or why do they think like that? Because it's more challenging to understand both passage and the meaning (Erbu, Turkish, advanced level).

Among the three Turkish participants, there was agreement that their culture affected their reading comprehension. The low-level learner tended to complain about the cultural conflict between the western and Turkish cultures and its obstructing effects. The intermediate-level learner stated that she could have better understood the texts if she had found similarities with her culture. The high-level learner not only stated the positive role of the cultural similarities in reading comprehension but also argued that she would adopt appropriate strategies to deal with cultural conflicts that appear in texts. In brief, the results confirm the positive effect of background knowledge and cultural familiarity on reading comprehension.

In order to better understand how the learners' cultural backgrounds affected their reading comprehension, several articles on different topics were adopted as reading materials in the current study. A detailed discussion of the effects of the participants' cultural backgrounds on their reading comprehension is as follows.

4.5.1 Effects of Cultural Differences on Student Loans and Reading Comprehension

When reading the fourth article that discussed how an adult learner dealt with her student loans, the learners from India, Turkey, and China reported relating the text content to their experience in their own countries:

> I was thinking about the student loans and all those things in the U.S. so like in India, this not like U.S. Now usually, when someone is a student, they will not lend out this (many) money from the bank. Usually, their parents will support them. So this is not the case in India. So for a second, I was just comparing the case in India and back in U.S. …Actually it helped me in reading because I could compare the situation back in India, and I could compare the situation in the U.S. (Tony, Indian).

In line with this, Chuchu, from China, also gave the similar response:

> When I read the woman need to borrow the tuition from the bank, I thought about my own tuition. In China, the parents will support their children's tuition till to the college. It's different from here.

Another example came from Esma, from Turkey:

> In U.S. you have to pay the tuition for universities but in my country we don't have to pay tuition. All universities are free. So, having loans are not really familiar for me. We have the debt in Turkey but it's not kind of big money. You just take money for a month, it's really small amount of…so I tried to understand they have really big problems…we don't have this kind of system in my country. Sometimes, it's not easy to understand the system, their money, and there's some kind of interest. If I'm familiar with this system, if I had my own loan or if I had to tuition here, maybe it's easy to understand.

The results indicate that the way in which students pay their tuition in the United States differs from that in these three participants' countries, which influenced their reading comprehension in different ways. First, the advanced-level learner found that it helped to understand the meaning, since he could compare the differences, analyze evidence, and finally acquire the needed information. By contrast, the other students felt that the differences impeded their understanding. They reported that they would have better understood the text if they had been more familiar with the system.

4.5.2 Cultural Familiarity with Marriage and Reading Comprehension

When reading the first text that recounted a story about two lovers, all participants felt motivated and they all believed that they had understood the text very well, not only because of the simple vocabulary but also the cultural similarities concerning marriage. The six participants agreed that when talking about marriage, money would be an important issue—the same as the situation in the reading materials. Bandar, from Arab report the following:

> If two people get together and they don't have money, the woman doesn't worry about the money, and the man thinks about the money.

Similarly, Hamit, from Turkey, also reported to relate men's responsibilities when

reading the text:

> We have the same responsibility, responsibility like that, because in my country when we marry we need to take care of our bay, our wife.

Chuchu explained the cultural similarity from another angle. She looked at the issue in the text from the perspective of the characters and tried to understand the characters' feelings:

> People fall in love and they talk about marriage. And they also talk about money if they want to get married. I can understand this man. Although I don't like him, I can understand his side. Money is important but love is important too.

The above discourses show that learners are likely to refer to their own culture when they come across easy and interesting topics. As human beings, all of us experience love; therefore, when these learners read the given text, they easily placed themselves in the characters' positions. This allowed them to understand the text very well.

4.5.3 Cultural Familiarity with Science and Reading Comprehension

With regard to the third material that introduced future energy, only the two advanced-level learners reported relating the content to their cultural context:

> In India there is a huge amount research regarding how to harness energy from sun and all those things. There are a lot of studies going on in this particular area and government is also putting a lot of research funds and all those things for harvesting solar energy, wind energy. So when I read the article I thought about the researches and studies back in India. So I was thing the article talking about the houses in future, all that talking about the general and throughout the whole world almost. So after 50 years this might be the case in India too (Tony, Indian).

> In Turkey we talk about energy every time we try to thing how to use energy, environmentally and we thing that we will be finished the—some kind of energy, like coal or gas we have to figure out how to use it and a lot e need to improve the environment so it reminds me the—our plan about energy (Erbu, Turkish).

The results indicate that when encountering difficult articles containing many unknown words, high-level learners had a greater possibility of using their cultural knowledge to help them understand the new text. Since there were three participants from Turkey, there was no doubt that they shared the same cultural knowledge. However, only the

advanced learner mentioned the similarities in the energy study between Turkey and the United States. This finding is supported by Erbu's statement about when she read the fifth text concerning the idol image and advertisement. She was also the only one among the three Turkish learners who reported relating her cultural knowledge to the content of the reading material:

> We use the same advertisement methods and we use picture on billboard and everywhere and I think that we have the same thing in my country. We say the same thing. Sometimes, it's helpful if you have the same thing. I'm familiar with that. That's kind of helpful.

4.5.4 Cultural Similarities Regarding Women's Rights and Reading Comprehension

Another interesting and noteworthy result is that when reading the second text that described how the first Girl Scouts troop was established in the United States, the male and female learners related to different cultural knowledge. Tony recalled his own experience of joining a similar Boy Scouts troop in his own country, and similarly, Bandar recalled his own experience and reported that back in Arab, girls and boys play separately. For example, Tony stated the following:

> When I see the word Scout, the real meaning of the word came to mind. Back in India, I also was a member of the Scout. So, for a second I went back to the good old memories back in India. I was reading all those things, all those paragraphs with an idea of what a Scout it is and all those things. I think it helped me a little bit for progressing ideas form one paragraph to another paragraph.

Different from the male learners' responses, Erbu and Chuchu recalled the status of women in history. Both of them mentioned the low status of women in the past and how women made efforts to improve their status. The following are their responses:

> I think about the girl because also in my country and some Asian country, they don't allow girls to educate, and they want girls at home, they want them to cook meal and clean the house, so I think about this kind of thing, and it's more coming Africa and Asia, not maybe United States (Erbu, Turkish)

> I think my background helps me to read this article because in China is the same. In the past, the girls cannot go outside and they could not go to school to study. They only stayed at home. Later someone helps. I think it's the same (Chuchu, Chinese).

From the above statements, we can see that learners have different cultural associations when reading the same content. They believed that Indian and Arab women must have experienced similar circumstances in the past, while the two male participants did not relate to history when reading. Therefore, it is reasonable to state that learners' cultural associations vary depending on their gender, age, and other variables.

4.5.5 Summary

This section was aimed at investigating how learners' cultural backgrounds influence their reading comprehension by conducting an interview analysis. The findings confirmed those of previous studies, which indicated that a positive role exists for cultural familiarity in reading comprehension. Furthermore, several other results emerged from this study: (1) high-level learners are more likely to relate the text content to their cultural knowledge so as to better understand the text; (2) learners at all proficiency levels will recall their cultural knowledge if they feel the text is interesting or simple to understand; (3) learners of different genders, ages, etc. may have different cultural associations; (4) when the cultural associations contradict the reading content, low- and intermediate-level learners may feel impeded and discouraged; while advanced-level learners may try to compare the differences and decipher the meaningful information.

4.6 Effects of Text Content/Topics on Reading Comprehension

Learners' previous knowledge includes not only their cultural knowledge but also the topic knowledge and previous experience. The author believes that the content schema plays an integral role in reading material in a second language. Therefore, this section further investigates how the learners' content schema affected their reading comprehension.

4.6.1 Discipline Unfamiliarity in Reading Comprehension

English language learners have very limited background knowledge to activate, and they lack prior knowledge of the United States and U.S. history, geography, and current

events. Many students will memorize information, but if it has no relevance for them, they will quickly forget the information. For example, all the participants in the current study reported that they were unfamiliar with the given topic, and it affected their reading speed and comprehension significantly when they read the second stimulated recall material regarding the history of the Scouts. Erbu stated the following:

> It makes (much) harder because I don't know about the United States, the other state, and the man, and their purpose, the organization. If I read something about maybe my culture, my country, if I know the organization and maybe their aims, it would be easy to understand.

Chuchu came up with the same statement as followed

> I have never heard this person and this thing. I think it affects my reading because if you read an article and you find something you know in this article, you can think it in your mind, maybe in your own language, so it helps you to understand this article. But if you don't know it, it's hard for you to understand.

All the participants believed that if they had known the history beforehand, they could have understood the text without knowing the meaning of every word in the text, whereas without the background knowledge, they struggled with the names or locations in the text. A similar example can be found when they read the fifth text that provided an introduction to, and description of, the feature "Angelyne"—which is known to most native speakers in the United States, while many ESL learners are unfamiliar with the story.

> I haven't been to LA. I don't have any background knowledge about what they are talking about here, the celebrity here, the picture here. So I have to go through some paragraphs twice or third times to get an understanding what did they mean about that (Tony, high-level learners).

> If I know about LA or I know about her, I think it'll be easy to understand. Because I don't know anything about here and about her picture and the LA, it's hard to understand. I had to focus, "Who is she? What is she doing? What's the picture and what's going on in LA?" but if I know, it'll be easy to understand (Erbu, high-level learner).

