

AN EXAMINATION OF THE METACOGNITIVE
READING STRATEGIES USED BY NATIVE
SPEAKERS OF ARABIC WHEN READING
ACADEMIC TEXTS IN ARABIC
AND ENGLISH

By

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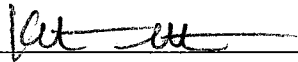
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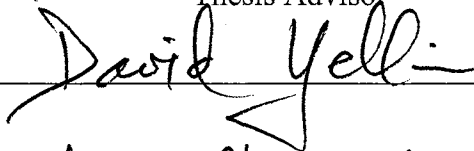
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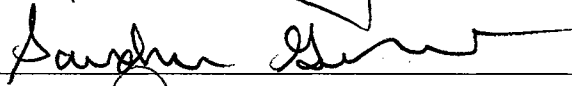
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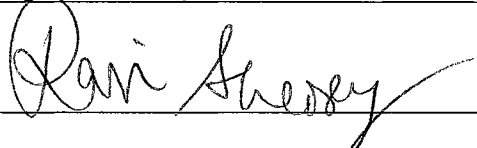
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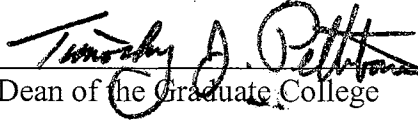


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CHAPTER I

Introduction

Metacognition plays a vital role in reading comprehension. Although the term metacognition is relatively new, the concept and the skills to which it refers have long been recognized (Brown, Armbruster & Baker, 1986). Since the beginning of 20th, researchers (e.g. Dewey, 1913; Thorndike, 1917) have recognized that reading involves planning, checking, evaluating activities, understanding and monitoring, all of which are now regarded as metacognitive activities. Thorndike (1917), for example, suggested that reading was a form of reasoning. According to Thorndike, comprehension problems arise if the reader is not treating the ideas produced by the reading as provisional, so that the reader can inspect and welcome them or reject them as they appear; recent theories of reading incorporate similar comprehension strategies. According to Goodman (1976), readers must test their hypotheses against the “screens” of meaning and grammar by frequently asking themselves if what they are reading makes sense. The reader must “monitor his choices so he can recognize his errors and gather more cues when needed” (p. 483). Specifically, reading comprehension was viewed as a process similar to that described as taking place during problem-solving activities. Olshavsky (1976-1977) also viewed reading as a problem-solving process where the reader uses various strategies to relate the author’s message to information in the memory. The parallel between reading

and problem solving suggests that think aloud offers a viable means for investigating the process of reading comprehension (Kavale & Schreiner, 1979).

The study of metacognition - what readers know about themselves, the task of reading, and various reading strategies- has become an important area of investigation. In fact, metacognition has been viewed as an integral component of reading. Several researchers have identified many metacognitive skills involved in reading (Brown, 1980; Baker & Brown, 1984; Brown, Smiley, Day, Townsend, & Lawton, 1977; Mokhtari & Reichrad, 2002), such as clarifying the purposes of the reading, identifying the important aspects of the text, focusing attention on the main aspects of text rather than trivia, monitoring activities for comprehension purposes, self-questioning, and taking corrective actions when comprehension failure occurred (Baker and Brown, 1984, p. 354).

In a review of the development in second language reading research, Grabe (1991) points out that the importance of the reading skill in academic areas had led to considerable research on reading in a second language. In fact, recently the current focus of second language reading research has begun to focus, among other things, on readers' strategies (Carrell, 1989). Carrell's research on native Spanish- and native English-speaking university students revealed that native Spanish- and native English-speaking university students adjust their reading strategies on the basis of the language of the text and their own perceived proficiency in that language. Langer, Bartolome, Vasquez, and Lucas (1990) studied bilingual Spanish children, they found that bilingual Spanish children used knowledge of Spanish as support when they encountered difficulty in reading English. Pritchard (1990) conducted a study with bilingual Latino high school students, and he found that bilingual Latino high school students used the same reading

strategies across languages. Jimenez, Garcia, and Pearson (1995, 1996) conducted research to describe and understand the cognitive and metacognitive knowledge of proficient bilingual readers who were Latino and they found that the successful Latino readers possessed an enhanced awareness of the relationship between Spanish and English, and that unknown vocabulary surfaced as an obstacle for both the successful and less successful readers. Additionally, Feng and Mokhtari (1998) examined the strategies used by native speakers of Chinese while reading easy and difficult passages in English and Chinese; they found that the strategies were used more frequently when reading in English than in Chinese, and more frequently for difficult texts than for easy texts. Finally in a more recent study that examined the differences in the reported use of reading strategies of native and non-native readers when reading academic materials, Sheorey and Mokhtari (2001) found that both native and non-native readers display awareness of and do use nearly 30 strategies when reading academic materials.

Although the research on metacognitive development of bilingual readers is fairly new, some theorists have speculated that bilingualism may actually “enhance children’s capacity for conscious introspection” (Jimenez, Garcia, & Pearson, 1996; p. 93). For instance, Hosenfeld (1977) proposes that second-language learning is unique and may bring about greater awareness of cognitive process. Vygotsky (1934/2000) viewed learning a foreign language as “conscious and deliberate from the start” (p. 109). He came up with the idea that there could be cognitive differences between bilingual and monolingual children in their awareness of language and its functions. Ianco-Worral (1972) research supports Vygotsky’s idea who found that four to five year old bilingual children in South Africa understood to a greater extent that language is arbitrary than the

monolingual children. In fact, a variety of factors have been found to affect bilingual students' second-language literacy. For example, bilingual adults who are highly proficient in both languages were found to process text more slowly compared to monolingual adults (Mack, 1984).

Given the central role of comprehension in current descriptions of the reading process, the growth of interest in the monitoring of comprehension is not surprising (Garner, 1980). Comprehension monitoring, then, as one kind activity under the umbrella of metacognition, consists of any endeavor that allows readers to judge whether comprehension is taking place and that helps them decide whether and how to take compensatory action when necessary (Casanave, 1988; Block, 1986). Comprehension monitoring is based on cognitive learning in which learners are viewed as mentally active participants in the teaching-learning interactions. The mental activity of learners is characterized by the application of prior knowledge to new problems, the search for meaning in new information, high level thinking, and the developing ability to regulate one's own learning (Chamot, O'Malley, & County, 1986; Chamot & O'Malley, 1996). To date most of the research involving comprehension monitoring has been conducted with native speakers of English, but there are reasons to believe that comprehension monitoring is of particular importance for second language learners (Block, 1992). For example, Casanave (1988) has called comprehension monitoring "a neglected essential" in second language reading research. For one thing, second language readers can be expected to encounter more unfamiliar language and cultural references while reading authentic or unfamiliar texts than first language readers would. Therefore, they may have to "repair" more gaps in their understanding than first language readers (Block, 1992).

Although researchers agree on the skills transfer of first language to second language, there is considerable debate about how and when this transfer occurs. The first group of researchers believes that reading skills are similar for all languages, and will transfer from one language to another, so whatever skills a reader developed in his/her first language can be called upon when he/she reads in second language. Coady (1979) and Hudson (1982) not only emphasize this point of higher-level skills transfer from first language to second language, but they also believe that this transfer can compensate for inadequacies in lower level linguistics skills. The second group of researchers suggests that reading ability and strategy use is dependent on language proficiency (Clarke, 1979; Devine, 1981, 1988; Cummins, 1979, 1981; Cziko, 1980; Macnamara, 1970). Finally, a third group of researchers (e.g. Miramontes & Commins, 1989) suggests that effective transfer of strategies from one language to another may depend upon a certain level of metacognitive awareness (as cited in Jimenez, et al., 1996).

A number of empirical investigations have established a positive relationship between metacognitive strategies and reading comprehension (Block, 1986, 1992; Carrell, 1984; Garner, 1987; Kletzien, 1991; Olshavsky, 1976-1977; Pressley & Afflerbach, 1995). These researchers found that the strategies which readers use when interacting with printed materials play an important role in reading comprehension in both first and second language reading. They also found that successful readers use reading strategies more often than the unsuccessful readers, the unsuccessful readers have limited resources for solving problems (Block, 1992). Other researchers (Cohen, 1986; Alderson, 1984) call for more research in the area of second language acquisition that uses think-aloud as a method of tapping the mental process that L2 readers use. For

instance, Oxford and Crookall (1989) recommended the use of multiple research methods, including verbal reports and think-aloud protocols, for identifying and validating language learning strategies. Of the many studies conducted to investigate reading strategies using the think-aloud protocol (e.g., Feng & Mokhtari, 1998; Jimenez, Garcia, & Pearson, 1996), none has studied the use of reading strategies employing the think-aloud protocol for native speakers of Arabic when reading in English and in Arabic.

Problem Statement

Although there is an overwhelming number of studies on various aspects of second and foreign language reading, there is very little research carried out on the metacognitive knowledge and reading strategies of nonnative speakers. At present, there are no published studies that have investigated the metacognitive knowledge and reading strategies of successful readers who are proficient in Arabic as well as in English language, despite the compelling evidence that there is a strong relationship between the use of metacognitive strategies and reading, which has been shown to facilitate learning and text information processing (Baker & Brown, 1986; Paris, Lipson, & Wixson, 1983; Paris, Wasik & Turner, 1996). The assumption underlying the present study is that the reading potential of native speakers of Arabic is often undetected and their cognitive and comprehension monitoring abilities are often underestimated and mistakenly perceived as a deficit by educators (e.g. Farquharson, 1988). Therefore, a careful study of the metacognitive knowledge and strategies use of native speakers of Arabic will help to better understand how they read in two languages.

Significance of the Study

The significance of this study is two fold. First, despite the overwhelming studies on metacognitive strategies, there is no a single research carried out on the reading strategies of native speakers of Arabic who are proficient in English and Arabic. Second, most of the research on Arabic native speakers has been conducted by outside scholars who brought an etic (outsider) perspective. Research that relies exclusively on etic perspectives can be hampered in its ability to make reliable conclusions or interpretation about findings that are culturally based (Mallory, Charlton, Nicholls, & Marfo, 1993). This study therefore, will make an important contribution in the area of theory development relative to reading and literacy of native speakers of Arabic.

Purpose of the Study

The purpose of this study was to investigate the metacognitive knowledge and reading strategy use of native speakers of Arabic. The use of reading strategies has been identified as a major variable for improving reading comprehension (Baker & Brown, 1986; Paris, Wasik & Turner, 1996; Carrel, 1989; Brown, Smiley, Day, Townsend, & Lawton, 1977) because reading strategies reflect what readers do when they read (Baker & Brown, 1986). A careful study of the metacognitive knowledge and strategies selection and use by native speakers of Arabic will reflect their cognitive abilities and the

properties of the strategies they use. This study seeks to explore the following specific questions:

1. Are there any significant differences in the reading strategies that native speakers of Arabic report using when they read academic materials in English and in Arabic?
2. What specific reading strategies do native speakers of Arabic actually use when reading in each of the two languages?
3. In what ways does the use of reading strategies vary across the two languages?

Definitions of Key Terms

Metacognition: Flavell (1978) defined metacognition as “knowledge that takes as its object or regulate any aspect of any cognitive endeavor” (p. 37). In this definition two dimensions of cognitive ability have been recognized: 1) knowledge of cognition, and 2) regulation of cognition. In this study, it refers to a reader’s knowledge concerning his own cognitive process during reading. It includes both comprehension monitoring and regulation of cognition.

Think-aloud protocol: Verbal data collected from a task that requires a subject to say aloud everything he thinks and everything that occurs to him during reading (Garner, 1987, p.69).

Reading strategies: Reading strategies are general patterns that reveal a reader’s resources for understanding (Langer, 1982). They are often used to monitor understanding and take

action when necessary (Johnston, 1983). For the purpose of this study, a strategy is defined as "any overt purposeful effort or activity used by the reader to make sense of the printed material with which he or she was interacting." (Jimenez, Garcia, & Pearson, 1995, p. 76).

Assumptions

Given the nature and purpose of this study, it is assumed that subjects have comparable levels of language proficiency in English and Arabic, that they are proficient readers in each of the languages used (namely Arabic and English), and that they have no known language or reading disabilities.

Organization of the Study

This thesis consists of five chapters. Chapter I provides an overview and introduction to the study. Chapter II presents a review of the literature. It covers a theoretical framework for the study, reading and culture, issues in second language reading, the importance of reading strategies, and research related to reading strategies for both native and nonnative speakers. Chapter III describes the methodology used including research questions, sampling procedures, participants' description, instruments, data collection, and data analysis. Chapter IV provides an analysis of the results obtained. Chapter V offers a discussion and an interpretation of the findings. It includes a summary

of major findings, implications for reading research and instruction, and recommendations for future research.

CHAPTER II

Review of the Literature

This chapter reviews the research relevant to the metacognitive reading strategies and its relationship to the reading of native speakers of Arabic when reading in their first language (Arabic) and when reading in their second language (English). In order to obtain a thorough understanding of Arabic native speakers reading in the two languages, it is necessary to consider five areas related to the study. Therefore, I begin this chapter by first presenting a theoretical framework that explains the fundamental aspects of sociolinguistic, psycholinguistic, and cognitive theories, especially, as they relate to reading in a second language. Second, I present a discussion of the relationships of reading and culture. Third, I discuss some core issues in second language reading (e.g. consequences of bilingualism, the role of language proficiency, and the role of reading strategies). Fourth, I discuss the importance of metacognitive reading strategies, and their relationship to reading comprehension. Fifth, and perhaps more important, I review the research that has been conducted with native and nonnative speakers. Finally, I draw a conclusion of the review of the literature.