On the contrary, Esma, from the intermediate-level group, reported having a positive influence due to her previous visit to Los Angeles and the fact that she had already seen the billboard and had a general idea of the landmark.

4.6.2 Discipline Familiarity in Reading Comprehension

When reading the scientific material, two of the six participants who majored in engineering had many opportunities to read scientific articles in their daily lives. In this regard, both students reported that they felt comfortable reading the given text. They could link their own knowledge and compare it with the text when they came across difficulties. Tony, from the advanced-level group, reported the following:

> I couldn't find any, any of those words (difficult) because it is somewhat related to my major because my major is mechanical engineering. So during my studies i came across a lot of those terms. So i couldn't find such difficulty to know...So I was trying to think what's the principle for the refrigerator because I have studied, I have studied the principle of the refrigerator when I was a college student. So I was just trying to remember what the principle of the refrigerator so that I can put it in the best manner and I can find the meaning of these words.

Esma, from the intermediate-level group, felt that other articles were difficult, but found the science article easy and interesting, whereas most participants found it difficult.

> It said, it's about kinetic materials--first of all. I don't know. And then it involves small engines and energy, solar panel-I know solar panels. Maybe it's about specific parts. Solar panels. When I read here, I don't remember reading this part what is. But I read this paragraph interesting and.. I know solar energy and so I didn't read this information and I know this term. Maybe it's about something... And I'm not sure this word but I read this part-maybe it's about for credits. They are using the small machines to... So I don't worry about this problem because I know something about thermal energy.

Moreover, Erbu and Chuchu reported that they were familiar with the topic, since they had read numerous articles on the same topic. For example, Erbu reported the following:

> My major is not kind of technical, but some of them are familiar because we use in daily life, everybody heard about it.

4.6.3 Summary

On the basis of the analysis of the results of the participants' stimulated recalls and interviews, it can be concluded that learners feel more confident and understand a text better if the content is familiar, irrespective of their proficiency level. Overall, readers appear to have a higher level of comprehension when the content is familiar to them. This result showed that in addition to cultural knowledge, readers' discipline areas have also been found

to be a source in the measurement of reading ability.

4.7 First Language and Reading Comprehension

According to Kern (2000), "the native language provides not only a source of lexical and morphosyntactic structures to be 'transferred' or 'borrowed', but also an alternative processing space in which to design meaning. The role of the first language in L2 reading seems not to be an issue of wholesale transfer, but rather of selective and strategic use of L1 linguistic and schematic resources to facilitate comprehension of L2 text" (p.121). Therefore, this study tried to find how learners' native language influenced their comprehension by stimulated recall activities and interviews.

The results showed that the Indian and Chinese learners did not use their first language to help them understand the given texts. For example, Tony, the Indian participant, reported the following:

> My native language is Hindi, so it's entirely different form English. so it didn't help me to understand anything.

The Arab learner, Bandar, reported that when he did not understand a word, he would simply look it up in the dictionary, and then he could understand the text very well. However, the three Turkish learners provided different evidence. When reading the same article, Hamit, from the low-level group, did not find any correlations between English and Turkish, whereas the other two learners recognized the lexical similarities between English and Turkish. For example, Erbu mentioned the following:

> Nowadays we are borrowing lots of vocabulary from English. We have lots of vocabularies. It helps me to understand for some topics.
> A specific example is as follows:
>
> We use the same words in my country of certain similar things. Especially if they use some terms about advertisement, they're exactly the same words. Like I said, sometimes, we write differently-use the "billboard" (as an example)-so we write differently. First I see the word, I think, "I don't know this word," but then I read it slowly. I say "billboard? Okay. This is the same thing then I understand the meaning.

Meanwhile, Erbu stated that similar linguistic structures sometimes impeded reading

because she “guessed the meaning from her mother tongue, but the meanings did not match. Sometimes, the authors use words with different meanings; it’s not the same meaning.”

Overall, the results showed that L1 knowledge can transfer, but only after learners attain a threshold of L2 knowledge. Moreover, when the L2 knowledge is sufficient enough for learners to comprehend the text, they will barely recall their first language while reading.

4.8 Summary

This chapter presented the results from questionnaires, self-stimulated recalls, interviews, and self-monitor forms. Descriptive analysis and correlation tests were used to provide a general view of the participants’ strategy use, and the findings were consistent with previous studies that advanced L2 readers will apply more self-regulated learning strategies. The focus of this chapter was on analyzing the learners’ narrative results of SRL strategies used in a practical reading process. First, the participants reported using different strategies to deal with reading difficulties, such as unknown words, complicated grammatical structures, idioms, technical words, and large numbers. Next, the relationship between the learners’ strategy use and the topics or content of the texts was discussed. Moreover, the results showed that learners from different cultural backgrounds have preferences for specific categories of SRL strategies. Moreover, the effects of the learners’ cultural backgrounds, previous experience and knowledge, and first language on reading comprehension were discussed in detail.

CHAPTER 5. DISCUSSION AND IMPLICATIONS

The present study has generated several findings that can contribute to research in SRL, specifically in relation to reading comprehension in ESL learning. These findings can be discussed through three main perspectives: the relationship between learners' use of SRL strategies and their reading proficiency levels; correlations between learners' strategic behaviors and different variables such as reading difficulties, text content and topics, and readers' cultural background; and how readers' cultural background knowledge, previous experience, and first language influence their reading comprehension. This section describes and interprets the acquired results and discusses implications of these results for second language instruction and learning.

5.1 Overall Strategy Use and Reading Proficiency

To examine the relationship between the use of SRL strategies and reading levels, statistical analyses were run. Results show that the six participants in this study appeared to have experienced successful transfer of SRL strategies in reading situations. Specifically, advanced readers applied more SRL strategies than intermediate and low-level readers. The findings confirmed previous results indicating a positive correlation between learners' use of SRL strategies and reading proficiency (e.g., Seker, 2015; Wang et al., 2013; Park, 1997; Kirmizi, 2014). This outcome clarified that learners' reading levels had a significant effect on the use of cognitive and metacognitive strategies. In other words, advanced readers tended to use strategies to construct, transform, or apply language knowledge. They also used strategies to control their learning through planning, organizing, and evaluating. These learners not only knew which strategies were appropriate, but also knew how to use the strategies. They took responsibility for their own learning and for monitoring their

learning progress. The finding supports previous studies that claimed advanced learners use more metacognitive strategies (Zare-ee, 2007; Nash-Ditzel, 2010). O'Malley and Chamot (1990) state that researchers and educators have considered metacognitive strategies as vital for successful learning in the relevant literature. In both Nisbet et al. (2005) and Takeuchi (2003), metacognitive strategies were the most frequently used strategies among language learners.

Though there was no evidence to indicate a positive correlation between learners' use of affective and socio-cultural strategies and learners' reading levels, we cannot establish that there was no effect of readers' levels on the use of these strategies due to the limited scale of participants in the current study. Thus, further research is needed to determine the relationship between the use of affective and socio-cultural strategies and learners' reading levels.

The analysis of learners' stimulated recalls and monitor forms shows that the advanced participants used more cognitive and metacognitive strategies than low-level students through reading given texts (see table 4-5). The results and statistical analysis of the findings in this study support what has been found in previous research. As discussed earlier, the advanced readers were more active and autonomous in language learning. They try to control their reading process through constructing, transforming, or applying language knowledge as well as planning, organizing, and evaluating the reading process. It has also been shown in this study that the most used SRL strategies in practical reading process were cognitive strategies. This result supports the general findings of Tavakoli (2014), Alsamadani (2009), Yuksel and Yuksel (2012) on Iranian, Saudi, and Turkish EFL students' (respectively) moderate awareness and use of metacognitive reading strategies. It also supports the findings of Hong-Nam and Page (2014) regarding the moderate use of metacognitive reading strategies among ELLs in America. However, this particular result of the study does not

coincide with the general findings of previous researches showing active (High) overall use of metacognitive reading strategies by ESL learners (e.g. Goh & Kwah,1997; Bremmer, 1999; Al-Sobhani, 2013; Magogwe, 2013). One interpretation is that the previous researchers used a well-established questionnaire such as SILL as the research instrument and used quantitative methods to determine learners' strategy use. However, there is a big chance of a discrepancy between what participants believe they can do and what they can actually do in practice. Another interpretation is that the questionnaire used in the previous studies was designed to investigate how learners apply SRL strategies in their learning process. This is to say, learners prefer using more metacognitive strategies to set their learning goals, make a plan to improve their reading proficiency, and monitor and evaluate their learning process. On the other hand, learners prefer using cognitive strategies such as inferring words' meaning, analyzing sentence structures, or linking with their own experience to figure out the main idea of a specific reading material during a practical reading process. What is more, the low frequency of metacognitive strategy use can be attributed to the students' unfamiliarity with the existence of some metacognitive reading strategies that could help them comprehend texts. Reading researchers such as Carrell, Pharis, and Liberto (1989) and Cotteral (1990) commented that students who merely use cognitive strategies are considered as having a low proficiency in their reading. Good readers must able to constantly evaluate and monitor their reading in order to overcome reading problems. All the participants in the current study were from the English Language Institute of the university, which provides English instruction for those who have not taken any standard English tests requested by the university. Overall, the students do not have the knowledge of the metacognitive strategies and do not know how to check or monitor their reading.

5.2 Reading Difficulties and Strategy Use

5.2.1 Unknown Vocabulary and Strategy Use

The analysis of stimulated recalls and self-monitor forms demonstrated that low-level learners, when confronted with unknown words while reading, tended to either search for the word in a dictionary or skip the word altogether and continue reading. Low-level learners encounter so many unknown words that the meaning of such words cannot be guessed by examining context clues. When confronted with a difficult word and interrupted by lexical comprehension, low-level learners often use skipping. For example, Hamit, one of the two low-level participants, stated he did not get frustrated when coming across many strange words, as he was used to this. He explained that while reading newspapers or magazines, he would skip the unknown words and continue without hesitating. Low-level learners may decide to skip unknown words as a strategy to find more clues or to focus on the overall meaning of the text (Alhaysony, 2012). According to Al-Qahtani (2005), skipping cannot be considered a true strategy for vocabulary learning, as skipping unknown or difficult words cannot lead to vocabulary acquirement. It was argued that using skipping does not show any attempt to overcome lexical incomprehension.

In addition to skipping, low-level participants reported searching for the meanings of unknown words in a dictionary. According to McCarthy (1988), many different factors, such as how important the meaning of the word is in the passage, the number of unknown words, and the reason students are working on the reading assignment, affect whether the student turns to the dictionary for help. Nuttall (1982) pointed out that using a dictionary should be limited to words whose meanings are difficult to guess and thus can hinder the learner's understanding of the text. The learner may periodically encounter unknown or un-guessable words. In such instances, s/he may turn to the dictionary as a last resort and for the sake of speed. Knight (1994) found that participants with low verbal abilities benefited more from the

dictionary than participants with high verbal abilities, who, in turn, benefited more from contextual guessing.

In addition, low-level participants reported to pick up the unknown word's meaning from a dictionary many times. According to McCarthy (1988), many different factors, such as how important the meaning of the word is in the passage, the number of unknown words, and the reason students are working on it, affect whether or not the student might turn to the dictionary for help. Nuttall (1982) pointed out that using a dictionary should be limited to those unguessable words whose meanings can hinder the learner's understanding. The learner might periodically encounter unknown or unguessable words. In such instances, s/he might turn to the dictionary as a last resort and for the sake of speed. Knight (1994) found that low verbal ability participants benefited more from the dictionary than high verbal ability participants who, in turn, benefited more from contextual guessing.

While low-level learners described their use of skipping and using dictionaries, middle-and advanced-level learners reported using reason and broad, detailed conceptualization strategies when encountering unknown words (e.g., analyzing and decoding, comparing across languages). Middle- and advanced-level learners tended to analyze the role of the word and generalize the word's meaning from linking or comparing previous or following information, inferring the general idea of the text, and evaluating their conclusion. Guessing, or inferring, is "the use of both pragmatic and linguistic clues to guess the meaning of an unknown" (French, 1983, p. 12). Inferring from context to address unfamiliar vocabulary in unedited selections has been suggested widely by L1 and L2 reading specialists (Dubin, 1993).

The finding that advanced level learners used more inference strategies --the subcategory of cognitive strategies--than low-level students complies with Liu and Nation's (1984) findings, as cited in McCarthy (1988), from working with advanced L2 learners. The

authors found that high proficiency learners guessed or inferred between 85% and 100% of unknown words. Ahmed's (1988) study found that good L2 learners can infer the meaning of unknown words, whereas underachieving L2 learners cannot. Johnson (1996) also indicated that the higher the L2 proficiency of students, the more likely they are to use inferring strategies. Al-Qahtani's (2001) results showed that the strategy of guessing from context was used more often by the higher proficiency group (with a mean of 2.65) than the lower-level readers. Haynes (1993) and Schmitt (1997) found that inferring is one of the strategies reported to change over time as learners move from one level to another or become more proficient in the target language. Furthermore, Nation (2001) stated that for learners to be able to use clues for guessing unknown words, learners should be familiar with at least 95% of the running words. The reason beginning L2 learners are not able to use inferring is their lack of basic language skills in the target language sufficient to make sense of new words and their contexts; incidentally, L2 learners have much more trouble learning vocabulary than L1 learners.

5.2.2 Complex Syntax and Strategy Use

Second language readers may come across a text with complicated grammatical structures that are long and include clauses. In general, long sentences containing subordinate or embedded clauses tend to be less immediately intelligible to readers than shorter, simpler sentences. For example, the second instruction below is probably more readily understood than the first, which contains an embedded participial clause.

In this case, advanced and intermediate level learners reported using cognitive strategies. They split the sentence into parts and identified those parts as subject, verb, adverb, etc. to determine the meaning of the sentence. They also took advantage of linking words (if there were any) or other words indicating sentence correlations to acquire the general idea of the whole sentence. For example, to understand the meaning of the sentence "Students can

take out federal loans to pay for the full cost of attending graduate school, including both tuition and living expenses such food, rent, transportation and child care," Erbu reported recognizing the main clause in the first section prior to "including…" Then, she identified the subject as "students" and the main verbal action as "pay for graduate school". Thus, the student gleaned the main idea of the long sentence by comprehending the first clause. In addition, Esma stated that when she saw the sentence "Wasteful colleges raise tuition every year, we are told, even as middle-class wages stagnate and unscrupulous for-profit colleges bilk the unwary," she did not understand the second part of the sentence beginning with "even as," but she knew the meaning of the first clause, and with the help of the linking phrase "even as," she could predict that the latter clause had a progressive relation with the former one, so the latter clause would provide supportive evidence or further details of the former clause.

Successful readers can do this because they share with writers a common language, common syntax, and common conventions of written English. According to Stevens (1982), an examination of complex sentences reveals that they are composed of a "main core" (the primary subject, predicate, and object) with various ideas embedded in the sentences, which add information concerning the "main core". Only by knowing the primary import of the sentence can students attach the proper weights to added ideas. However, low-level readers often have trouble with the sentence structure of primary sources or scholarly articles. When they are asked to read a complex sentence, their errors reveal difficulty in chunking grammatical units; low-level learners have trouble isolating the main clause and distinguishing it from attached and embedded subordinate clauses and phrases (Bean, 2011). This explains why the low-level participants in the current study reported skipping the complex sentence and continuing to read the text, as the low-level students failed to recognize the main core of the sentence.

5.2.3 Technical Words and Strategy Use

Scientific articles are commonly used in English language instruction; however, the vocabulary of science often presents a huge difficulty for learners. There are a special set of scientific terms for the student to learn. Even simple words that the student may already know can have alternative meanings in science. The challenge of technical words can be considered a subcategory of the difficulty learners experience with unknown vocabulary. Regarding the high frequency of scientific papers in ESL learning and the difficulty of scientific words, how readers deal with this challenge across proficiency levels is discussed in this section.

According to Li and Kirby (2013), ESL students' academic reading comprehension difficulties are mainly caused by lack of vocabulary knowledge. Although sentence structures and thinking in ESL their first language may also decrease ESL students' degree of understanding academic reading contents, the ability to understand vocabulary expressions has the biggest negative affect on ESL students' comprehension ability in reading academically. Agnes Stark, a professor from the University Writing Program (UWP) at the University of California, Davis, said that vocabulary may be one of the biggest barriers to understanding academic texts. Such writings may have many specific vocabularies, jargon, or terminology unique to the discursive academic community. Stark believes vocabulary explanations and idiomatic expressions, which some ESL students want to transfer from their first language to English, can mislead ESL students' comprehension because the expression may have an opposite meaning in English. Stark provides an example of how her high-level ESL student expressed confusion because the content he had read had an opposite meaning from its literal meaning.

In this study, high-level learners overcame difficulties regarding comprehension of technical terms by successfully interpreting the meanings of technical words by recognizing them, deducing their meaning from other words, and linking them to the context while

low-level learners reported either doing nothing with those words or looking them up in the dictionary. Again, because the advanced readers were often familiar with most of the other running words in the text, the advanced readers were able to use clues to guess the meaning of unknown words through deduction and linking. In this regard, low-level readers failed to make sense of new words and their context because of their lack of basic language skills in the target language and unfamiliarity of the running words.

Two points must be clarified in relation to the results obtained in this study regarding the differences in strategies for understanding difficult technical terms between advanced and low-level learners. First, when encountering technical words in reading, learners' background knowledge also played an important role. This is to say, if learners' technical skills were the same as, or related to, the technical vocabulary in a text, no matter which reading level they had attained, they grasped the general idea of the text, even without knowing the meaning of every technical word. Second, the author cannot find previous studies that concerned language learners' strategies for understanding technical words.

5.2.4 Large Numbers and Strategy Use

Large numbers appeared in the texts now and then. The English cardinal number system may be different from the number system of other languages. In Chapter 4, a discussion concerning the number systems in the participants' native languages was provided, suggesting that the cardinal number systems of some participants' native languages are quite different from that of English. Therefore, the author predicted that ESL learners may take a lot of time to read large numbers and apply different strategies to obtain the meaning. It is surprising that the results showed that the participants did not report using any strategies for reading numbers in English. Those with both low and advanced proficiency stated that they skipped large numbers without understanding what the numbers meant.