Theoretical Framework

Contemporary theories of reading are based primarily on the principles of psycholinguistic, sociolinguistic, and cognitive theories. Therefore, an overview of the basic precepts of these models of cognition is essential. Sociolinguistic, psycholinguistic, and cognitive theories hold a functional view of language that focuses on language as a means for engaging in social and cognitive activity; this is especially true when we talk about nonnative speakers or second language learners in general. For nonnative speakers the cultural line seems to fuse with the cognitive line. Reading in two languages always triggered thinking about thinking, and an awareness of awareness. This view could be found in Vygotsky and Bakhtin's views, because both of them emphasized social and cognitive factors, and the function of language as social and cognitive activity because both of them assumed thought to be inner speech (Holquist, 1990). According to Vygotsky (1934/2000) language is a symbolic "tool", humans use tools to interact with their external environment. In this interaction, tools mediate between the subjects (humans) and the object (material world). Tools, for Vygotsky, aid humans function as mediators in goal-directed activities. Similarly, language is simultaneously seen as a "psychological tool," the most sophisticated mediational mechanism in human sociocultural history (Ahmed, 1994). While physical tools are used to control the external environment, symbolic tools or linguistic signs serve not only to control and organize the social world and to mediate activity but also to control and organize the psychological world and to mediate intrapersonal cognitive activity, language can be seen as the most advanced mediational mechanism, mediates the basic process of perception, attention,

memory, thinking, and even emotion (Vygotsky, 1934/2000). Vygotsky asserts that when we come to learn a new language, one does not return to the immediate world of objects and does not repeat past linguistic development, instead the use of native language mediates between the world of objects and the new language (Vygotsky, 1934, 2000)

The acquisition of a second language, according to Vygotsky, is conscious and deliberate (Vygotsky, 1934/2000). Bakhtin also emphasizes this idea of consciousness, when he says “consciousness itself can rise and become a living fact only in the material embodiment of signs” (as cited in Holquist, 1990, p. 80). For Vygotsky, consciousness distinguishes the behavior of humans from that of other living things, and it links the individual’s knowledge to his or her behavior. Vygotsky viewed consciousness as more than awareness of one’s cognitive abilities, he conceived as it consists of self-regulatory mechanisms that human deploy in solving problems. This latter understanding is similar to what we call metacognition, and it incorporates such function as planning, voluntary attention, logical memory, problem solving, and evaluation (Lantolf & Appel, 1994). To Vygotsky what is required is to discover the appropriate “unit of analysis of consciousness”, the theoretical principal to explain its formation and operation, as well as a methodological paradigm to carry out the necessary research (Lantolf & Appel, 1994, p. 3). Vygotsky also theorized that human consciousness is a fundamentally mediated mental activity. Beginning with the theorem that human affect reality, and in transforming reality they establish new conditions for their being and consequently change themselves. Thus cognitive development is a question of gaining symbolically control over, or regulation of, strategic mental processes. For Vygotsky, the advantage of

acquiring a second language is that it liberates the child from the dependence on concrete linguistic forms and expressions (Vygotsky, 1934/2000, p.160).

In investigating the psychological development, Vygotsky found that when children are faced with difficulties encountered during the course of goal-directed activities used forms of private speech “thinking aloud” for gaining control over task performance (McCafferty, 1994). When it was employed in this capacity, Vygotsky considered private speech to be the convergence of thought and language and moreover, to play a critical role in promoting intellectual growth and eventual psychological independence or self-regulation. When children’s private speech disappears, “it does not simply atrophy but “goes underground at the time of adulthood as inner speech, vocalized forms do surface in times of cognitive process” (McCafferty, 1994, p.118). Here, private speech functions metacognitively, being involved with planning, guiding, and monitoring the course of activity. These processes are fluid and dynamic, and both our thoughts and our words undergo several transformations as we struggle to make a clear statement without losing the inner sense of our original thought. This later idea is similar to Bakhtin’s idea of heteroglossia. Heteroglossia is a situation in which the subject is surrounded by myriad responses he or she might make at any particular point. Any response must be framed in specific discourse selected from the teeming thousands available. Heteroglossia is “a way of conceiving the world as made up of a roiling mass of languages, each of which has its own distinct formal markers” (Holquist, 1990, p. 69). In essence Bakhtin’s view is similar to what nonnative speakers try to achieve when they read in a second language. They usually try to make sense of their reading in that language and they become very attentive to the act of reading.

Central to the conscious process of reading is metacognition, which plays a vital role in reading comprehension. Although the term metacognition is new, the concept and the skills to which it refers have long been recognized (Brown, Armbruster & Baker, 1986). Researchers, since the turn of the century (e.g. Huey, 1968; Dewey, 1933; Thorndike, 1917) have recognized that reading involves planning, checking, evaluating activities, understanding and monitoring. Most of these kinds of activities are now regarded as metacognitive activities. Huey (1968), for example emphasized this idea of metacognition when he said “to completely analyze what we do when we read would almost be the acme of psychologist’s achievement, for it would be to describe very many of the most intricate workings of the human mind” (p. 6). Huey emphasized here “the intricate working of human mind” whilst reading in first language, but reading in a second language is more complicated than reading in the first language. Dewey, also emphasized the idea of interaction with symbols in order to get meaning: “in the case of signs we care nothing for what they are in themselves, but everything for what they signify and represent” (Dewey, 1933, p. 231). For Dewey, we don’t care about the outward of words like ‘Canis’, ‘Hund’, ‘chien’, ‘dog’ as long as the meaning is represented. Thorndike (1917), on the other hand, suggested that reading was a form of reasoning and comprehension problems arise if the reader is not treating the ideas produced by the reading as provisional so that the reader can inspect and welcome them or reject them as they appear; recent theories of reading incorporate similar views of reading comprehension. According to Goodman (1976) readers must test their hypotheses against the “screens” of meaning and grammar by frequently asking themselves if what they are reading make sense. The reader must “monitor his choices so he can recognize

his errors and gather more cues when needed” (p. 483). Specifically, reading comprehension was viewed as a process similar to that described as taking place during problem-solving activities (Olshavsky, 1976-1977). Olshavsky viewed reading as a problem-solving process where the reader uses various strategies to relate the author’s message to information in the memory. The parallel between reading and problem solving and thought and inner speech suggests that protocol analysis offers a viable means for investigating the process of reading comprehension (Kavale, Schreiner, 1979).

Vygotsky, Bakhtin, Huey, Dewey, Thorndike, and Goodman’s theories are compatible with those of educators today who will agree that a fundamental goal of education is to teach readers to become self-directed learners who seek to acquire new information and to master new skills because self-controlled learners plan, evaluate, and regulate their own skills, and they develop an enduring interest in learning (Paris, Lipson, & Wixson, 1983). This view is also compatible with recent research in reading which indicates that becoming more aware of what the readers do when they read, becoming conscious of their own reading process, and developing the level of metacognitive awareness, is powerful tool for improving reading efficiency (Aebersold & Field, 1997; Carrell, 1989).

Reading and Culture

The relationship between reading and culture has been a major issue of concern for educators because new information, new concepts, new ideas can have meaning only when they can be referenced to something the individual already knows. Vygotsky

(1934/2000) called the various psychological tools that people use to aid their thinking and behavior *signs*, and he argued that we cannot understand human thinking without examining the signs that a culture provides. He believed that one can only understand human beings in the context of the socio-historical environment. In this sense, language seems to be as much a part of the natural line as the cultural line. In a very important sense, culture oriented the individuals in the way in which every culture situates, introduces, produces and reflects its values, beliefs, patterns of thought, and inspiration, along with the power of knowledge they carry (Aebersold and Field, 1997). Thus, the reader's judgments and perception are influenced by the assumptions shared by the group to which the reader belongs; in this sense, culture can be viewed as integrated patterns of learned behavior, unique to a particular social group, which serve as guidelines for selecting and ordering the information with which one is confronted (Aebersold & Field, 1997).

According to Freire "every reading of the word is preceded by reading of the world" (Freire 1987, p. 58). The word-world relationship is crucial in understanding Freire's concept of reading and literacy in general. Freire does not suggest that there is no difference between 'word' and 'world' or 'text' and 'context': he simply identifies and discusses different kinds of 'words' (spoken, written and 'true') and 'texts' (written texts and the text that is social reality itself). The world, for Freire, is "more than simply a complex collection of dancing signifiers" (Roberts, 1998 p. 110). Accordingly, reality must have a concrete, objective, and material dimension. The 'world' in the word-world relation comprises the reflective activity of human beings, the social institutions human beings create, the relationship they forge with each other and the material sphere of the

objective world. Speaking a “word,” of any kind always implies a process or an act and a relationship with others and with the world. Hence, it is the larger ‘world’ on which the ‘word’ works and this is a necessarily social process. Friere’s work is important because one might find variability of outcomes among non-native speakers, since the reverse is true for nonnative speakers “every reading of the world is preceded by reading the word”, and as is usually the case, nonnative speakers read in a different culture, different language, different context and different cultural orientation.

Research has also provided evidence for how culture influences the way we look at things. This evidence comes from the substantial role of background knowledge in reading comprehension in a second language. Steffensen, Joag-Dev, and Anderson (1979) found that familiarity with topic helps second-language readers to construct meaning. In this study, subjects from the United States and India read about an Indian and an American wedding and recalled them following interpolated tasks. Both Americans and Indians read the native passage more rapidly, recalled a large amount of information from the native passage, produced more culturally appropriate elaboration of the native passage, and produced more culturally based distortions of the foreign passage. Whether recalling the native or foreign passage, subjects recalled more of the text elements rated as important by other subjects with the same cultural heritage. The results were interpreted as showing the pervasive influence on comprehension and memory of schemata embodying knowledge of the content of a discourse. Evidently, for nonnative speakers unfamiliarity with the cultural context may embed their comprehension, unless they activate a proper schemata to deal with unfamiliar context or related to something

they already knew. This may also interrupt their metacognitive abilities to relate to the message of the text.

Issues in Second Language Reading

Consequences of Bilingualism

There are those who fear that bilingualism could confuse the person, both linguistically and cognitively (August & Hakuta, 1997). According to August and Hakuta this fear stemmed from the extensive literature on intelligence testing from the early 1900s, when psychometrists compared the performance of bilingual and native speakers on various measures of intelligence and found that the monolinguals outperformed bilinguals (Diaz, 1983). Two explanations for this discrepancy were offered: that the bilinguals were “genetically inferior” to the monolinguals, or that the attempt to learn two languages caused “mental confusions”. This negatively construed tradition persisted for a long time, and bilingualism was considered as some kind of social plague, mental retardation, linguistic confusion, language handicap that deeply affected children’s intellectual development and academic performance up to the college years (August & Hakuta, 1997).

This subjective view of second language learners in general does not consider what Ratner (1991) called: the “manifestation of cultural cognitive variations”, or “cultural situatedness of meanings” (Bruner, 1996 p.3), and the variations of cultural emphasis on various value and cognitive abilities” (Field & Aebersold, 1990.). In

responding to this negative research, a new tradition of research came to dismantle this negative construed traditions by viewing bilinguals as cognitively “flexible” (Peal & Lambert, 1962), use “divergent thinking skills” measured by tests of creativity (Landry, 1974) more attentive to structure and details (Ben-Zeev, 1977). They also recognize cognate vocabulary, monitor their comprehension, use many strategies, use schema and prior knowledge to affect comprehension and recall, and they are cognitively more mature (Lightbown, 1978; Fitzgerald, 1995).

A recent, yet a constructive type of research, reported by Jimenez, Garcia, & Pearson (1994, 1995, 1996) reflects a new way of seeing and postulates a fresh look at bilinguals as they try to make meaningful reading events driven from different sources. To achieve this purpose the researchers chose to examine, describe, and understand bilingualism as a potential strength rather than an inherent weakness. In these studies, the metacognitive knowledge and strategic reading processes of proficient and less proficient Spanish and English speakers, has been examined. Evidence from these studies suggests that highly proficient bi-literate English and Spanish readers possess an enhanced awareness of the relationship between Spanish and English, and like expert monolingual readers, demonstrate remarkable strategic abilities when reading.

The Role of Language proficiency

Results of research in second language reading support the view that reading in a language which is not the learner’s first language is a source of considerable difficulty (Alderson, 1984). Nonetheless, one of the debatable issues in second language reading

that second language researchers have to deal with is how language proficiency and strategies transfer from first language to second language. The problem seems to be whether reading in a second language is simply a function of the transfer of first language reading abilities or of the language proficiency in the second language (Clarke 1979; Alderson 1984; Carrell, 1991). In other words, is it a reading problem or a language problem (Alderson, 1984; Carrell, 1991)? Those who believe that second language reading depends crucially upon the ability in one's first language rather than upon student's level of ability in the second language (Jolly 1978, cited in Alderson 1984; Coady, 1979) are supported by the 'reading universal hypothesis' put forward by Goodman (1973), who asserted that the reading process will be much the same for all languages, in which case one would expect reading ability to transfer across languages, and those who read poorly in second language do so either because they don't possess good reading skills in their first language, or due to their failure to transfer these strategies. Those who opposed this view claim that the reading problems of a second language learners are due largely to imperfect knowledge of the target language, or at least some minimal 'threshold' of proficiency needs to be attained in the second language before good readers' first language reading strategies can be transferred to reading in the second language (Macnamara, 1970; Clarke 1979; Cummins 1979; Carrell, 1991; Devine, 1988). This threshold of proficiency is the now well-known 'language threshold' or 'language ceiling' of second language learning. In a study conducted with English and Spanish bilinguals Carrell (1991) emphasized the importance of this 'language ceiling', and confirms that reading ability in the first language accounted for a greater proportion

of the variance in second language reading ability; however, Alderson (1984) believes that it is language proficiency that embeds second language reading.

Another controversial issue in second language reading is the transfer of reading strategies from the first language to the second language. Although all researchers agree on the skills transfer of first language to second language, they disagree on “when” this transfer occurs. The first group of researchers believes that reading skills are similar for all languages, and will transfer from one language to another, so whatever skills a reader developed in his/her first language can be called upon when he/she reads in second language. Coady (1979) and Hudson (1982) not only emphasize this point of higher-level skills transfer from second language to second language, but they also believe that this transfer can compensate for inadequacies in lower level linguistics skills. The second group of researchers argues the ‘temporal nature’ of the skill transfer, their argument being that L2 readers need to attain a certain degree of proficiency in the second language, for the transfer to occur (Macnamara 1970; Clarke 1979; Cummins 1979; Devine 1988). Although this debate about strategies transfer is still far from being resolved, the two groups agree on one thing which is the importance of reading strategies.

The Importance of Reading Strategies

Reading strategies are of great value because they are woven into the fabric of readers’ cognitive development and are necessary for success in school. According to Paris, Wasik, and Tuner (1996), there are six reasons for why strategic reading is fundamental to the development of readers. First, strategies allow readers to elaborate,

organize, and critically evaluate information derived from text. Second, the early acquisition of reading strategies corresponds to development during childhood with the development of more cognitive strategies to enhance multiple cognitive abilities (i.e. attention, memory, communication, and learning). Third, reading strategies are individualized cognitive tools and could be manipulated by readers to be used at their choice. Fourth, they really mirror metacognition and motivation. Fifth, they can be meaningfully taught, especially those strategies that foster reading and thinking, and sixth, they can enhance learning throughout the curriculum (p. 609). Moreover, Baker and Brown (1984) emphasized that the ability to reflect on one's own cognitive process, to be aware of one's own activities while reading, and solving reading problems have important implications for the reader effectiveness on reading process.

Given the importance of cognitive process, research on how nonnative speakers know and analyses of what they do when engaged in reading are too rare (Jimenez, Garcia & Pearson, 1995). A growing body of research on second language speakers tried to pay attention to what actually second language speakers do when they read (Jimenez, Garcia & Pearson, 1994, 1995, 1996; Feng & Mokhtari, 1998; Mokhtari, 2002). This research is vital because it specifies the parameters of reading in two languages and it looks closely at nonnative speakers as they experience reading in two or three languages.

Reading Strategies of Native and Non-native Speakers

Research on the comprehension strategies of native English speakers has concentrated on describing those strategies that are involved in understanding. Many researchers have compared the performance of “good” and “poor” readers (Garner, 1980;

Kavale & Schreiner, 1979; Olshavsky, 1976-1977) or older and younger readers (Scardamalia & Bereiter, 1984); still others (Baker, 1979) have studied the strategies used by competent readers. For example, in studying the reading strategies of 30 students poor readers and good readers Garner (1980) found that good readers rated nearly all consistent information segments of the passage read as “very easy to understand”, the poor reader, on the other hand, made little rating distinction across the readings. Garner concluded that lack of attention to incoming inconsistencies might mean almost certain failure to adjust processing strategies. Olshavsky (1976, 1977) presented students with stories to read, clause by clause, and instructed them to talk about what happened in the story and about what they were doing and thinking as they read. Good and poor readers were quite similar in their attempts to monitor comprehension; when they failed to understand words or clauses, they used contextual cues, inferential meaning, and rereading as strategies for resolving comprehension difficulties.

The results of these studies suggest that good readers are more able to monitor their comprehension than poor readers are, that they are more aware of the strategies they use than poor readers, and that they use strategies more flexibly. Specifically, good readers adjust their strategies to the type of the text they are reading and to the purpose for which they are reading. They distinguish between important information and details as they read and are able to use clues in the text to anticipate information or relate information with the information already exist. They are able to notice inconsistencies in a text and employ strategies to make these inconsistencies understandable (Garner, 1980).

A lesson from successful readers has great implication to reading because we know now that successful readers are strategic readers. On the other hand non-successful

readers were found to be unaware of how and when to use the reading strategies. Baker & Brown, 1984; Kletzien, 1991, 1992) found that poor readers are generally deficient in reading skills and using strategies. Skill readers, on the other hand, are more able to monitor their cognitive process while reading and they were found aware not only of which strategies to use, but they also tend to be better at regulating the use of such strategies while reading. More recently, Alexander and Jetton (2000) has also suggested that awareness of reading strategies as well as the use of reading strategies is a characteristic of superior reading comprehension and successful learning. Phifer and Glover (1982) reported that the examination of student performance during reading indicated to them that the students did not consistently apply the metacognitive strategies they professed to use. So this study indicated that we should not rely on what the readers will report however, there should be some type of verification system to discover the technique and strategies that actually are employed by the readers during the reading process. Other researchers found that second language readers take longer to process either of the two languages (Chamot, 1980; Mägiste, 1979).

The number of factors influencing reading ability increases drastically when considering reading in a second language (Block, 1986). Questions of the influence of the readers' first language and first language literacy as well as their second language proficiency complicate the investigations of second language reading and increase the difficulty of comparing the results of the studies (Block, 1986). For example, Langer, Bartolome, Vasquez, and Lucas (1990) found that bilingual Spanish children used knowledge of Spanish as support when they encountered difficulty in reading English. Pritchard (1990) showed that bilingual Latino high school students used the same reading

strategies across languages. O'Malley, Chamot, Stewner-Manzanares, Russo, and Kuper (1985) report that Latino high school students engage in self evaluation, self-monitoring, self-management, and self-reinforcement while learning English. These same students also view their knowledge of Spanish as an asset for learning English. In another research on Chinese and Spanish speaking adults who are poor English learners revealed that they use some metacognitive strategies while reading English, such as monitoring their comprehension and implementing repair strategies (Block, 1986).

Many researchers in second language reading have compared the performance of "good" and "poor" readers (Hosenfeld, 1977, Block, 1986). For example, Hosenfeld (1977) studied the reading strategies of successful and unsuccessful French second language readers. She found that the successful reader keeps the meaning of the passage in the mind as he reads, he reads (translates) in broad phrases, he skips words that he views as unimportant to total phrase meaning, and has a positive concept about himself as a reader. By contrast the unsuccessful reader, loses the meaning of the sentences as soon as he decodes them, he reads (translates) in short phrases, he seldom skips words as unimportant since he views words as "equal" in terms of contributing to total phrase meaning, and he has a negative self-concept as a reader.

As points of comparison, and to better understand whether the comprehension strategies used by ESL students designated as nonproficient readers Block (1986) included native speakers of English who were studying Spanish to compare their strategies with those of nonnative speakers of English. She used the think aloud to obtain the strategies these readers use and the product of their reading. The participants of her study were 9 students who were Spanish and Chinese native speakers. The results of this

study showed that four characteristics seem to differentiate more successful from less successful nonproficient readers in regard to: 1) integration; 2) recognition of aspects of text structure; 3) use of general knowledge, personal experiences, and associations; and 4) response inextensive versus reflexive modes. These patterns reflect the extent to which the readers integrate or disintegrate information in the passage, she found the integrators responded in extensive mode, aware of text structure, monitor their understanding, and look for clues. The nonintegrators on the other hand, rely on personal experience, responded in reflexive mode, make fewer attempts to integrate information, and their retellings focus on details and included few main ideas (Block, 1986, p. 474).

Garcia (1991) conducted a study on children of Limited English Proficiency (LEP) in an effort to understand how they perform on reading achievement tests and how that is related to their literacy development. She employed both quantitative and qualitative methodologies in order to identify factors that influenced the English reading test performance of 51 Hispanic children, as compared with the performance of 53 Anglo children enrolled in the same fifth-and sixth-grade classrooms. The children's reading test performance was examined for differential effects of "time constraints", the children's "prior knowledge", and "question type" (Garcia, 1991). Results from this study indicated that Hispanic children scored on reading test scores significantly lower than their Anglo counterparts. However, the prior knowledge assessment revealed that Hispanic children generally knew less about all the topics except some passages prior to reading the passages than did the Anglo children. It is also evident from this study that the Hispanic children showed that they had not comprehended the questions, due to the problem with vocabulary. However, when the questions and answer choices were translated into

Spanish, then some of the Hispanic children who had chosen the incorrect answers were able to answer the questions correctly.

Findings from this study suggest that the Hispanic students' reading test scores seriously underestimate their reading comprehension potential. The test performance was adversely affected by their limited prior knowledge of certain test topics, their poor performance on the questions that required use of background knowledge. However, when differences in prior knowledge were controlled statistically, the overall reading performance of the two groups did not differ. Giving the children more time to complete the test did not help the Hispanic children's relative performance because both groups' performance improved similarly. Evidence from this study suggested that the lack of vocabulary embedded the Hispanic students' comprehension of the questions asked.

In a study conducted by Jimenez et al. (1995), the authors describe the cognitive and metacognitive knowledge of a proficient bilingual reader who was Latina/o. To accomplish this, they compared her reading processes and strategies with those of a marginally proficient bilingual reader and a proficient monolingual reader. In this study, prompted and unprompted think-aloud, interviews, texts retellings, a prior knowledge measure, and a questionnaire were used to find out the strategies that the three children used. The qualitative analysis revealed four major elements that distinguished the proficient bilingual reader's performance from those of the other two readers. This was reflected on how she navigated unknown vocabulary in both languages, how she viewed the purpose of reading, how she interacted with text, and how she took advantage of her bilingualism. This study suggested that explicit knowledge of the relationship between Spanish and English can facilitate bilingual students' reading comprehension, the study

also found that unknown vocabulary was an obstacle to reading comprehension for the two bilingual children.

Differences among the three readers were reflected in their views of reading. For example, the proficient bilingual thought about reading primarily as a process of learning new vocabulary to enable comprehension. The proficient monolingual reader possessed a sophisticated understanding of reading and reading process, and the less proficient bilingual reader displayed a limited conception of reading which seemed to interfere with her ability to comprehend. Unlike the monolingual reader the two bilingual readers in this study showed great concerns about vocabulary, but the most proficient bilingual Latina/o viewed vocabulary as a bridge, unlike the less proficient bilingual who viewed it as a “a barrier” (p. 89). Additionally, the proficient monolingual and bilingual student in this study demonstrated a multistrategic approach to reading, while the less proficient demonstrated a fragmentation in her employment of the reading strategies.

Another study conducted by Jimenez et al. (1996) examined the strategic reading process of 8 bilingual Latina/o children who were identified as successful English readers, and for comparative purposes, two smaller samples were included- 3 monolingual Anglo students who were successful English readers and 3 bilingual Latin/o who were less successful English readers. Those fourteen subjects were six-and seventh students from three schools. The same methods applied in the previous study were used.

In this study, 22 distinct strategies were organized into three broad groups (text-initiated, reader-initiated, and interactive). Results from this study indicated that three of the strategies were considered unique to the successful Latina/o readers: (a) they actively transferred information across languages, (b) they translated from one language to

another, notably from Spanish to English, and (c) they openly accessed cognate vocabulary when they read, especially in their less dominant language. Additionally, when successful Latina/o encountered unknown vocabulary they used an array of different strategies to determine the meanings of these words, the less successful Latina/o, on the other hand, differed substantially from the successful Latin/o on constructing interpretations of text. The native speakers, on the other hand, and because of their prior knowledge were able to devote substantial cognitive resources to the act of comprehension.

In this study, the subjects expressed a “unitary view of reading” by viewing their learning to read in another language as “simply learning a new set of vocabulary, and mastering another phonological system” (p. 99). The study also found that translation and searching for cognates were strategic activities for the Latina/o students. Although Latino students described translation as a strategic activity, they believed that translation is costly and time consuming. The Latina/o students invoked prior knowledge while reading Spanish passage than when reading English which was attributed to their lack of opportunities to read content-area in Spanish, and they used translation exclusively when reading in Spanish. Several of them mentioned specific strategies that could be transferred from one language to another. Additionally, they used more strategies in Spanish (their weaker language) than in English.

Carrell (1989) examined the relationships between readers’ metacognitive awareness of various types of reading strategies and their reading ability in both first language and second language metacognitive awareness and reading. Two groups of participants were included in this study. Group one consisted of forty-five native speakers

of Spanish from various countries, predominantly from Central and South America. The subjects were college students in intermediate and advanced proficiency levels in English. The second group consisted of seventy-five native speakers of English studying Spanish at the university. They were at three different proficiency levels of studying Spanish: first year, second year, and third year Spanish classes.