Though there have been no previous studies addressing strategies used by ESL

learners to understand large numbers, the current finding can be explained in terms of readers' purposes. Several studies have shown a significant relationship between goal setting and student outcomes (e.g., Morisano, Hirsh, Peterson, Pihl, & Shore, 2010; Sim, 2007). According to Broek and Kremer (1999), types of contexts associated with reading a text include student perspectives, purposes for reading, and specific instructions for reading induced by educational instructors. For example, when given specific instructions for reading, learners translate these instructions into reading goals, which focus learners' attention on the textual information they perceive to be relevant. This subsequently influences the reading strategies learners select to engage with the text. The authors argued that these reading goals shape the moment-to-moment processing of texts and thus the quality of the learning outcomes.

In this study, reading is considered an active process "not simply an act of absorbing information, but communicative act that involves creating discourse from text" (Kern, 2000, p. 107). Reading requires learners to understand what the writer has assumed to be shared cultural knowledge and to elaborate an appropriate context in which to interpret the text. Therefore, the participants were not required to answer any questions or memorize any vocabulary or grammar. After reading each passage, they needed to provide meaningful texts based on the content of the reading materials. In this way, the comprehension processes and adoption of reading strategies would be affected by the specific reading goal. Chuchu explained that she skipped over the large numbers in the text, as she believed the numbers were only evidence that the writer used to support the main idea. She further stated that if questions had been put forward to ask about these numbers, she would have revisited the text check their meaning. During the reading process, she underlined these numbers.

5.2.5 Idioms and Strategy Use

According to Baker (1992), since idioms differ on the scale of idiomacity, some of them can be recognizable and interpretable while some idioms are hardly understood and can be misleading. For example, Erbu reported inferring meaning from the context, preceding and subsequent information, to understand the meaning of idioms. Sometimes, the strategy worked, while sometimes, the inferred meaning was surprisingly the opposite of the idiom's real meaning. This is because most idioms belong to a specific culture, and each idiom has a special cultural background.

An idiom or fixed expression may have no equivalent in the target language (TL): "the way a language chooses to express or not express various meaning cannot be predicted and only occasionally matches the way another language chooses to express the same meaning" (Baker, 1992, p. 68). Fixed expressions and idioms can be culture-specific. An idiom may have a similar counterpart in the TL, but its context of use may be different. Backer (1992) claimed that the two expressions may have different connotations for instance, or the idioms may not be pragmatically transferable. An idiom may be used in the source text in both its literal and idiomatic sense at the same time "unless the target language idiom corresponds to the source language idiom in the form and meaning. The play on idiom cannot be successfully reproduced in the target text" (Baker, 1992, p. 69). This information helps us understand why learners of English experience confusion and difficulty with regards to comprehending the meaning of certain idioms in the English language.

When discussing how to learn idioms as part of daily learning, learners across different proficiency levels provided different responses. Advanced learners highlighted the importance of knowing the history the idioms stem from. Intermediate readers reported that communicating with a native speaker is the best way to learn idioms. The low-level readers thought that reading more is helpful for learning idioms. In addition, these learners explained

that they sometimes use computers to take classes on idioms. These findings indicate that learners at different levels have different needs in the learning process. Beginner students require explicit instruction in developing declarative and procedural knowledge while high-level learners prefer more real-life and authentic teaching materials and contexts. The results also suggest that language teachers should offer appropriate instruction regarding idioms according to their students' levels.

5.2.6 Text Length and Strategy Use

It is noteworthy that to overcome the challenge of long texts, Tony, from the advanced-level group, stated that if the article is too long and does not sustain his interest, he reads part of the article and then takes a rest to drink some coffee or listen to music for a while; this enables him to refresh his mind and then continue reading the remainder of the article. By contrast, if the text was a story or concerned a topic in which he was interested, he would eagerly read more and predict what was going to happen next, what the climax would be, etc. Tony's statements show the important role of learners' motivation to read. According to Oxford and Shearin (1994), motivation is an essential factor to engage students in being actively involved in foreign or second language learning. There are two types of motivation: intrinsic motivation and extrinsic motivation (Brown, 2001). The former refers to internal rewards, and the main objective is to learn. The latter deals with external rewards in terms of money, prizes, or grades. According to this framework, Tony used affective strategies through rewarding himself to increase his extrinsic motivation. In addition, Cheng and Dörnyei (2007) argued that motivation "serves as the initial engine to generate learning and later functions as an ongoing driving force that helps to sustain the long and usually laborious journey of acquiring a foreign language" (p. 153). The statement helps to explain why the participant could keep reading stories without taking rest, even though the stories were long. His interest in novels is like the engine that drives him to read more.

5.2.7 Implications for L2 Learning and Instruction

This study demonstrated how learners across proficiency levels use SRL strategies to deal with various reading difficulties such as unknown vocabulary, complicated syntax, and text length. Thus, the findings provide learners with suggestions for their future reading learning. L2 students need to be aware of the resources they possess, and the difficulties they face as readers. First of all, students should be patient with unfamiliar words in reading process. They can choose appropriate strategies according to their reading levels. They can try to guess the word meaning from the context, and if the word does not affect comprehending the main idea of the text, learner can simply skip the word. If learners feel difficult to draw inference, they can look up for the dictionary. In addition to using proper vocabulary strategies, learning vocabulary plays a very important role in daily learning. As Tu (2016) discussed that increasing ESL students' vocabulary knowledge is one of the quickest way for ESL students to understand an academic reading. The more words learners know, the more they will be able to understand what they read. Suggestions have been made by previous scholars, such as writing the words in a notebook (with their translations or definition), writing the words and definitions on small cards, saying the words many times, put the words into different groups, writing them in a file for using with a computer program, making associations (in pictures or with other words), using the words in own speaking or writing, and etc. Doing more reading can also enlarge their vocabulary understanding. Secondly, when coming across complex sentence structures, it is important for readers to recognize the main clause and the core of the sentence (subject, verb, and object). To develop learners' ability to categorize sentences is to learn clause types. Learning vocabularies from the reading that they do not know, and notice the sentence structures in the readings is a good way to enlarge ESL students' vocabulary knowledge. In addition, students can reward themselves when reading long texts. For examples, they can buy a coffee for themselves or

taking a rest after reading.

This study not only provided suggestions for student learning, but also established instructional outlines for teachers. Since learners use various strategies to deal with reading difficulties, teachers should teach all types of reading strategies (e.g., cognitive strategies, metacognitive strategies, affective strategies, and socio-cultural strategies) to their students. Teachers should assign students various reading tasks both inside and outside classroom settings in order to provide students opportunities to practically apply these strategies in reading. Teachers should have a thorough knowledge of all possible types of reading strategies as well as know how, when, where, and why to use these strategies. Instruction and practice of reading strategies should be provided and implemented to such an extent that the students automatically become independent readers and can select and use the appropriate strategies quite independently during their reading tasks. This can be accomplished first by teaching learners various reading strategies and then assigning the learners reading comprehension tasks in the classroom with certain predefined reading purposes. Once they complete their reading task, the teacher should ask the learners what strategies they used while reading as well as where, when, why, and how they used such strategies (Qanwal, 2014).

To help students remember new words, teachers can ask ELLS to associate the new words with things that are already familiar to the learners, or the teacher can translate the words into the students' primary language (Colorado, 2007). To create enthusiasm for learning new words, teachers can help students hunt for clues that unlock the meaning of unknown words such as synonyms, descriptions, explanations, and visual aids. To help learners to connect new information to their prior knowledge, teachers can actively involve ELLs in learning new words, create a vocabulary rich environment, and teach through a variety of strategies (Sibold, 2011). To help learners with complex syntax, teachers can ask

students to find the main core of the sentence, then ask what ideas are added to this basic information. By starting with basic complex sentences and progressing to ones with many embedded ideas, students can add to their knowledge of sentence structures and become competent in reading them. In addition to exposing students to, and querying students on, complex sentence structures, several specific written language patterns should be taught (Stevens, 1982).

Other suggestions include explaining to students how the reading process varies with purpose; showing students note-taking and responding process when reading; helping students get the dictionary habit; teaching students how to write “what it says” and “what it does” statements; making students responsible for texts not covered in class; developing ways to awaken student interest in upcoming readings, and more (Bean, 2001).

5.3 Text Content/Topics and Strategy Use

There has not been much research conducted to investigate the effects of text topics on L2 learners’ SRL strategy use. Therefore, the current study provides evidence to fill this gap. The results suggested that readers applied various strategies when reading different texts due to learners’ reading interest, text content, and topic familiarity.

5.3.1 Reading Motivation/Interest and Strategy Use

In addition to the components or variables (such as reading difficulties and text topics) that shape reading comprehension, there are also other more specific elements or factors that influence one’s reading performance, such as reading motivation. When reading the scientific article, the two participants from the advanced level group expressed different degrees of interest. Tony felt the article interesting to read while Erbu disagreed because of her lack of background knowledge in science. The analysis of their reported use of strategies showed that Tony used more skills than Erbu. For example, Tony reported using many linking and comparing strategies to relate the text information to his life experiences and studies while

Erbu mentioned that she only analyzed and decoded complicated sentences to understand the text's meaning.