The results of this study suggested that there were some relationships between the participants' metacognitive awareness of various types of reading strategies and their reading ability in both L1 and L2. The two groups were tested on their using of two forms of strategies: the "local reading strategies" (i.e. focused on grammatical structures, sound-letter, word-meaning, and text details) and "global reading strategies" focused on (text-gist, background knowledge, and text organization) (Carrell, 1989, p. 125). The study found that for the English L1 group, at lower proficiency when reading in the L2 (Spanish) some of the "local" reading strategies (focusing on grammatical structures, sound letter, word-meaning and text details) were positively correlated with reading performance. For the Spanish L1 group, at slightly higher proficiency levels some "global" reading strategies were positively correlated with reading performance. So the ESL group, of more advanced proficiency levels, was found to be more "global" in their perceptions of effective reading strategies. While the Spanish as a foreign language group, at lower proficiency levels were found to be more "local" in their perceptions of effective reading strategies. The findings of this study suggested that both groups (Spanish and English as a foreign language) at lower proficiency levels tended to be more "local" or bottom-up in their perception of effective reading strategies, which translated their depending on decoding strategies.

In a recent study aimed at examining the reading strategies used by Chinese native speakers when they read easy and difficult text Feng and Mokhtari (1998) found that the strategies were used more frequently when reading in English than in Chinese, and used more frequently for difficult texts than for easy texts. The results of this study were interpreted as a manifestation of strategy choice on the language medium used. For example, of the sixteen strategies with a significant interaction between languages and difficulty level, fourteen showed greater use in English than Chinese, and of the sixteen strategies which showed a significant interaction between language and difficulty levels, ten were used more frequently for difficult than for easy passages (Feng & Mokhtari, 1998, p. 29-32).

In another study which examined the differences in the reported use of reading strategies of native and non-native readers when reading academic materials, Sheorey and Mokhtari (2001) found that both native and non-native readers display awareness of nearly 30-targeted strategies. In addition, regardless of their reading ability or gender both native and nonnative readers attributed the same order of importance to the types of reading strategies used. The subjects gave more importance to problem solving reading strategies, followed by global reading strategies and support reading strategies respectively. Moreover, both native and non-native high-reading-abilities show comparable degrees of higher reported usage for problem solving reading strategies and global reading strategies abilities than low-reading-ability readers in the two groups. Furthermore, the US high-reading-abilities, assign high value for support reading strategies than the US low-reading-abilities, whereas ESL students attribute high value to support reading strategies regardless of their reading abilities. Lastly, in the US group, the

females reported significantly higher frequency use; this effect is not reflected in the ESL sample (Sheorey and Mokhtari, 2001, p. 445).

Conclusion

In this chapter I reviewed the literature relevant to this study. I began by discussing the theoretical framework that is based on sociocultural, psycholinguistics and cognitive theories. All these theories emphasized the role of the language as an advanced mediational mechanism, as it mediates the basic process of perception, attention, memory and thinking. I also discussed reading and its vital relation to culture, and the evidence from research of how culture influences the way we look at things. Moreover, I discussed issues in second language reading. These issues are at the center of a long debate in second language reading, issue such as consequences of bilingualism, and the role of language proficiency and reading strategies transfer from first to second language.

Upon reviewing the literature, it is evident that reading strategies are of great value because they reflect the actual cognitive abilities of the reader, and they are necessary for success in school. It is also evident that reading strategies are of great importance to nonnative speakers because of the difficulty that nonnative speakers may encounter when they read in a second language and therefore, have to use “repair” strategies for text comprehension (e.g., Block, 1986). I also discussed that most research in second language reading examined the differences between poor and good readers. This research is useful but it did not provide the most useful information about the actual process of strategy use in second language reading. A recent, yet most constructive and

well-detailed type of research documented the strategies used by groups and individual readers (Jimenez, Garcia & Pearson, 1994, 1995, 1996; Feng & Mokhtari, 1998; Mokhtari, 2001; Sheorey & Mokhtari, 2002). This research approached bilingualism from a vantage point of enabling rather than disabling bilingual and multilingual readers. Results from these studies indicated that bilingual and multilingual readers used many strategies to relate to the text meaning.

This study was inspired by few recent studies, which have investigated the metacognitive awareness and use of reading strategies by bilingual Spanish/English readers (Jimenez et al., 1994, 1995, 1996), bilingual Chinese and English college readers (Feng & Mokhtari, 1998), and trilingual (English, Arabic and French) readers (Mokhtari, 2002).

CHAPTER III

Methodology

This chapter describes the methodology used in the study including research questions, population sampling, participant description, instrumentation, data collection procedures and analyses.

Research Questions

This study examined the metacognitive awareness and use of reading strategies while reading in two languages. The three research questions, which guided this study, are as follows:

1. Are there any significant differences in the reading strategies that native speakers of Arabic report using when they read academic materials in English and in Arabic?
2. What specific reading strategies do native speakers of Arabic actually use when reading in each of the two languages?
3. In what ways does the use of reading strategies vary across the two languages?

Participant Sampling

To answer the first research question, a convenient sample of 90 participants was recruited from an initial pool of 300 potential subjects in five universities in the Midwestern United States. These subjects were recruited through a variety of means. For example, I contacted the subjects in mosques, Muslim students' organizations, and through some friends, while I contacted others through e-mail and phone calls. Of a total of 300 subjects, only 90 agreed to participate in the study. These subjects completed a background and a reading strategies inventory. To find answers to questions two and three, a small sample of ten students was randomly selected to participate in a follow-up study that focused on examining the strategies the subjects actually use when reading bilingually. For convenience, these subjects were selected from only one of the universities. From an initial group of 16 participants who were randomly selected, ten agreed to participate in the follow-up study, which consisted of completing a think-aloud protocol, and an interview protocol. More detailed information about these procedures will be provided in the data collection section.

Participant Description

All participants were native speakers of Arabic pursuing graduate and undergraduate degrees in five Midwestern United States universities. Assessment data collected through the background questionnaire showed that all subjects were able to speak, read, and write Arabic and English with varying degrees of proficiency. For all

participants, Arabic is a first or native language and English is a second language. The participants' ability to read in each language was judged based upon student self-reporting of their reading ability in that language. Proficiency in English was demonstrated if the subject had a score of 550 or higher on the Test of English as a Foreign Language (TOEFL), while proficiency in Arabic was determined by a self-reported rating. In the following I will present more detailed information about the participants. The sample consisted of 79 males and 11 females. These data are presented in Table 1.

Table 1

Participants' Gender

Gender	Number	Percent
Male	79	88
Female	11	12

The participants' aged ranged from 17 to 47 years old. The mean of the participants' age is 31 years old and the standard deviation is 6.67. These data are reported in Table 2.

Table 2

Participants' Age Information

Age range	Number	Percent
17-23	12	13.3
24-28	27	30
29-33	13	14.4
34-38	23	25.6
39-47	15	16.6

Mean = 31.13; SD = 6.67

All the participants in this study were born in Arabic countries except one participant who was born in the U.S. These data are reported in Table 3.

Table 3

Participants' Birth Place

Birth Place	Number	Percent
Egypt	12	13.3
Iraq	1	1.1
Jordan	10	11.1
Kuwait	10	11.1
Lebanon	9	10
Libya	3	3.3
Morocco	7	7.8
Oman	3	3.3
Palestine	4	4.4
Qatar	1	1.1
Saudi Arabia	12	13.3
Sudan	6	6.7
Syria	2	2.2
Tunisia	5	5.6
UAE	3	3.3
Yemen	1	1.1
USA	1	1.1

The participants' length of stay in the U.S. ranged from one to 20 years. The mean is five years and the standard deviation is 4.30. The data of the participants' length of stay in the U.S. is reported in Table 4.

Table 4

Participants' Length of Stay in U.S.

Length in U.S.	Number	Percent
1-3	39	43.4
4-6	25	27.8
7-9	11	12.2
10-12	6	6.6
13-15	6	6.6
17-20	3	3.3

Mean = 5.46; SD = 4.30

The majority of the participant (91%) indicated that they have been studying English as a second language for at least five years. These data are reported in Table 5.

Table 5

Participants' Years Studying English

Years Studying English	Number	Percent
2-4	8	8.9
5-7	17	18.9
8-10	28	31
11-13	17	18.8
14-16	11	12.2
18-21	5	5.5
<u>22-26</u>	<u>4</u>	<u>4.4</u>
Mean = 10.43; SD = 5.03		

Participants were distributed across their majors in college as follows: 26 engineering majors, 51 science majors, and 13 humanities majors. These data are reported in Table 6.

Table 6

Participants' College Majors

Major	Number	Percent
Engineering	26	28.9
Science	51	56.7
<u>Humanities</u>	<u>13</u>	<u>14.4</u>

Most of the participants are graduate students (73%) while undergraduate students made up 27%. These data are reported in Table 7.

Table 7

Participants' College Rank

College Level	Number	Percent
Undergraduate	24	26.7
Graduate	66	73.3

The participants reported that their GPA range is from 3.20 to 4.00. The mean is 3.71 and the standard deviation is .23. These data are reported in Table 8.

Table 8

Participants' GPA Scores

GPA's Range	Number	Percent
3.20-3.50	23	28
3.60-3.75	24	26.6
3.80-4.00	35	38.8

Mean = 3.71; SD = .23

Eighty-seven of the participants reported that their score on the Test of English as a Foreign Language (TOFEL) at the point of admission was at least 550, and they were admitted to their institutions without any conditions. The mean of their TOFEL scores is 578 and the standard deviation is 30.29. These data are reported in Table 9.

Table 9

Participants' TOFEL Scores

TOFEL Scores' Range	Number	Percent
550-564	39	44.5
567-590	25	27.7
592-623	12	13.2
627-670	11	12.1
Missing	3	3.3

Mean = 578; SD = 30.29

All the participants reported that Arabic is their first language and English is their second language. Their proficiency in Arabic and English (listening, speaking, reading, and writing) were assessed by a ten-point Likert Scale that ranged from one = low proficiency to ten = high proficiency. The mean and standard deviations of their first and second languages proficiency are reported in Table 10.

Table 10

Participants' Abilities in First and Second Language

Languages' Skills	Mean	Std. Deviation
Listening Skills L1*	9.64	.69
Speaking Skills L1*	9.37	.84
Reading Skills L1*	9.37	.86
Writing Skills L1*	8.87	1.20
Listening Skills L2*	8.57	1.11
Speaking Skills L2*	8.01	1.08
Reading Skills L2*	8.29	1.12
Writing Skills L2*	7.69	1.34

L1* indicates the participants' first language (Arabic).

L2* indicates the participants' second language (English).

The ten subjects who agreed to participate in the follow-up study were randomly selected from the 90 subjects described above. In addition to completing the survey of reading strategies and the background questionnaire, they were asked to provide qualitative data collected through a think aloud and an exit interview. The following section provides demographic information about the ten subjects as a group, and a brief descriptive profile of each subject. The names of the subjects are fictitious in order to protect their identities.

Seven of the ten participants were males (70%) and three were females (30%). Two of the participants each were born in Egypt, Jordan, and Sudan and one each was born in Libya, Saudi, Tunisia, and U.S.A. The ten participants were distributed across their majors in college as follows: three engineering majors, four science majors, and three humanities majors. Seven of the ten participants are graduate students and the other three are undergraduate students. The descriptive statistics of the ten participants' age, length of stay in the U.S., year studying in English as a second language, GPA scores, TOFEL scores, and proficiency in their first and second languages (listening, speaking, reading, and writing) are reported in Table 11.

Table 11

Ten Participants' Basic Information

Basic Information	Mean	Std. Deviation
Age	29.9	5.24
Length of Stay in the U.S	7.1	4.33
Years of Studying English	10.2	5.37
GPA	3.83	.19
TOFEL	581.9	29.91
Listening Skills L1*	9.70	.48
Speaking Skills L1*	9.50	.53
Reading Skills L1*	9.20	.79
Writing Skills L1*	8.70	1.16
Listening Skills L2*	8.30	1.25
Speaking Skills L2*	7.90	1.19
Reading Skills L2*	8.40	1.17
Writing Skills L2*	7.60	.96

L1* indicates the participants' first language (Arabic).

L2* indicates the participants' second language (English).

Participants' Descriptive Profile

Moha. Moha is in her thirteenth year in the United States, pursuing a bachelor's degree in secondary education. She is 32 years old and her home country is Tunisia. She has been studying English as a second language for at least nine years. She is fluent (i.e.,

she can speak, read, and write) in Arabic, English, and French. Overall, she considers herself to be most proficient in Arabic followed by English and then French.

Samir. Samir is in his third year in the United States, pursuing his bachelor degree in engineering. He is 28 years old and his home country is Libya. He has been studying English as a second language for at least eight years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Khalid. Khalid is in his third year in the United States, pursuing his doctorate degree in English. He is 34 years old and his home country is Saudi Arabia. He has been studying English as a second language for at least eleven years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Amir. Amir is in his tenth year in the United States, pursuing his master's degree in electrical engineering. He is 35 years old and his home country is Jordan. He has been studying English as a second language for at least seventeen years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Azza. Azza is in her eighth year in the United States, pursuing her doctorate degree in special education. She is 34 years old and her home country is Sudan. She has

been studying English as a second language for at least sixteen years. She is fluent (i.e., she can speak, read, and write) in Arabic, English, and French. Overall, she considers herself to be most proficient in Arabic followed by English and then French.

Naser. Naser is in his sixth year in the United States, pursuing his doctorate degree in microbiology. He is 35 years old and his home country is Egypt. He has been studying English as a second language for at least eleven years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Ali. Ali is in his ninth year in the United States, pursuing his doctorate degree in microbiology. He is 40 years old and his home country is Sudan. He has been studying English for at least eight years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Amina. Amina is in her fifth year in the United States, pursuing her bachelor's degree in civil engineering. She is 26 years old and her home country is Egypt. She has been studying English as a second language for at least eight years. She is fluent (i.e., she can speak, read, and write) in Arabic and English. Overall, she considers her self as most proficient in Arabic followed by English.

Faisal. Faisal is in his fourteenth year in the United States, pursuing his doctorate degree in veterinary medicine. He is 44 years old and his home country is Sudan. He has been studying English as a second language for at least thirty-four years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic and English as well.

Mahmoud. Mahmoud is in his eighth year in the United States, pursuing his master's degree in mechanical engineering. He is 25 years old and his home country is Palestine. He has been studying English as a second language for at least five years. He is fluent (i.e., he can speak, read, and write) in Arabic and English. Overall, he considers himself to be most proficient in Arabic followed by English.

Instruments

The instruments that were used in this study included a background questionnaire, a reading strategies inventory, a think-aloud protocol, and an exit interview. These materials are briefly described below.

Background Questionnaire

This questionnaire (see Appendix A) was used to gather demographic information about all participants in the study including age, gender, academic major, educational

background, birth place, frequency of language use, self-reported language and reading proficiency, TOEFL score, length of stay in the U.S., and other related questions.

Reading Strategies Inventory

All subjects completed the Survey of Reading Strategies or SORS (Mokhtari & Sheorey, 2002) which is intended to measure the metacognitive awareness and strategy use of students who are native and non-native speakers of English. According to the authors, the SORS instrument “measures three broad categories of strategies as follows: (1) The Global Reading Strategies (GLOB), which can be thought of as generalized or global reading strategies aimed at setting the stage for the reading act, (2) The Problem Solving Reading Strategies (PROB) which are localized, focused problem-solving or repair strategies used when problems develop in understanding textual information, and (3) Support Reading Strategies (SUP) which provide the support mechanisms or tools aimed at sustaining responsiveness to reading” (Mokhtari & Sheorey, 2002). The instrument was field-tested extensively with diverse student populations including native and non-native speakers of English and was found to have well-established psychometric properties. The psychometric properties of the SORS instrument, including validity and reliability data ($\text{Alpha} = .93$) are described in Mokhtari & Reichard, 2002).

The SORS instrument was administered to the subjects in their native language (Arabic) and in English, their second language. The authenticity of translation of the instrument from English into Arabic was established by a group of individuals who have expertise in both languages including one of the SORS authors, two native speakers of

Arabic, and a certified English-Arabic translator. A copy of the SORS instrument in English and Arabic can be found in Appendix B.

Think-Aloud Protocol

The think-aloud data were collected only for those ten subjects who agreed to participate in the follow-up phase of the study. The think-aloud procedure was used as a means of gathering data about the students' thinking while reading. The following guidelines were used in previous research studies (e.g., Feng and Mokhtari, 1998; Jimenez et al., 1994, 1995, 1996; Pressley & Afflerbach, 1995), the subjects were asked to read passages in each of the languages and to verbally report their thinking while reading. For consistency, the think-alouds were conducted in English when reading texts written in English and in Arabic when reading texts written in Arabic. However, as suggested by the researchers above, the subjects were allowed to use any of the two languages for verbalizing their thoughts while reading. The resulting think-aloud protocols were tape recorded to ensure completeness and accuracy in data transcription and analysis.

Because of the possible challenges of thinking aloud while reading, researchers (e.g., Pressley & Afflerbach, 1995) recommend exposing the subjects to the procedure and providing sufficient practice in verbalizing their thoughts while engaged in the process of reading. Therefore, prior to conducting the think-aloud, I trained the 10 participants to carry out the think alouds prior to conducting the study. This practice session took place in several group meetings between the principal investigator and the participants. So in order to ensure that subjects understood the procedures and felt

comfortable using it, they participated in three related training activities. First, they listened to an audio taped recording featuring a college student engaged in thinking-aloud while silently reading a passage in English. Second, they watched a live demonstration of the procedure by the researcher who engaged in thinking aloud while reading a short passage in each of the languages used (Arabic and English). Third, following a discussion of the two presentations, the subjects practiced thinking aloud with each other until they felt comfortable with the procedure. The practiced reading passages were similar to the ones used in the actual study in each of the target languages (i.e., Arabic and English). The practice sessions, which took approximately 30 minutes, was tape recorded so as to give the subjects confidence in their think-aloud skills. During the practice sessions, the subjects had feedback about their practice of the think-alouds until they felt comfortable with the process. Finally, they were given time to ask questions about the process and seek assistance as needed. The practice passages that were used were marked with intermittent red flags, placed after every two to three sentences. These special markings served as constant reminders for the subjects to report everything aloud while reading. In addition, whenever they appeared silent for more than five seconds or more, they were reminded to verbalize their thought processes, and to do so as naturally as possible, using any of the languages they felt comfortable with. The practice think-alouds was tape-recorded and was used to provide feedback regarding the think-alouds trials.

Reading Passages:

Two expository reading passages were used in the study, one in English and

another in Arabic. These passages were selected from magazines that are similar to academic materials such as those used in school. The passages selected ranged from 350 to 450 words in length. The readability of the passages was judged by a Flesch Kincaid readability formula for English and group judgment for Arabic by having group members rating the readability for the Arabic text. The passages' readability was estimated to be around the 11- 13th grade level, which is typical of most college reading materials. The content of the passages was considered to be of interest to the subjects as judged by their topic and familiarity to the subjects. In this study, the ten Arabic native speakers read two passages in the target languages (English and Arabic), and they simultaneously reported their thinking aloud in each of the target language. The English passage "The Breath of Life" by Christine Gorman (2000) dealt with inhaled steroids and its side effects on children with Asthma. The Arabic passage [Nessamat Alassari]"نسمات العصارى" (Afternoon Breeze) by Gamal Al-Gaitani (2001) dealt with the author's childhood memories. The author described in nostalgic fashion how he passed afternoon time in Cairo and the monuments of Cairo in the forties (see appendix C for both passages). To insure complete and accurate self-reports, researchers (e.g., Feng & Mokhtari, 1998) suggest marking passages with periodic red dots or flags, placed every two-three sentences to remind the subjects to think-aloud during their reading. A copy of the passages used for each of the two languages is included in Appendix C.

Data Collection

The data for this study were collected over a period of nearly two semesters in two major phases. During the first phase, all subjects completed a background

questionnaire and the SORS instrument in both languages. These data were collected in the fall semester and in small groups depending on the availability of the subjects in the various locations. The second phase of the study is conducted in the spring semester. In this phase of the study only ten of the subjects who agreed to provide additional follow-up data about the strategies they actually use when reading in two languages. During several sessions, the subjects were told about the purpose of the study, trained to think aloud, and participated in an exit interview. The subjects were scheduled individually and completed these tasks at various times depending on their availability. All sessions were tape recorded and later transcribed for data analysis and interpretation purposes.

Data Analysis

Since the data for the study came from several sources (namely, a background questionnaire, think-alouds, reading strategies inventory, and an exit interview), a combination of qualitative and quantitative analyses was used to find answers to the main questions posed in the study. Findings from the various sources of data were combined to generate a reasoned interpretation of these findings. A brief description of how data from each of these sources will be analyzed follows.

Analysis of Background Information

The data obtained from the background questionnaire for all 90 subjects was examined using basic descriptive statistics. In addition, brief descriptive narratives were

used to create a profile of the ten subjects who participated in the second phase of the study.

Analysis of SORS Data

The data obtained from the SORS surveys in English and Arabic were analyzed using t-test to find out if there were any differences in metacognitive awareness and strategy use in the two languages. These data provided information about the students' awareness and perceived use of thirty different strategies in three categories (i.e., global, problem solving, and support reading strategies). These data were later compared to their 10 subjects' actual use of strategies when reading in two languages.

Analysis of Think-Aloud Data

Following Jimenez et al., (1994, 1995, 1996), a general framework for analyzing the think-aloud data was used when reading the data transcripts. The constant comparative analysis, an analytical scheme that was first developed by Glaser and Strauss (1967) and later refined by Lincoln and Guba (1985), was used to identify the reading strategies and extract instances of strategies used. According to Glaser and Strauss (1967) the constant comparative method is concerned with generating and plausibly suggesting many categories, properties, and hypotheses about general problems. The authors describe four stages for executing the constant comparative method, these stages are: (1) comparing incidents applicable to each category, (2) integrating categories and their

properties, (3) delimiting the theory, and (4) writing the theory (Glaser & Strauss, 1967, p. 105). Each stage in this process was transformed into the next, and earlier stages remained in operation simultaneously throughout the analysis, and each provided continuous development to its successive stage until the analysis was completed.

To analyze the think-aloud data, the researcher was assisted by two graduate research assistants to make sure there was agreement about instances of strategies used by the subjects. Both research assistants had experience in conducting research in general and in using the Constant Comparative method in particular. In three stages, we first analyzed data for strategy occurrences using the SORS thirty strategies as a general guide. We started by coding each occurrence of strategy in our data into the strategy categories as indicated in the SORS instrument. In the second stage, we integrated categories and their properties with units change from comparison of incidents. In the third step, we formulated the theory with a smaller set of categorical concepts, and the fourth stage involved providing the content behind the categories. Following strategy identification, the findings were examined and discussed by all three judges until consensus was reached. The strategies generated from the think-aloud protocols were categorized into the three strategy categories following the classification scheme used in the Survey of Reading Strategies.

CHAPTER IV

Results

Introduction

This study examined the metacognitive awareness and actual use of reading strategies by Arabic native speakers when reading in Arabic and English. The main questions of interest include the following:

1. Are there any significant differences in the reading strategies that Arabic native speakers report using when they read academic materials in English and Arabic?
2. What specific reading strategies do native speakers of Arabic actually use when reading in each of the two languages?
3. In what ways does the use of reading strategies vary across the two languages?

To find answers to the above questions, quantitative and qualitative data were used. The following section presents the results for each research question.

Analysis of Research Questions

Research Question #1: Are there any significant differences in the reading strategies that Arabic native speakers report using when they read academic materials in English and Arabic?

To answer this question, I examined the students' responses for the individual strategies as well as for the three categories or subscales of the Survey of Reading Strategies (SORS) in English and Arabic. As Table 12 shows, the means of individual strategies reported show that the subjects have a fairly high level of awareness of reading strategies when reading in both languages. The mean strategy use ranged from a high of 4.38 to a low of 2.41 when reading in English (overall $M = 3.58$; $SD = .46$). Similarly, the means ranged from a high of 4.20 to a low of 1.81 when reading in Arabic (overall $M = 3.48$; $SD = .46$). The observed difference in the overall strategy means reported for the two languages was statistically significant ($t(89) = 2.25$; $p < .05$).

The data obtained show a moderate to high overall reported use of reading strategies by the subjects in either language. When they reported strategies used in English, 18 of the thirty strategies (60%) fell in the high usage group (mean of 3.5 or above), while the remaining 12 strategies (40%) had means between 2.41 and 3.49, indicating medium usage of these strategies. None of the strategies in the survey was reported used with low frequency (mean values below 2.4). On the other hand, in Arabic, 20 strategies (67%) fell in the high usage group; eight strategies (27%) fell in the medium usage group; and the remaining two strategies (6%) had means below 2.50.

I further analyzed the data according to the three SORS subscales or categories. The averages for these categories revealed a moderate to high strategy usage. Arabic native speakers reported that when they read in both languages (i.e. English and Arabic) they reported using and they most often used the problem solving reading strategies, followed by global reading strategies and support reading strategies. The differences between the two groups were statistically significant in the use of the problem reading strategies ($t(89) = 2.74, p < 0.01$) and in the use of the support reading strategies ($t(89) = 4.41, p < 0.01$).