This result suggests that whether enjoying reading English materials or not is related to how students employ certain reading strategies. According to Zimmerman (2008), SRL is controlled by an interconnected framework of factors that determine its development and sustainability, and motivation is a critical factor in this framework (Kurman, 2001). Hadwin (2008) identifies three ways in which motivation is involved in SRL. First, learner's motivation knowledge and beliefs influence the types of goals that are set, the strategies that are chosen, and one's persistence in a given task. Second, engagement in SRL produces new motivational knowledge and beliefs that influence engagement in current and future tasks. Third, students self-regulate their motivational states during learning. The result of this study supports Park (2010)'s view that students' interest in reading English materials significantly affects students' use of certain reading strategies. The findings of the present study are also in line with a study done by Zimmerman (2000), who demonstrated that if students are motivated to learn, they spend more time learning and use more SLR strategies. It can be assumed that students who enjoy reading English materials approach their reading with their own purposes or plans, whereas students who do not enjoy reading English materials approach their reading with purposes only given by certain situations that they cannot control (Park, 2010). In addition, when students are motivated to learn, they are more likely to devote the necessary time and energy needed to learn and apply appropriate SRL skills, and when students are able to successfully employ self-regulation strategies, they are often more motivated to accomplish learning tasks (Zimmerman, 2000).

5.3.2 Differences in Strategy Use When Reading Scientific Text vs. Narrative Text

The result of this study showed that students use cognitive strategies more frequently when they read a technical text than when they read a narrative text. For example, all the

participants reported ignoring unknown words when reading narrative stories while they would make inferences of unknown vocabularies as well as decode and analyze sentence structures when reading the scientific text. One possible explanation for this result is that reading the technical text may have been more cognitively demanding than reading the authentic narrative text (Park, 2010). Narrative texts have characters and tell a story using imaginative language and emotional expression, often through the use of imagery, metaphors, and symbols while scientific articles include heavy background knowledge and abstract concepts. Thus, reading the scientific text may have required students to use a larger variety of reading strategies for comprehension, like inferring, analyzing, and summarizing.

This result is similar to Mokhtari and Reichard (2008)'s study on the influence of two reading purposes in the first language context, namely, reading for study and reading for entertainment. According to their study, native English speaking high school students use reading strategies more frequently when reading for study than when reading for fun or entertainment. On the other hand, in terms of differences in using reading strategies based on the type of text, the result of this study is partially similar to Abdulmajid's (2000) study, which examines how Malaysian ESL college students use reading strategies for understanding technical texts and narrative texts. According to Abdulmajid, the Malaysian ESL college students activated a certain strategy, for example, using background knowledge, more often when reading the technical text than when reading the story. Briefly speaking, students appear to employ strategies differently according to the text type. Specifically, students use a larger variety of strategies when reading scientific texts than when reading narrative texts.

5.3.3 Topic Familiarity and Strategy use

In terms of strategy use for the reading tasks, the readers appeared to be using more cognitive strategies to read the texts containing unfamiliar material than on texts containing

more familiar material. For example, both Esma and Tony, who had different proficiency levels, reported being the most familiar with the content of technical texts, and the least familiar with the content of the business articles. Both learners analyzed the sentence structure and words in the business text more thoroughly than those in the technical text. The participants needed much more time to recall the text, as they had to refer to the text and examine the syntax or word structures. The business article required more analysis than the others because it was the longest article among the reading materials and contained a lot of terminology, the passive voice, and long, complicated sentences. The readers also appeared to employ context clues to a greater extent with the less familiar text than with the technical text. They tended to go back to the text and examine the sentences and words that preceded and followed the main concept highlighted in the text. When asked how they determined the meaning of a word, they responded in a similar manner; for example, Esma replied, "From the sentence." The readers also tended to summarize sentences that were less familiar to them, which is a cognitive strategy. For example, Tony stated, "In the next paragraph, they are just talking about a high school teacher who had a huge debt. So, they are just giving an introduction to the high school teacher, how she coped." In the more familiar technical text, overall, the participants were better able to predict information and were also more competent in linking the text to their own studies. They did not worry about unknown words or complicated syntax, since they had already acquired the content knowledge. This result supports Singhal's argument that readers use different strategies when reading texts with less familiar content than that in more familiar texts.

5.3.4 Implication for L2 Learning and Instruction

The findings of the present study confirmed that if learners are motivated to learn, they spend more time to learn and use more SLR strategies. Meanwhile, the application of strategy use can improve students' motivation. Therefore, learners should stay motivated and

keep taking actions, especially when the task is painfully boring. Jane (2011) suggested several tips to boost students' motivation. Students can imagine the end, imagine taking the next action step, see the big picture, trick themselves into getting started, gain clarity, and etc.

Considering the nature of L2 reading motivation, teachers need to pay attention to the students' motivation. According to Medina (2014), teachers should recognize students' efforts, promote learners' self-confidence, create a pleasant classroom climate, present tasks properly, increase learners' goal-orientation, make the learning tasks stimulating, familiarize learners with L2 related values, and etc. This study also showed that students seem to use larger variety of reading strategies when reading technical texts than when reading narrative texts. Therefore, it is suggested that L2 teachers help their students who are not familiar with technical English texts be aware that they might need larger variety of reading strategies than they used to employ, and they might need certain reading strategies that they have not often employed previously in order to comprehend the technical texts. After all, teachers should help the students recognize that they might have to be active strategic readers to comprehend their demanding technical texts and to achieve academic success in their college lives (Park, 2010). The results also raise an important issue relating to text selection. Regardless of the strategy lessons to be used, the content of the strategy lessons must be taken into account. Teachers must use caution in selecting material when the content is of little interest to their readers. Teachers must also assist students in selecting texts of optimal difficulty level so that students have opportunities to fully use the repertoire of strategies available to them.

5.4 Cultural Background on Strategy Use

As discussed in the literature review, four studies have investigated learners' strategy use in distinct cultural contexts. From the analysis of the previous studies we can see that learners from different cultural contexts have different preferences for self-regulated strategies during the reading process. The authors of the previous studies did not provide

reasons why their participants applied different strategies from the cultural point of view, and no prior studies compared learners' strategy use across country contexts. However, one common conclusion that has emerged is that the preference for a specific strategy is related to one's cultural background. Reading English articles requires a certain language proficiency, but competence in reading comprehension is not entirely related to one's language level. Thus, knowledge of one's cultural background is important. Reading is a process affected by the integration of one's language knowledge, cultural background knowledge, and other professional knowledge; it is also a process of continuous guesses and corrections according to the available language material, one's cultural background, and one's logical reasoning ability (Wang, 2011). Since cultures differ enormously with respect to socialization, wide variations in ESL learners' beliefs, expectations, attitudes toward language, behaviors, language learning, and language use are quite typical (Al-Alawi,). When students try to use strategies to solve reading difficulties, they may adjust the strategy they deploy according to their cultural background.

Concerning the present study, some findings are consistent with those of the previous findings. For instance, Turkish learners did not use many socio-cultural strategies or affective strategies, and Chinese learners used a medium range of cognitive and metacognitive strategies. However, there are some results that contradict those of previous studies that claimed that Indian learners used most metacognitive strategies. As discussed above, it is plausible that the participants in the present study were not linguistically proficient enough to use metacognitive strategies to control, monitor, and evaluate their reading performance. It is argued that when examining the effects of cross-cultural variations on learners' strategy use, one cannot exclude other variations, such as the learners' proficiency, motivations, reading goals, or other individual differences.

Based on the above discussion, several suggestions for L2 learning, instruction, and

research can be made. First, teachers should consider learners' cultural differences when teaching strategy lessons. Second, the lack of explanation for the relationship between learners' self-regulated strategy use and their cultural background provides impetus for future research within the field. Therefore, in future, researchers should study the issue from a general view and compare the different roles that different cultural backgrounds play in learners' strategy use.

5.5 Effects of Prior Knowledge on Reading Comprehension

The results of this study show that the readers' cultural background knowledge was related to their comprehension of the texts. Generally speaking, they could understand a text better when they could relate its content to their culture than when they could not do this. In addition, readers' proficiency levels and the degree of difficulty of the text played a role in whether the readers could correlate the text to their cultural knowledge successfully. Moreover, readers may have different cultural correlations when they read the same text because of their gender, age, etc.

5.5.1 Text Familiarity in Reading Comprehension

The results of this study support the finding from previous studies that readers who have more relevant knowledge of the topic of a text tend to show better comprehension (e.g., Brantmeier, 2005; Johnston, 1984; Recht & Leslie, 1988). According to the schema theory of reading, knowledge of text content can facilitate comprehension during the encoding/decoding process by providing a knowledge structure to which readers can compare and fit pieces of incoming information, thus making it possible to assimilate text information without the need to consider all the words and phrases in the text. It is presumably because relevant general knowledge helps semantic and conceptual processing at various levels, activating relevant semantic feature information, generating correct explanatory and elaborative inferences, and facilitating the new information connected to prior knowledge in

meaningful and coherent ways (e.g., Cook, 2005; Coté, Goldman, & Saul, 1998). With regard to the current study, Esma reported correlating the text content with the situation in her own country when she read the narrative story, which helped her understand the meaning of the text. She believed that she had understood the text even though it contained several unknown words. However, she could not relate the content of the text of the historical article to her prior knowledge, since she was not familiar with American history. While reading, it took her considerable time to acquire the meaning of the text. Though the student reported that she encountered few unknown words in the history article, she was still unsure about whether she had grasped the correct meaning of the text.