Table 12

Differences in Reported reading strategy use by native Arabic speakers when reading in English and Arabic

Name strategy	English (n=90)		Arabic (n=90)		t	p-value
	M	S.D.	M	S.D.		
GLOB1 Setting purpose for reading	4.07	.86	4.20	1.05	-1.44	0.153
GLOB2 Using of prior knowledge	3.81	1.07	3.79	.94	0.21	0.834
GLOB3 Previewing text before reading	3.46	1.18	3.57	1.25	-0.86	0.391
GLOB4 Checking how text content fits purpose	3.49	1.09	3.46	.98	0.37	0.716
GLOB5 Noting text characteristics	3.58	.99	3.54	1.07	0.35	0.724
GLOB6 Determining what to read closely	3.64	1.14	3.64	1.05	0.00	1.00
GLOB7 Using text features (e.g., tables)	4.04	1.04	3.87	1.04	1.42	0.158
GLOB8 Using context clues	3.69	1.02	3.54	1.02	1.21	0.231
GLOB9 Using typographical aids (e.g. italics)	3.24	1.27	3.36	1.28	-0.93	0.352
GLOB10 Analyzing and evaluating the text	3.53	.997	3.64	.92	-1.12	.266
GLOB11 Checking understanding	3.96	.792	3.88	.79	0.87	.388
GLOB12 Predicting or guessing text meaning	3.44	1.15	3.53	.96	-0.76	.449
GLOB13 Confirming predictions	3.10	1.17	3.33	1.08	-1.77	.079
PROB1 Reading slowly and carefully	3.94	.916	3.86	.98	0.82	.417
PROB2 Trying to stay focused on reading	4.26	.68	4.09	.895	1.71	.092
PROB3 Adjusting reading rate	4.00	.91	3.84	.898	1.58	.118
PROB4 Paying close attention to reading	4.31	.83	4.19	.78	1.16	.251
PROB5 Pausing and thinking about reading	3.62	.96	3.58	1.03	0.40	.689
PROB6 Visualizing information read	3.73	.99	3.62	1.01	1.19	.234
PROB7 Re-reading for better understanding	4.38	.77	4.01	.91	3.60	.001
PROB8 Guessing meaning of unknown words	3.88	1.11	3.74	1.12	1.18	.241
SUP1 Taking notes while reading	3.12	1.27	2.98	1.19	1.29	.197
SUP2 Reading aloud for better understanding	2.77	1.39	2.60	1.44	1.32	.192
SUP3 Underlying information in the text	3.79	1.26	3.79	1.24	0.00	1.00
SUP4 Using reference materials	3.19	1.19	2.77	1.34	3.74	.000
SUP5 Paraphrasing for better understanding	3.26	1.28	3.24	1.19	.093	.926
SUP6 Finding relationship among text ideas	3.71	1.05	3.56	1.01	1.52	.132
SUP7 Asking oneself questions	3.20	1.23	3.22	1.14	-.207	.836
SUP8 Translating from English to Arabic	2.41	1.31	1.81	1.15	5.04	.000
SUP9 Thinking in both languages when reading	2.92	1.39	2.14	1.29	5.98	.000
GLOB Global Reading Strategies	3.62	.535	3.64	.489	-.455	.650
PROB Problem Solving Reading Strategies	4.02	.479	3.87	.497	2.74	.007
SUP Support Reading Strategies	3.15	.658	2.90	.652	4.41	.000
ORS Overall Reading Strategies	3.58	.457	3.48	.456	2.25	.027

Table 13 shows the top five and bottom five individual reading strategy preferences of Arabic native speakers when they read in English and Arabic arranged in descending order by their means (that is, the most often reported used to least used strategies). The data shows the strategies the subjects are more likely to use when they read in English and in Arabic were quite similar. For instance, on the whole, the strategies reported to be used most tend to be “problem solving reading strategies” similarly, the strategies least reported used were “support reading strategies”.

The five strategies reported used the most in both English and Arabic were quite similar, four of these strategies are: re-reading for better understanding, paying close attention to reading, trying to stay focused on reading, and setting purpose for reading. The only difference was “using text feature (e.g. tables)” in English and “checking understanding” in Arabic. On the other hand, the least five reported used strategies in both Arabic and English were quite similar, four of them are: taking notes while reading, reading aloud for better understanding, thinking about information in both languages, and translating from English to Arabic. The only difference was “confirming predictions” in English and “using reference materials” in Arabic (see Table 13).

Table 13

Reported Reading Strategies Used Most and Least by Arabic Students When Reading in English and Arabic

English (n = 90)		Arabic (n = 90)	
Name	Strategy	Name	Strategy
PROB7	Re-reading for better understanding	GLOB1	Setting purpose for reading
PROB4	Paying close attention to reading	PROB4	Paying close attention to reading
PROB2	Trying to stay focused on reading	PROB2	Trying to stay focused on reading
GLOB1	Setting purpose for reading	PROB7	Re-reading for better understanding
GLOB7	Using text features (e.g., tables)	GLOB11	Checking understanding
PROB3	Adjusting reading rate	GLOB7	Using text features (e.g., tables)
GLOB11	Checking understanding	PROB1	Reading slowly and carefully
PROB1	Reading slowly and carefully	PROB3	Adjusting reading rate
PROB8	Guessing meaning of unknown words	GLOB2	Using of prior knowledge
GLOB2	Using of prior knowledge	SUP3	Underlying information in the text
SUP3	Underlying information in the text	PROB8	Guessing meaning of unknown words
PROB6	Visualizing information read	GLOB6	Visualizing information read
SUP6	Finding relationship among text ideas	GLOB10	Analyzing and evaluating the text
GLOB8	Using context clues	PROB6	Visualizing information read
GLOB6	Determining what to read closely	PROB5	Pausing and thinking about reading
PROB5	Pausing and thinking about reading	GLOB3	Adjusting reading rate
GLOB5	Noting text characteristics	SUP6	Finding relationship among text ideas
GLOB10	Analyzing and evaluating the text	GLOB8	Using context clues
GLOB4	Checking how text content fits purpose	GLOB5	Pausing and thinking about reading
GLOB3	Previewing text before reading	GLOB12	Predicting or guessing text meaning
GLOB12	Predicting or guessing text meaning	GLOB4	Checking how text content fits purpose
SUP5	Paraphrasing for better understanding	GLOB9	Using typographical aids (e.g. italics)
GLOB9	Using typographical aids (e.g. italics)	GLOB13	Confirming predictions
SUP7	Asking oneself questions	SUP5	Paraphrasing for better understanding
SUP4	Using reference materials	SUP7	Asking oneself questions
SUP1	Taking notes while reading	SUP1	Taking notes while reading
GLOB13	Confirming predictions	SUP4	Using reference materials
SUP9	Thinking in both languages when reading	SUP2	Reading aloud for better understanding
SUP2	Reading aloud for better understanding	SUP9	Thinking in both languages when reading
SUP8	Translating from English to Arabic	SUP8	Translating from Arabic to English

Research Question #2: What specific reading strategies do native speakers of Arabic actually use when reading in each of the two languages?

For this part of the study, data was collected from ten randomly selected subjects who agreed to participate in a follow-up study. The data was mainly qualitative in nature that was collected through a think-aloud protocol. These data allowed me to find out what strategies the subjects actually used when reading in two languages. For purposes of analysis, the 30 reading strategies identified in the SORS instrument were used as a general guide for determining what strategies the ten subjects actually used when they read in each of the two languages. The strategies that were actually used will be compared to the ones reported as being used. These strategies were identified from the think-aloud transcripts using constant comparative procedures proposed by Glaser and Strauss (1967). As a general rule, a strategy was counted if it occurred three or more times in the think-aloud transcripts. Following a classification scheme used by Mokhtari and Sheorey (2002), the strategies generated from the think-aloud protocols were categorized into three types of strategies including “global reading strategies”, “problem-solving strategies”, and “support reading strategies”. The following section provides a discussion of strategies actually used by the subjects when they read passages in English and Arabic.

Strategies Actually When Reading in English

Table 14 lists the strategies that were actually used by the ten participants when they read the passage in English. These strategies were extracted from the subjects' think-alouds while reading. The strategies that were actually used are marked by a (+) sign while the ones not used are marked by a (-) sign.

Table 14

Reading Strategies Actually Used when Reading the English Text

<u>Strategy</u>	<u>Used (+) Not Used (-)</u>
GLOB1 Setting purpose for reading	-
GLOB2 Using of prior knowledge	+
GLOB3 Previewing text before reading	-
GLOB4 Checking how text content fits purpose	-
GLOB5 Noting text characteristics	-
GLOB6 Determining what to read closely	+
GLOB7 Using text features (e.g., tables)	-
GLOB8 Using context clues	+
GLOB9 Using typographical aids (e.g. italics)	-
GLOB10 Analyzing and evaluating the text	+
GLOB11 Checking understanding	+
GLOB12 Predicting or guessing text meaning	+
GLOB13 Confirming predictions	+
PROB1 Reading slowly and carefully	+
PROB2 Trying to stay focused on reading	+
PROB3 Adjusting reading rate	+
PROB4 Paying close attention to reading	+
PROB5 Pausing and thinking about reading	+
PROB6 Visualizing information read	+
PROB7 Re-reading for better understanding	+
<u>PROB8 Guessing meaning of unknown words</u>	<u>+</u>

Table 14 (continued)

Strategy	Used (+) Not Used (-)
SUP1 Taking notes while reading	-
SUP2 Reading aloud for better understanding	-
SUP3 Underlying information in the text	-
SUP4 Using reference materials	-
SUP5 Paraphrasing for better understanding	+
SUP6 Finding relationship among text ideas	+
SUP7 Asking oneself questions	+
SUP8 Translating from English to Arabic	-
<u>SUP9 Thinking in both languages when reading</u>	-

(+)Indicates use of the strategy (-) Indicates absence of strategy use

An examination of the data presented in Table 15 shows that the participants did use some of the strategies and didn't use others. Collectively, the participants used a total of 18 strategies when reading text in English. Of these 18 strategies, there were seven global Reading Strategies, eight problem-solving strategies, and three support reading strategies. Examples of strategies used in each of these categories are provided below.

Global Reading Strategies. An analysis of examples of the think-aloud transcripts showed that the participants used seven global reading strategies. These strategies are: "Using prior knowledge", "Determining what to read closely", "Using context clues", "Analyzing and evaluating the text", "Checking understanding", "Predicting or guessing text meaning", and "Confirming predictions". On the other hand, six of the 13 global reading strategies were not used by any of the subjects when they read the passage in English. These strategies are: "Setting purpose for reading", "Previewing text before reading", "Noting text characteristics", "Checking how text content fits purpose", "Using text features (e.g., tables)", and "Using typographical aids (e.g. italics)". Here are

examples of some of the strategies that were actually used by the participants when reading a passage in English entitled: “Breath of Life”.

- Samir: Um..I think this [breath of life], I think; this could bring life to our life. The breath of life. Hum I don't know what the passage will be about.
- Ali: [The breath of life].... Oh! What is life? And what is breath? What did the author mean by that?

The following examples illustrate the use of making predictions during reading, and checking to see if the predictions about the text are right or wrong”. These strategies were illustrated below:

- Azza: That's can be a good idea to do another study for younger children, but what if that treatment affect them negatively as well.....(after reading ahead in the passage) Hmm same idea of mine I guess.
- Khalid: So for adults it doesn't seem to make a big difference. [when the following paragraph supported what he said earlier], he stated: “So, also another study shows that adults are not effected by the ... by the inhaler in term of height, just like what I said.

Another example of Global Reading Strategies that were used by the subjects shows the use of “critical analysis and evaluation of text” and “determining what to read closely,” to capture the gist of what they read. Six of the ten participants used these strategies. Here are two examples of what they said:

- Amina: Ok.. so I guess the corticosteriods form of an...an inhaler makes it more effective. I guess that what it means. So I guess other forms of the drugs will make it less effective and might cause other side effects.
- Azza: So..a.. the North American study results were different, in comparing those on inhaled steroids with those with no inhaled steroids there is no advantage of inhaled steroids...ha..(after reading the following paragraph)Ok so the long years of asthma have caused some damage for the subjects, which make it

hard for the steroids to handle it. So maybe that's why their results are different from the expectations they had.

When the subjects encountered difficult materials and when they came across new information, they used various strategies to better understand the text such as: “using contextual clues” to help them in understanding the text, “checking understanding”, and “activating background knowledge”. Examples of these types of strategies include the following:

Ali: That means they used to be not safe, I am thinking of what make them safe now? That means something happened, either they improved the quality of steroids, or the understanding of how steroids works improved.

Azza: So these steroids now seem to be safe for children with moderate asthma. This sentence and the specially the word-now- indicated to me that steroids do not used to be safe for children with moderate asthma in the past. However, now they are ha....

Integrating prior knowledge with textual information is crucial for comprehension. Many of the subjects showed how invaluable this strategy was by making explicit knowledge of the passage. For example, one of the participants, tried to relate what she read in the passage to her personal experience while the other two participants tried to tie what they read in the passage with their previous readings and background knowledge in science. The following statements point to the active manner of invoking prior knowledge and relating it to the text meaning:

Amina: The topic of this article reminds me of [a cousin that had asthma and he had to use like the inhalers for years and years] and I really do not know that.... that inhalers actually is not safe...

Faisal: This is very interesting, and this is actually is my area of specialty, a..a but I was just wondering, [I wish if the article talked about other important toxicities encountered by the usage of steroids]; I mean she [the author] just pointed the finger to one toxicity which is slowing of bone growth or delaying of mineralization of bones

called the osteoporosis, but the major side effects of steroids or inhaled steroids is immuno –suppressions; people who are customarily taking inhaled steroids are usually prone to catch the infection real quick as compare to other people who are not taking steroids.

Problem-Solving Strategies. An analysis of the transcripts shows that the participants used all of the strategies categorized as “problem solving reading strategies”. These strategies are: “Reading slowly and carefully”, “Trying to stay focused on reading”, “Adjusting reading rate”, “Paying close attention to reading”, “Pausing and thinking about reading”, “Visualizing information read”, “Re-reading for better understanding”, and “Guessing meaning of unknown words”.

The participants used the problems solving reading strategies the most when they read the passage in English. Overall, they were very reflective and careful when they read. Here are some examples of these strategies as used by the participants:

Khalid: Umh [I think] that this something that has been well established within the medical field to treat asthma.

Picturing or visualizing the information is a strategy that was used by five participants during their reading of the English text. Here are two examples of how the participants employed visualizing of information strategy as they made their way through the text:

Azza: Breathing in the drugs, ha so.... breathing the drugs will allow most of it to settle in the lungs. ha..[I can imagine that as well].....

Amir: After reading the following sentence (breathing the drugs will allow most of it to settle in the lungs), he commented, [I guess I can see and feel that].

Seven participants employed a variety of strategies for making sense of English text. Most revolved around vocabulary. An example of “guessing meaning of unknown word” by using contextual clues to resolve the unknown word “steroids”:

Azza: Steroids? What is that mean? [Ah! From the word inhaled I think steroids means something we can inhale...(after reading ahead the word steroid seems to click)...Now I understand what steroids means. It is a type of treatment for people who have asthma]

Another example of “guessing meaning of unknown phrase” by using the text context to deal with the unknown phrase “did not fare better” can be found in the following examples:

Khalid: I don't know how this word “fare better” is used here, but that seems to be a test of the lung capacity in terms of those who took steroids and the control group who didn't take any thing in term of steroids. [Still you know the word “fare better” I don't know how it can be used here and what it means here, but that what I understood from the content.]

Amina: I don't understand what “did not fare better” means; may be the researchers speculate that there was already some permanent damage that the steroids could not counteract....

The following examples illustrate the use of “reading slowly and carefully”, “try to stay focused in reading”, “adjusting reading rate”, “pay close attention to reading”, and “re-reading for better understanding” strategies. For example, five of the participants employed the re-reading strategy to increase their understanding when the text became difficult. Here are some examples to illustrate how they resolve the difficulty of the text:

Khalid: So another long sentence.... [re-read the sentence twice]..... Ok researchers speculate that there was already some permanent damage that the steroids could not .. counteract, as study subjects had been found to have asthma an average of five years before they started treatment.

Azza: Oh. [Let me repeat that again]... Ok so the long years of asthma has caused the subjects some damages which made it hard for the

steroids to handle it so maybe that's why their results is different for the expectations they have.

Support Reading Strategies. An analysis of the transcripts shows that the participants used only three support reading strategies. These strategies are: "Asking oneself questions", "Finding relationships among text ideas", and "Paraphrasing for better understanding". On the other hand, the majority of the participants did not use six of the nine support reading strategies when they read the passage in English. These strategies are: "Taking notes while reading", "Reading aloud for better understanding", "Underlying information in the text", "Using reference materials", "Translating from English to Arabic", and "Thinking in both languages when reading". However, the strategies of "Thinking of information in both languages" and "Translating from English to Arabic" were used by only one participant (Samir).

An example of how some of the participants employed the self-questioning strategy to better understand the English text can be found in the following quotes:

Azza: I wonder why physicians will be hesitated to use it with milder cases? Will that mean steroids are so strong or could have some negative effects on people? (After some more readings)...If the drugs will have side effects for younger children, why are we using it with them? Then, why not only for adults?

Ali: I am just think of the chronology of steroids used in medicine, and I am just wonder if doctors knew that steroids will help asthma symptoms? Nevertheless, it wouldn't stop the asthma attack. Did they experiment that? I would like also to know why doctors hesitate using steroids with children? (After reading the next two paragraphs)... Now I know why because it affects children growth, and medical research shown that, but still do the merits of using steroids outweigh the demerits?

The strategy of “Finding relationships among ideas in the text” was used by six of the participants to have a better understanding of the text. The following examples illustrate how they used this strategy:

Amina: Well that is good because that what the inhaled steroid are supposed to do, to help those children when they got an asthma attack but the point is. is.. Is it worth it in the long run? And if they are other choices...other things parents can choose for their children to use to control the asthma attacks! Is it worth it to stop the asthma attack now with inhaled steroids and then have problems in the future with their bones growth? Uah....

Moha: inhaled steroids are very good at counteracting. Until now however, many physicians have hesitated to use inhaled steroids to treat milder cases of asthma in children. Ok they don't want to use the inhaled steroids with children...(after reading the next paragraph). With the use of drugs they cannot develop normally their bones. ha.

An example of “Paraphrasing to better understand what they read” strategy can be illustrated by Khalid's quote:

Khalid: So.... for young very .. very young children like infants and those between 1 & 4, 1 & 3 more studies are needed to determine that they can safely use the inhaled steroids and in the same time maintain a good healthy growing condition (after reading the next sentence). Ok. So they are trying to say that the medicine doesn't goes to any part of the body or doesn't effect any part of the body but starts a..a... working within lung itself, and therefore treating the lung immediately.

The strategy of “Translating from English to Arabic” and “Thinking of information in both languages” were used excessively by only one of the ten participants (Samir), and here is an example for what he said:

Samir: إفتكرت إن الازمه تحدث فى عمر معين (I thought that asthma occurs at a certain age).

Strategies Actually Used By the Ten Participants When Reading a Passage in Arabic

Table 15 lists the strategies that were actually used by the ten participants when they read the passage in Arabic. These strategies were extracted from the subjects' think-aloud while reading. The strategies that were actually used are marked by a (+) sign while the ones not used are marked by a (-) sign.

An examination of the data presented in Table 15 shows that the participants did use some of the strategies and didn't use others. Collectively, the participants used a total of nine strategies when reading text in Arabic. Of these nine strategies, there were four global Reading Strategies, three problem-solving strategies, and two support reading strategies. Examples of these strategies used in each of these categories are provided below.

Global Reading Strategies. An analysis of examples of the think-aloud transcripts showed that the participants used four global reading strategies. These strategies are: "Determining what I know prior to reading text", "Using context clues", "Analyzing and evaluating the text", and "Predicting or guessing text meaning". On the other hand, nine of the thirteen global reading strategies were not used by any of the subjects when they read the passage in Arabic. These strategies are: "Setting purpose for reading", "Previewing text before reading", "Checking how text contents fits purpose", "Noting text characteristics", "Determining what to read", "Using text features (e.g., tables)", "Using typographical aids (e.g. italics)", "Checking understanding", and "Confirming predictions". Here are examples of some of the strategies that were actually

used by the participants when reading a passage in Arabic entitled: “نسمة العصاري” [Nessmat Alassari] meaning “The Afternoons Breeze”. An important point that I want to make here is that I translated all the Arabic transcripts to English.

Table 15

Reading Strategies Actually Used When Reading the Arabic Text

Strategy	Used (+) or Not Used (-)
GLOB1 Setting purpose for reading	-
GLOB2 Using of prior knowledge	+
GLOB3 Previewing text before reading	-
GLOB4 Checking how text content fits purpose	-
GLOB5 Noting text characteristics	-
GLOB6 Determining what to read closely	-
GLOB7 Using text features (e.g., tables)	-
GLOB8 Using context clues	+
GLOB9 Using typographical aids (e.g. italics)	-
GLOB10 Analyzing and evaluating the text	+
GLOB11 Checking understanding	-
GLOB12 Predicting or guessing text meaning	+
GLOB13 Confirming predictions	-
PROB1 Reading slowly and carefully	-
PROB2 Trying to stay focused on reading	-
PROB3 Adjusting reading rate	-
PROB4 Paying close attention to reading	-
PROB5 Pausing and thinking about reading	-
PROB6 Visualizing information read	+
PROB7 Re-reading for better understanding	+
PROB8 Guessing meaning of unknown words	+
SUP1 Taking notes while reading	-
SUP2 Reading aloud for better understanding	-
SUP3 Underlying information in the text	-
SUP4 Using reference materials	-
<u>SUP5 Paraphrasing for better understanding</u>	<u>+</u>

Table 15 (continued)

Strategy	Used (+) or Not Used (-)
SUP6 Finding relationship among text ideas	+
SUP7 Asking oneself questions	-
SUP8 Translating from Arabic to English	-
SUP9 Thinking in both languages when reading	-

(+) Indicates use of the strategy (-) Indicates absence of strategy use

In reading the title of the Arabic passage, I noticed that all the participants in this study tried to guess what the content of the text is going to be about and they tried to make some predictions about the text, exactly the same way as some did with the English passage. Here are some examples of their quotes:

Khalid: The title may be related to some time at noon, which is afternoon.

Amina: The title of the article [Nessmat Alassari*] “نَسْمَةُ الْعَصَارِي” (Afternoons Breeze) it doesn’t really tell me what exactly the article is going to be about, but I think it is about a certain moment in the afternoon.

Azza went further when she tried to make some predictions about the content of text. She integrated her prediction of the title with her own personal experience. This can be seen in the following quote taken from her think-aloud of Arabic text:

Azza: [Nessmat Alassari*] “نَسْمَةُ الْعَصَارِي” (Afternoon Breeze), umm, I think the passage is going to be about the Afternoons Breeze which reminded me with the afternoon breeze back home in Sudan.

Four of the participants employed the strategy of “Critical analysis and evaluation of information on the text” to better understand the text. This can be illustrated by the following examples:

Naser: Of course, a house of five floors was something great in the forties.

Samir: By the name of Allah, what he is talking about is true 100%; when you were little you see things relatively different than when you get older.

Integrating critical analyses and evaluation strategies with relating the text to personal experiences to better understand the text and trying to make sense of what they read are strategies used by six of the participants. Below are some examples for what they said:

Amina: You can tell he is really a good author ...see how he can put his memories in written words...(after reading the next paragraph) ...Uhm. This is really true because everything when you are young, it seems very big and eventually when you grow up, and all of a sudden nothing is as biggest as it was you thought as it was when you are younger and in my grandfather's house too. In [Alexandria] when we stand in the balcony you can see the ceiling of the other houses around and I [know exactly what he is talking about] and actually here is a smile in my face because you know [I had been there] and know how he feels in sort of how he is describing it you know.

Azza: The author mentioned that people may see things differently with the advance of the age and I agree with that as well from my personal experience.

Relating the prior knowledge to the reading of the passage is one of the most used strategies by seven of the participants when they read the Arabic text. In fact, focusing on relating the Arabic passage to personal experiences emerged as a crucial strategy to better understand the Arabic text. In fact, five of the participants tried to relate what they read in the Arabic passage to their personal experiences to better understand the text; below are some examples to illustrate that:

Amina: oh.... ok the house where he lives reminds me with my grandfather's house that I know when he says a.. about the height of building and you know five floors is [nothing compared to the buildings we have now]. But actually this is one of the things that you can see about the houses that were [built in the forties in Egypt] in general and in Alexandria in particular. I knew this from my [grandfather's house] that the ceiling is very...very high and although is only five floors you can get really tired because the houses were very high compared to the houses we have or

apartments that we have now and that makes a difference and [I totally understands what he talks about].

Azza: that means the author was born in an area surrounded by palm trees, this reminds me with our home on the bank of the river Nile in Sudan... (after finishing the second paragraph)..the comparison of Cairo in the past and the present witch reminds me also with Khartoum past and present. This is true today; in Khartoum we have more environmental problems.

Problem Solving Reading Strategies. An analysis of examples of the think-aloud transcripts showed that the participants used three problem solving reading strategies. These strategies are: “Visualizing information read”, “Re-reading for better understanding”, and “Guessing the meaning of unknown word”. On the other hand, five of the eight problem solving reading strategies were not used by any of the participants when they read the passage in Arabic. These strategies are: “Reading slowly and carefully”, “Trying to stay focused on reading”, “Adjusting reading rate”, “Paying close attention to reading”, and “Pausing and thinking about reading”.

An example of using the “Guessing the meaning of unknown word” strategy was illustrated by six participants who tried to determine the meaning of the unknown word “ملقف” [Malgaf] *- means a hole at the upper part of the house for allowing the air to come inside the house]. Below are some examples of what they said:

Amir: ..This is the first time to hear about this word [Malgaf*] (ملقف) but I guess from the sentence I know what it means

Khalid: Maybe this design is very special for bumping the air and pushes it inside the house to the rest of the rooms I think I read before something like that.

Azza: The word - Malgaf (ملقف) means a hole in the wall for pushing the air inside. This is the first time for me to hear about this word - Malgaf (ملقف) and I never thought before how important the -

Malgaf (ملقف) is, because I used to live in small apartments where we rely only on fans and air condition to get the cold air.

Picturing or visualizing the text information was used by five of the participants when they read the Arabic passage. Two examples that can illustrate are:

Amina: once you read these words what happened is [you start drawing a picture in your head] of what he is describing and when he says [Alkhala Algahiri] الخلاء القاهري (Cairo spaces), he is really describing how it is very beautiful.

Azza: I drew a picture in my mind for Cairo now from the way the writer described its boundaries, monuments and places. I am also trying to visualize the movement of the air inside the building, as has been described by the author to understand it.

Five of the participants employed the “Re-reading for better understanding” strategy to understand the text. Below are some examples of what they said:

Moha: What is this? I want to read this part again. Maybe it means that the structure of the house in pyramid shape push the air inside.