5.5.2 Text Familiarity, Reading Proficiency, and Reading Comprehension

When reading the social studies article, which included numerous complex sentences, the passive voice, and the extensive use of pronouns, only the high-level participants reported using cultural background knowledge to help with comprehension; the low- and intermediate-level learners stated that they lacked the background information they needed to activate. This level is obviously not a fixed set of language knowledge that students need. Based on their reports, low-level learners processed information at the word level by mainly focusing on a bottom-up decoding strategy. However, high-level appeared to comprehend the text at a global level, with help from their background knowledge and text structural knowledge to handle any linguistic difficulties (Block, 1992). It is explainable that the low-level learners were linguistically bound when they read a text with complicated syntax. If words used in the text are obscure or abstract, readers will find it difficult to relate the text to what they already know to the way the text is written (Carrell, 1983; Lee, 1986; Roller, 1990). Another possibility is that L2 readers' lack of control over vocabulary difficulty leads to their inability to activate the appropriate schema. It has been suggested that low-level readers are unable to use background knowledge because they have not reached what has been termed

the “threshold level” necessary for its use (Mohammed, 1984; Ridgway, 1997). The threshold hypothesis states that L2 readers need to know or reach a certain level of L2 knowledge (vocabulary, structure) so that background knowledge, L1 reading strategies, and skills can be used efficiently to help comprehend the text.

Another result suggests that the lack of prior knowledge may have affected the low-ability students, but not the high-ability students. For example, when reading the fourth article discussing how an adult learner dealt with her student loans, the learners from India, Turkey, and China reported that the way in which students pay their tuition in the United States differs from that in their countries, and this influenced their reading comprehension in different ways. The low- and intermediate-level students felt that the differences impeded their understanding, while the advanced-level learner found that it helped him understand the meaning, since he could compare the differences, analyze the evidence, and finally acquire the needed information. One possibility is that, background knowledge helps readers at a certain proficiency level (here, the low- and intermediate-ability students) but not those at high-level (Carrell, 1983; Hudson, 1988). The other possibility is related to the effects of language ability; that is, the lack of prior knowledge seemed not to hinder the high-ability students’ performance on the unfamiliar passage as their proficiency level compensated for this lack of familiarity and they performed better. This possibility can be supported by the interactive model of reading, which suggests that reading comprehension requires interaction between the linguistic elements in the text and the knowledge elements in the reader (Carrell, 1983; Hudson, 1988). It might be the case that knowledge of the language, vocabulary repertoire, and reading skills helped the high-ability students overcome their unfamiliarity with the topic and content; their language knowledge freed their cognitive resources to allow them to make effective use of the skills and strategies of their comprehension procedures. This possibility can be supported by the study’s interaction effect results, which were found

to be highly significant between language ability and content familiarity. These results, then, suggest that content familiarity and language ability had significant but different effects on the students' reading comprehension performance at different levels of proficiency.

5.5.3 Cultural Association, Text Content/Topics, and Reading Comprehension

When reading the first text, which recounted a story about two lovers, all participants understood the text very well, not only because of the simple vocabulary but also because of the cultural similarities concerning marriage. Thus, we can conclude that learners are more likely to refer to prior knowledge when they read easy and interesting topics. As discussed above, with sufficient L2 vocabulary and structure knowledge, learners can successfully correlate the text content with their culture. Since the text was very easy to read, all participants reached a linguistic level at which they could use their background knowledge for reference. Another interpretation is that the given narrative story interested the participants greatly. As discussed above, learners' motivation/interest plays a significant role in their strategy use. If students are motivated to learn, they use more SLR strategies. Thus, motivation here forced the learners to use appropriate strategies, such as linking or comparing with their cultural knowledge to help them understand.

5.5.4 Cultural Association and Gender Difference

Another important indication from the current study is that the male and female readers associated different cultural knowledge with the text when they read the same article. For example, when reading the second text, which described how the first Girl Scouts troop was established in the United States, the male and female learners from the same country related to different cultural knowledge. On the one hand, the female learner recalled the status of women in history and discussed the low status of women in the past and how women made efforts to improve their status, like the character in the text. With the same cultural background, the male participant, on the other hand, reported that he recalled his own

experience of joining the Scouts. Though there has been no research into the relationship between gender and cultural association in reading, a great amount of research has been conducted to study the effects of gender on reading comprehension. The findings have revealed males' outperformance with a male-oriented text and females' higher performance with a female-oriented text (e.g. Brantmeier, 2003; Oakhill & Petrides, 2007). It can be explained that male and female readers associate different knowledge with what they read, which causes differences in reading comprehension.

5.5.5 Implication for L2 Learning and Instruction

Some suggestions for learning can be put forward here. First, due to the important role that prior knowledge plays in reading comprehension, learners, and low-level readers in particular, should focus on the resources that they have. They need to link and compare the content of a text with what they already know on the topic to better understand the content. Second, it is important for L2 learners to learn about the culture of the target language. They can acquire such cultural knowledge from the Internet, novels, books, movies, etc.

In addition to the learning implications described above, some implications related to reading pedagogy also emerged. First, language educators need to take advantage of the significant effects of content familiarity on learners' comprehension performance. They should therefore provide low-ability students with familiar content in order to enable them to deploy the appropriate skills and strategies to understand the texts. Then, they can advance step by step, making the texts more challenging in terms of language difficulty and in terms of unfamiliarity of content as the students' language ability improves. By implementing this gradual process, teachers will provide students with adequate opportunities to develop their reading skills and strategies, their language ability and vocabulary repertoire (Al-Shumaimeri, 2006). The ability to understand a text is based not only on the reader's linguistic knowledge, but also on general knowledge of the world and the extent to which that knowledge is

activated during processing. If the unfamiliar content of a text has an effect on reading comprehension, then it must be considered as a criterion in the selection of reading materials and in the evaluation of reading comprehension. Thus, syllabus designers and material developers may make careful provision in moving in line with meeting the readers' extra-linguistic knowledge when designing some materials for them (Pazhouhesh, 2013).

5.6 Limitations of the Study

The study faced several limitations that should be discussed, as this may improve future related studies. First, the small number of students unquestionably limits our ability to generalize the results of the current study. The participants were six college students in specific classes at specific universities; therefore, they might not exactly represent all ESL learners. Therefore, the study would need to be replicated with larger groups and varying L2 populations.

Second, in discussing the effects of different variables on learners' strategy use and reading comprehension, this study relied heavily on participants' think-aloud protocols—a method that is limited, since it cannot completely reflect readers' inner processes. The subjects in this study said or wrote whatever they recalled in English. This may have affected their recall ability. It is quite possible that some participants recalled more, but were unable to express themselves in English. Thus, it seems like a good idea to do the same research and allow the students to say or write what they recall in their native language. This may yield different and noticeable results.

Third, this study provided findings about the relationships between reading strategy use and various variables, such as reading difficulties, text content, learning motivation, and reading goals. As discussed above, these variables might have a crucial influence on self-regulated reading strategy use. Up to this point, there has been very limited research on the effects of these variables on reading strategy use. The present study drew broad findings

relating to this effect. Thus, future research is also welcomed that will employ quantitative measures for these factors, as this will provide deeper and more detailed findings regarding self-regulated strategy use.

5.7 Conclusion

Although the study did not include as large a student base as most previous studies within the field did, several implications can be drawn from the results. Different from most previous studies approaching SRL strategies with large-scale survey instruments, the current study represented an attempt to resolve this issue by adopting a mixed methods approach to investigate these learners' use of SRL strategies in reading.

The qualitative results provided narrative evidence and confirmed several results that have been found in previous studies. First, the results indicated a positive correlation between learners' use of SRL strategies and reading proficiency (e.g., Seker, 2015; Wang et al., 2013; Park, 1997; Kirmizi, 2014). Advanced L2 readers applied more SRL strategies in their learning in general, and advanced readers use more cognitive strategies, like inferring, summarizing, decoding, and linking, and metacognitive strategies, like planning, monitoring, and evaluating, in their reading.

In addition, it can be concluded that the comprehension process and adoption of reading strategies are influenced by specific reading goals and motivations (e.g. Park (2010; Zimmerman, 2000). Thus, if students are motivated to read, they will use more strategies. The evidence from the study also suggests that students use cognitive strategies such as summarizing, decoding, and inferring more frequently when they read technical texts than when they read narrative texts (Park, 2010). Regarding text familiarity and strategy use, the readers appeared to be using more cognitive strategies on less familiar texts than on more familiar texts (Singhal, 2011). Regarding more familiar texts, they were already acquainted with the content, language, and textual schemata; therefore, there was less of a need to make

use of compensation, social, specific memory, metacognitive, and cognitive strategies, such as word repetition, rereading, analyzing, and context clues. However, such strategies were useful when the readers were faced with less familiar texts.

Concerning the effects of students' cultural backgrounds on their use of strategies, some findings are consistent with those of the previous findings. For instance, Turkish learners did not use many socio-cultural strategies or affective strategies, and Chinese learners used a medium range of cognitive and metacognitive strategies. However, there are some results that contradict those of previous studies that claimed that Indian learners used most metacognitive strategies. The explanation was provided earlier in chapter five.

In addition to the findings that have been explored in previous studies, the present study constituted an attempt to expand the research findings by examining the effects of reading difficulty on learners' strategy employment, which has not been studied in the past. The results suggested that the advanced readers tended to make inferences when they read unknown words, idioms, and technical terms, while the low-level learners preferred skipping words or looking them up in the dictionary. In addition, the advanced readers analyzed the main clause when they encountered a complicated sentence structure; by contrast, the low-level readers had to skip words and continue to read because of their failure to isolate the main clause.

Last but not least, this study explored the relative effects of cultural and content familiarity on low- and high-level readers' comprehension. In line with previous studies, cultural and content familiarity seemed to have significantly affected the participating readers' comprehension. Several specific findings have also been explored in the present study. While prior knowledge of content seemed to facilitate the low-ability students' reading comprehension, as reflected in their performance, greater language proficiency may have helped the high-level students in their comprehension of unfamiliar passages. The learners

were more likely to refer to prior knowledge when they came across easy and interesting topics. On the basis of the finding that male and female readers draw on different prior knowledge when they read the same article, it can be concluded that cultural association might be influenced by individual differences, such as gender, age, and personal characteristics.

The results of this study provide useful suggestions for both low- and high-level readers to use appropriate strategies to deal with different reading difficulties, texts containing unfamiliar topics, and boring texts. The results of the present study serve as a call to L2 researchers and educators to pay serious heed to the issue of recognizing variation in SRL strategy use and reading comprehension. Further, the results suggest that language teachers should have thorough knowledge of all possible types of reading strategies and teach all types of reading strategies. Teachers must also pay attention to students' motivation, reading goals, and prior knowledge, and be cautious in selecting reading materials when the content is of little interest to the readers or above their reading proficiency level. The limitations of this research suggest the need for future research to include larger groups of subjects and varying populations. Stimulated recall tasks can be performed more accurately if the subjects are allowed to recall in their native language. As there is very limited research on strategy use and variation, more studies are needed to investigate these factors.

5.8 Summary

This section discussed the acquired implicative results from linguistic and psychological points of view, relating to previous research findings within the field. Regarding the results of previous studies, such as the relationship between strategy use and learners' proficiency levels or the effects of one's cultural background on reading comprehension, the author discussed whether the current findings supported the previous ones and explained the reasons why the results were obtained as well. Concerning those

under-researched topics, such as reading difficulties and strategy use and the effects of the topic of a text and strategy use, the author used not only related research findings but also relative psychological and linguistic facts as a reference to help with explaining the results. As discussed earlier, it must be recognized that the above results illustrate general tendencies, rather than absolutes, in terms of the strategies that the participants reported using for each text. For example, for the scientific text, the participants used summarizing and inferring much more frequently than when reading the story. This does not imply that learners did not use strategies not mentioned above but, rather, that the strategies mentioned were used more frequently in relation to the specific texts. Moreover, implications for learning and instruction were offered after explaining each finding. Finally, the limitations and future research possibilities were discussed.

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APPENDIX A

Recruitment letter

Volunteers Requested To Improve English Reading

I am a PhD student in the Curriculum and Instruction department at the university. I am looking for adult English learners who are willing to participate in my study. The title of the study is called "An Investigation into Adult English as Second language Learners' Self-regulated Learning Strategies and Second language Reading". The purpose of this study is to explore how adult English learners use strategies in reading and examine the effects of possible variables that will influence learners' strategy use and reading. This study is undertaken in partial fulfillment for the Degree of Philosophy at the University of Alabama, under supervision of Professor Miguel Mantero.

This study includes a questionnaire that will be administered to individual participants. You will be asked to provide answers to a series of questions related to your reading behaviors. In addition, the study involves you taking part in weekly tape-recorded interviews. Audio-recordings of these interviews will be kept confidential. In these interviews, you will be asked to read a text and recall what you have thought before, during, and after reading. You will also be asked about your experience and attitudes toward English reading. what is more, you will be asked to read at least three texts every week and complete the form the investigator provides for you.

The total time required for your participation is approximately one hour every week (eight weeks in total).

The study may benefit you in two ways. First, you will have a chance to become aware of your own reading problems in English and strategies you can use to overcome the problems. Second, you will be able to develop self-regulated learning skills in reading, which will help you become an efficient English reader.

Your participation is completely voluntary. You have the right to withdraw at any time, for any reason, if you wish, and you may refuse to do any of the tasks. I will keep all the information about you fully confidential. When I write up the results of the research, which may or may not be published, you will be referred to by a pseudonym of your choice, and I will obscure any personal information that may identify you in any way. I will store all the data that I collect from you in a locked drawer or in a password-protected computer and then destroy them systematically after the analysis. Only I will have access to these data. Also, I will be happy to provide you with a summary of this study after I have written up the results

If you agree to participate in this research, could you kindly complete the questionnaire below and leave your contact information? Please keep a copy of this letter for your reference.

If you have questions or concerns during the time of your participation in this study, or after

its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Researcher's Name: Mingda Sun
Department: Curriculum and Instruction
Email Address: msun1@crimson.ua.edu
Telephone: 205-348-1402

Advisor's Name: Miguel Mantero
Department: Curriculum and Instruc
Email Address: mmantero@ua.edu
Telephone: 205-331-8320

Name: _____

Are you an ELI student? Yes___ No__

Age: under 18____ 18-30___ above 30___

Education background: undergraduate___ graduate___ other ___

Reading levels: 1_ 2__ 3__ 4__ 5__ 6__

Contact information: Email address: _____

Telephone number:_____

APPENDIX B

Strategy Questionnaire

Name:_____ Date:_____

Please choose answers from the following statements according to your actual situation. Be honest with yourself. This is not a test, so there are no right or wrong answers. Not all the methods listed here are "good" methods, and everyone has his or her own methods. I want to know what methods you actually use and how often you use them. On the separate worksheet, write the response (l, 2, 3, 4 or 5) that tells how true of you the statement is.

l. Never or almost never true of me (The statement is very rarely true of you; strongly disagree)
2. Usually not true of me (The statement is true less than half the time.)
3. Somewhat true of me (The statement is true of you about half the time.)
4. Usually true of me (The statement is true more than half the time.)
5. Always or almost always true of me (the statement is true of you almost always; strongly agree)
.
1. I mentally scan what I already know about the topic of the text. To do this, I see it in my mind as linked pieces of information.
2. I distinguish between more important details (who, what, when, where, why, and how) and other information when I read an article.
3. I differentiate between what the words say on their own and what they really mean in the social setting.
4. I put ideas in order by chronological sequence, alphabetical order, or any other logical order.
5. I decode letter by letter, word by word, and then the meaning start to make sense to me.
6. I break down words into their parts, especially focusing on prefixes and suffixes that are common.
7. I break sentences into subjects, verbs, adverbs, and so on to get the meaning.
8. I underline or circle the key points of the article when reading.
9. I underline or circle the strange words or phrases in the article.
10. I Summarize the main idea of each paragraph when reading.
11. Summarize the most important points of the whole English article after I read it.
12. To make a summary, I first look for the key sentences or topic sentences of the various paragraphs in the essay.
13. I skim the article briefly before reading it to get the main idea.
14. I read beginning and the end of the text and then some of the topic sentences in the paragraphs so that I can get the main idea before reading the whole text.
15. I use pictures, heading, and all other clues to help me get the main idea of the article I am reading.
16. I try to relate between strange words/sentences in reading and words/sentences that have similar lexical/syntactic structures in my native language.
17. I try to relate between the context in reading and similar context in daily lives.

their answers in my mind.
19. When I am reading, I form some questions and I try to answer them at the end of my studying session to make sure that I understood the passage.
20. I write an outline after reading an English article.
21. When I read an English article, I imagine the scene described in the article in order to memorize what I have read.

1.I pay attention to the English language structure during reading**.**
2. I pay attention to the beginning and end of each paragraph in my English reading.
3. When I am reading, I sometimes have several goals: to understand the meaning, to learn about the topic, to learn to read more quickly, and to pick up new vocabulary words. Other times I just have one goal.
4. When I am getting ready to do the task, I plan ahead. I think about the task's ease or difficulty, whether I have already done a task like this, and whether I need to break it into parts.
5. I plan my study time based on the complexity of the task and how energetic I am.
6. I think about whether the task is important or not and how much time I want to spend on it. If it does not seem as important as other things, I won't spend much time on it.
7. I look for any information in the library or in the internet to help me to understand the ambiguous academic topics.
8. As I continue reading, I check to see whether the generalization I made turned out to be right.
9. During the reading task, I determine whether the strategies I am using are working well for me. In other words, am I understanding what I am reading? if not, I try to think of other strategies that would help.
10. I adjust my reading speed according to the difficulty of the article

1. When I read any subject and finish it, I reward myself by taking a break or doing any enjoyable activity.
2. When I succeed in doing any task, I reward myself.
3. I reward myself when I continue in reading a specific subject and understanding it well even if I feel bored.
4. When I feel bored, I convince myself to continue to understand the subjects and develop my academic efficiencies.
5. When I have no desire to study, I try to convince myself that is necessary to complete what I am doing to achieve understanding and perfection.
6. I try to convince myself that I have good abilities.
7. When I do not understand any academic topics, I do not give up quickly and talk myself to try again and again.
8. I encourage myself by thinking about achieving high scores to impress the others.
9. When I encounter difficulties to complete the required task, I try to convince myself to complete because of its importance.
10. When my attention is distracted and gets busy away from studying, myself argues me to return to study to achieve success.

1. I ask the teacher about useful references to help me understand the text.
2. I work together with friends to achieve better understanding for what we are studying.
3. I prefer conversation and discussion with my friends related to the reading.

4. I read in a quiet place free of distracters in order to concentrate.
5. I arrange the place where I study to help me to achieve better.
6. I change the way I sit during my reading when I have no desire to complete what I am doing.
7. When I get bored with reading, I change the place of studying.
8. When I feel bored with studying, I stand or walk in the place during the studying.
9. I choose a time with few distractions for studying.

APPENDIX C

Stimulated Recall Instructions

In this study, I am interested in learning what you think about as you read. To do this, I am going to first let you read a text. After you complete reading, I am going to review the text with you again and ask you to think aloud. By "think aloud," I mean that I want you to recall and say out loud everything that came into your mind before, during, and after you completed each task. Please do not think about what you think you may have or should have thought or done. If I have a question about what you were thinking, then I will ask you to clarify. The recall session will be recorded.

Do you understand what I am asking you to do? Do you have any questions?

Interview questions after stimulated recall

1.What do you get from the article?
2. Is the article easy or difficult for you? Do you think it affect your use of strategies and reading results? How?
3. Do you think your cultural background affect your strategy use when reading the text? Can you specify?
4. Do you think your native language affect your reading? How?
5. Do you think your previous knowledge on the content affect your reading?

APPENDIX D

Reading materials for stimulated-recall

	Titles	Topics/ content	Reading level
Week 1	Just Like a Movie	Short story	Beginning
Week 2	Juliette Gordon Low, Girl Scout National Center A Local Legacy	History	Beginning
Week3	Living without Energy	Science	Intermediate
Week 4	Student Debt in America: Lend With a Smile, Collect With a Fist	Business	Intermediate
Week 5	Angelyne-the Celeb Who is Famous for…being Famous	Social study	Advanced
Week 6	The Car	Long story	Advanced

APPENDIX E

Self-Monitoring Form

Goals for this reading activity: _____

Do you think you successfully complete your reading goals? Briefly explain.

_____

How do you think the difficulty of the passage: easy moderate difficult

_____

How much time did I spend on the reading? _____

I had problems with the following words, phrases, and sentences:

1. _____

Why was it difficult? _____

What did I do? _____

2. _____

Why was it difficult? _____

What did I do? _____

3. _____

Why was it difficult? _____

What did I do? _____

4. _____

Why was it difficult? _____

What did I do? _____

Did I encounter distractions when reading? _____

(Air conditioner ? People's whispering? Noise from outside the room? Other?)

Did I do something to change the situation for the better? _____

Did I seek help from others to better understand the text?

_____

(Teachers? Tutors? Classmates? Friends on the internet? Other?)

APPENDIX F

Interview question handouts

Remember this is not a test. There are no right or wrong answers. Write anything you can think of concerning each topic. Feel free to ask the researcher if you have any question.

1.Do you see yourself as a good English reader? In what way are you good? (e.g. having a great amount of vocabulary, found successful strategies, others?)

_____

___

_____

___

2. What does it mean to you when you say you have understood a reading material? (getting a high credit in the course, knowing every word in the text, interpreting meaning from the texts, others?)

_____

___

_____

___

3. Is English reading easy/difficult for you? Why do you think so?

_____

___

_____

___

4. Do you think your first language can affect your reading comprehension? Why do you think so?

_____

___

_____

___

5. Do you think your previous experience and knowledge can affect your reading? why do you think so?

_____

___

_____

___

6. Do you think where and how reading is practiced can affect your reading? Why do you think so?

_____

___

_____

___

7. Do you think there are skills that can make reading easier? Why do you think so?

8. What do you think are the strategies that work best for you ? And what are those that don't work for you?

_____

_____

9. Do you think your reading ability can affect your strategy use? Why do you think so?

_____

_____

10. Do you think where and how reading is practiced affects your strategy use? Why do you think so?

_____

_____

11. Do you plan your reading learning? How? Do you think it's useful to improve your reading ability?

_____

_____

12. How do you keep track of your progress in reading?

_____

_____

13. Some say reading is tiring, boring, and even overwhelming. How do you comment on this? How do you cope with these problems?

_____

_____

14. Do you prefer to ask for help from teachers or classmates when you come across difficulties when reading?

_____

_____

15. What do you do when the reading environment is uncomfortable for you?

_____

APPENDIX G

Background questionnaire

Gender: F___ M___

Age: under 18____ 18-30___ above 30___

Education background: undergraduate___ graduate___ other ___

Reading levels based on the placement tests from the ELI: 1_ 2__ 3__ 4__ 5__ 6__

Native language:_____

Length of learning English_____

Length of stay in the U.S._____

How often do you read in English?_____

APPENDIX H

List of Codes

Codes for analyzing data	Code	Main data source	Secondary data source
Proficiency level Low-level Intermediate-level Advanced-level	 LO INTER ADV		
Self-regulated strategies Cognitive Metacognitve Affective Socio-cultural interactive	 CO MCO AFF SCI	SRSQUES STIM INT SMF	S^2R MSLQ
Sub-categories of CO Activating knowledge Making distinctions Sequencing Analyzing and decoding Comparing Elaboration Summarizing Combining Predicting	 AK MD SEQ ANA COM ELA SUM COM PRE	SRSQUES STIM SMF	S^2R MSLQ
Sub-categories of MCO Pay attention Setting goals Planning Obtaining resources Monitoring Evaluation	 PA SG PLA OBT MON EVA	SRSQUES STIM SMF	S^2R MSLQ
Sub-categories of AFF Generating and maintaining motivation Activating supportive emotions, beliefs, and attitudes	 GEN ACT	SRSQUES SMF INT	S^2R MSLQ
Sub-categories of SCI Interacting to learn Environmental control	 INT ENV	SRSQUES SMF INT	S^2R MSLQ
Variables affecting strategy use Reading difficulty Content and topic of the text Readers' cultural background Physical situation	 DIF CON CUL PHY	SMF INT	

Variables affecting reading performance		SMF	KERN
Readers' first language	FL	INT	
Previous experience and knowledge	PRE		
Physical situation	PHY		

SRSQUES: Self-regulated strategy questionnaire INT: Interview
STIM: Stimulated-recall SMF: Self-monitoring form
S^2R: Oxford's (2011) strategic self-regulated model
MSLQ: Pintrich & DeGroot's (1990) motivated strategies for learning questionnaire
KERN: Kern (2000)

APPENDIX I

Consent to Participate in Research

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Mingda Sun from the University of Alabama. The purpose of this study is to explore how adult English learners use strategies in reading and examine the effects of possible variables that will influence learners' strategy use and reading. This study will contribute to the student's completion of her PhD dissertation.

Research Procedures

This study includes a questionnaire that will be administered to individual participants. You will be asked to provide answers to a series of questions related to your reading behaviors. In addition, the study involves you taking part in weekly tape-recorded interviews. Audio-recordings of these interviews will be kept confidential. In these interviews, you will be asked to read a text and recall what you have thought before, during, and after reading. You will also be asked about your experience and attitudes toward English reading. You will also be asked to read at least three texts every week and complete the form the investigator provides for you.

Time Required

The participation in this study will require approximately eight hours' face-to-face meeting: a one-hour survey, six one-hour stimulated recall tasks, and a one-hour interview. In addition, you will read at least three texts per week and spend approximately thirty minutes to complete three self-monitoring forms. I will provide you with a compensation of $10 per hour for your time and effort.

Risks

The investigator does not perceive more than minimal risks from your involvement in this study.

Benefits

Potential benefit from participation in this study is the participants' increased awareness of the strategy use in reading through the reading tasks during the research period.

Confidentiality

The results of this project will be coded in such a way that the respondent's identity will not be attached to the final form of this study. The researcher retains the right to use and publish non-identifiable data. All data will be stored in a secure location accessible only to the researcher. Upon completion of the study, all information that matches up individual respondents with their answers including audio tapes will be destroyed.

Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind. You may also refuse to answer any individual question without consequences.

Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Researcher's Name: Mingda Sun
Department: Curriculum and Instruction
Email Address: msun1@crimson.ua.edu
Telephone: 205-348-1402

Advisor's Name: Miguel Mantero
Department: Curriculum and Instruction
Email Address: mmantero@ua.edu
Telephone: 205-331-8320

Questions about Your Rights as a Research Subject

Ms. Tanta Myles
The Research Compliance Officer of the University
205-348-8461
1-877-820-3066

Giving of Consent

I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

☐ I give consent to be audio-taped during my interview. _____ (initials)

Name (please print)_____

Signature _____ Date_____

APPENDIX J

IRB Approval Letter

THE UNIVERSITY OF ALABAMA | Office of the Vice President for Research & Economic Development
Office for Research Compliance

February 22, 2017

Mingda Sun
Department of Curriculum & Instruction
College of Education
The University of Alabama
Box 870231

Re: IRB # 16-OR-125-R1 "An Investigation into Adult English as Second Language Learners' Self-Regulated Learning Strategies and Second Language Reading"

Dear Ms. Sun:

The University of Alabama Institutional Review Board has granted approval for your renewal application. Your renewal application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on February 21, 2018. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

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358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127
205-348-8461 | Fax 205-348-7189 | Toll Free 1-877-820-3066