Amina: let me re-read this sentence one more time ..oh Yes that is exactly what we are talking about. It is the difference in pressures that makes the air moves. aa aa ..the ...the warmer air flows upwards and the cooler air replaces the warmer air and that how it works. That is what we are talking about I understand it. Um and it is amazing how such a simple principles just affects how you feel inside your house Okay I understand now ... I understand the mechanism of how it works.

Support Reading Strategies. An analysis of examples of the think-aloud transcripts showed that the participants used two support reading strategies. These strategies are: “Finding relationships among ideas in the text” and “Paraphrasing for better understanding”. On the other hand, seven of the nine support reading strategies were not used by any of the subjects when they read the passage in Arabic. These strategies are: “Taking notes while reading”, “Reading aloud for better understanding”,

“Underlying information in the text”, “Using reference materials”, “Asking oneself questions”, “Translating from English to Arabic”, and “Thinking in both languages when reading”.

In the following I will present some examples of what they said to illustrate the two support reading strategies they used:

Khalid: The author is describing the place where he lived, Cairo in the forties, the monuments in the south and the north. Perhaps all these monuments represent for the author a very special symbol. And the author is remembering how the city was clean and not polluted, it used to have a lot of parks, and you can see the monument from very far, and maybe there were no many cars, factories, which effected the clean air.

Ali: I like the way he writes he is talking about the memories he had when he was younger. Most of the article is talking about the mechanism of...of the structure working on top of the houses to cool the air down but he is not talking more of what these memories bring to him or what he is thinking of. But you can tell he is really living the moment when he used to enjoy [Nessmat Alassari*] “نسمة العصاري” (Afternoon Breeze) when he was a child.

Question # 3: In what ways does the use of reading strategies vary across the two languages?

The quantitative data collected through the SORS instrument for all 90 subjects and the qualitative data collected through the think-loud protocol obtained from the ten subjects revealed that there was some variation in the reported and actual use of the reading strategies when reading in both English and Arabic. The results from these two data sources are reported below.

SORS Data

The quantitative analysis revealed that on the whole, the 90 subjects reported using a higher rate of reading strategies when reading English than when reading Arabic. As Table 12 shows they reported using problem solving reading strategies more often when they read English ($M = 4.02$; $SD = .48$) than when they read Arabic ($M = 3.87$; $SD = .50$), and also reported using support reading strategies more often when they read in English ($M = 3.15$; $SD = .66$) than when they read in Arabic ($M = 2.90$; $SD = .65$). However, the difference in reported strategy use in the two languages was not statistically significant for the global reading strategies. These results showed similar preferences for global reading strategies when reading in English and Arabic. Additionally, the 90 participants show a preference for using problem solving reading strategies followed by global reading strategies and support reading strategies when reading in English and Arabic.

Think-Aloud Data

The think-aloud analysis revealed that there were variations between strategies actually used when reading a text in English and Arabic. Table 14 and 15 presented the strategies that the ten participants used in both languages.

Table 15 shows that more strategies were actually used when the subjects read a passage in English than when they read a passage in Arabic. There were some strategies that were actually used when reading the English text but they were not used when

reading the Arabic text. More specifically the strategies that the ten participants used in the think aloud when they read the English text and were not used in reading the Arabic text were in the global reading strategies. Examples of these strategies include: “determining what to read closely”, “confirming prediction”, and “checking understanding”. Examples of strategies in the problem solving reading strategies category include: “reading slowly but carefully”, “try to stay focus in reading”, “adjusting reading rate”, and “paying close attention to reading”. Finally, in the support reading strategies category, the strategy “asking oneself questions” was the only one used in English but not in Arabic.

Table 16 also shows there are some strategies that were not used in both languages. These strategies are as follows. In the Global Reading Strategies category: “setting purpose for reading”, “previewing text before reading”, “checking how text content fits purpose”, “noting text characteristics”, “using text features”, and “using typographical aids”. In the support reading strategies category, the following were not used: “taking notes while reading”, “reading aloud for better understanding”, “underlying information in the text”, “using reference materials”, “translating from English to Arabic” and “thinking in both languages when reading”.

In summary, given the various sources of data used in this study have shown the subjects do report being aware of many of the strategies often used by skilled readers. However, there were some variations in the reported use and actual use of these strategies across the two languages, namely English and Arabic. The subjects reported using and actually did use more strategies in English than in Arabic. Although the global reading strategies reported by native speakers of Arabic was not statistically significant, the

think-aloud results demonstrated that Arabic native speakers actually used the global reading strategies more often in English than in Arabic. In addition, the subjects' preference of strategies used when reading English and Arabic were in the problem solving reading strategies category, followed by the global reading strategies, and the support reading strategies. The support reading strategies were the least reported strategies in both languages. Finally, the least strategy reported as used by the subjects was the translation from English to Arabic and vice versa. This finding was supported by the think-aloud data where the vast majority of Arabic native speakers did not translate when they read in either language.

Table 16

Comparison of Reading Strategies Used Across the Two Languages

Strategy	English	Arabic
GLOB1 Setting purpose for reading	-	-
GLOB2 Using of prior knowledge	+	+
GLOB3 Previewing text before reading	-	-
GLOB4 Checking how text content fits purpose	-	-
GLOB5 Noting text characteristics	-	-
GLOB6 Determining what to read closely	+	-
GLOB7 Using text features (e.g., tables)	-	-
GLOB8 Using context clues	+	+
GLOB9 Using typographical aids (e.g. italics)	-	-
GLOB10 Analyzing and evaluating the text	+	+
GLOB11 Checking understanding	+	-
GLOB12 Predicting or guessing text meaning	+	+
GLOB13 Confirming predictions	+	-
PROB1 Reading slowly and carefully	+	-
PROB2 Trying to stay focused on reading	+	-
PROB3 Adjusting reading rate	+	-
PROB4 Paying close attention to reading	+	-
PROB5 Pausing and thinking about reading	+	+
PROB6 Visualizing information read	+	+
PROB7 Re-reading for better understanding	+	+
PROB8 Guessing meaning of unknown words	+	+
SUP1 Taking notes while reading	-	-
SUP2 Reading aloud for better understanding	-	-
SUP3 Underlying information in the text	-	-
SUP4 Using reference materials	-	-
SUP5 Paraphrasing for better understanding	+	+
SUP6 Finding relationship among text ideas	+	+
SUP7 Asking oneself questions	+	-
SUP8 Translating from English to Arabic	-	-
SUP9 Thinking in both languages when reading	-	-

(+) Indicates use of the strategy (-) Indicates absence of the strategy use

CHAPTER V

Summary of Major Findings

This study explored the metacognitive awareness and use of reading strategies by native speakers of Arabic when reading in two languages, namely Arabic and English. There are five major findings. The first three findings relate to research question #1: Are there any significant differences in the reading strategies that native speakers of Arabic report using when they read academic materials in English and in Arabic? Finding #4 relates to research question #2: What specific reading strategies do native speakers of Arabic actually use when reading in each of the two languages? Finally, finding #5 relates to research question #3: In what ways does the use of reading strategies vary across the two languages? These major findings briefly summarized below.

1. When the 90 participants were asked to report what strategies they used when reading in Arabic and in English, they reported that they were aware of all of the strategies used in the SORS instrument (see Table 12). The means for the strategies reported as being used varied from a high 4.20 to a low of 1.81 in Arabic, and they varied from a high 4.38 to a low 2.41 in English.
2. There were overall significant differences in strategy awareness among the 90 participants when reading in English and Arabic (see Table 13). Specifically, participants reported using more “problem solving strategies” in English than

they did in Arabic. Problem solving strategies are those strategies that focused on problem-solving or repair strategies used when problems develop in understanding textual information. In addition, they reported using more “support reading strategies” in English than in Arabic. The support reading strategies deal with the use of support mechanisms or tools in reading.

However, no significant differences were found in the category of “global reading strategies”. The global reading strategies are 13 strategies, which deal “with the intentional, carefully planned techniques, by which readers monitor or manage their reading” (Mokhtari & Sheorey, 2002, p. 4). Examples of these strategies: “having purpose for reading”, “previewing text”, “using typographical aids”, and etc.

3. Some of the strategies were reported as used more often than others. The top five strategies reported used in English and Arabic are almost the same: “re-reading for better understanding”, “paying close attention to reading”, “trying to stay focused on reading”, and “setting purpose for reading”. The only difference was in the strategy of “using text feature” in English and “checking understanding” in Arabic. The five strategies reported as being used the least in both Arabic and English were also quite similar. Four of them are: “taking notes while reading”, “reading aloud for better understanding”, “thinking about information in both languages”, and “translating from English to Arabic”. The only difference was “confirming predictions” in English and “using reference materials” in Arabic (Table 13). Of interest here is that even

though the subjects are nonnative speakers of English, they did not use translation strategies.

4. The think-aloud data showed that the ten participants actually used more than half of the strategies when they read in English. Specifically, they used seven out of the 13 global reading strategies, all the problem solving reading strategies, and three out of the nine support reading strategies (see Table 14). On the other hand, in Arabic, they actually used fewer strategies. For instance they used four out of 13 global Reading Strategies, three out of the eight problem-solving strategies, and two out of the nine support reading strategies (see Table 15).
5. Both qualitative and quantitative data show there was variation in reported and in actual strategy use by the subjects. Specifically, subjects reported using more strategies in one language (English) than in Arabic. These findings were confirmed when the subjects read the passages in these languages. The global reading strategies that were used by subjects in the think-aloud protocol when reading in English and not Arabic were: “Determining what to read closely”, “Using context clues”, “Checking understanding”, and “Confirming predictions”. The problem solving strategies that were used by native speakers of Arabic in the think-aloud protocol when reading in English and not Arabic were: “Reading slowly and carefully”, “Trying to stay focused on reading”, “Adjusting reading rate”, “Paying close attention to reading”, and “Pausing and thinking about reading”. The support reading strategies that were used in

the think-aloud protocol by the subjects when reading in English and not Arabic was “Asking one self questions”.

While my focus in this study was directed toward the variations that might exist between the use of reading strategies while reading English and Arabic, the profile of Arabic native speakers contributed to our emerging understanding of the use of reading strategies in both languages. Evidence from this study suggests that Arabic native speakers possess a great awareness of the relationship between Arabic and English, and the strategies that they employed to read in each language revealed such awareness. This finding supports Hosenfeld (1977) and Vygotsky’s (1934/2000) speculations that bilingual readers might have a special awareness of language and its function. Additionally, Vygotsky viewed consciousness as more than awareness of one’s cognitive abilities; they conceived it as comprised of the self-regulatory mechanisms that human deploys in solving problems. Evidently, Arabic native speakers deployed various problem solving reading strategies, especially when they encounter comprehension problems in English reading.

The study also revealed that there were variations in the usage of strategies, these variations were evident in both quantitative and qualitative results. For example the data from Table 12 and 16 indicate that the ten Arabic native speakers reported using and actually used more reading strategies when they read in English than when they read in Arabic. This result is consistent with the study by Feng and Mokhtari (1998) who examined the strategies used by native speakers of Chinese while reading easy and difficult passages in English and Chinese and found that the strategies were used more frequently when reading in English than in Chinese. However these results contrary to

Pritchard (1990) who found that bilingual Latino high school students used the same reading strategies across languages.

The results also showed that there was a consistency between the reading strategies those Arabic native speakers reported using and the reading strategies they actually used when reading in English and Arabic. This result is contrary to Phifer and Glover (1982) who found that the students did not consistently apply the metacognitive strategies they professed to use and therefore people should not rely on what the readers report. However, Phifer and Glover (1982) issued a call for some type of verification system to discover the technique and strategies that are actually employed by readers during the reading process.

Arabic native speakers in this study triggered more strategies when they read in English than when they read in Arabic. Given their greater strategy use in English language to increase their understanding, it is an indication that reading in English was more difficult for them than reading in Arabic. Results of research in second language reading support the view that reading in a language which is not the learner's first language is a source of considerable difficulty (Alderson, 1984). This is also consistent with Block (1992) who argued that second language readers can be expected to encounter more unfamiliar language and cultural references while reading authentic or unfamiliar texts than first language readers would and therefore they may have to "repair" more gaps in their understanding than first language readers.

The fact that the "support reading strategies" were reported as used least by the subjects and rarely used when the subjects read passages in both languages seems to be inconsistent with some of the results presented by Sheorey and Mokhtari (2001) who

found that “ESL students attribute high value to support reading strategies regardless of their reading abilities” (p.445). This inconsistency may be due to a number of factors including the types of students used, their native languages, their reading abilities in those languages, and possibly other factors. On the other hand the “problem reading strategies” were the most used strategies. These results appear to support Olshavsky (1976, 1977), who found that effective readers often use problem solving reading strategies. In this study most of the subjects reported a fairly high level of reading ability in both languages.

The qualitative data indicates that Arabic native speakers read at a slower rate in English when encountered with some difficulties, but they navigate through the Arabic text very smoothly. This finding is contrary to Chamot (1980) and Mägiste (1979) who found that that nonnative speakers not only tend to read at slower rate in their second language but also generally they take longer than monolinguals to process either of the two languages.

The least strategy reported used by Arabic native speakers was the translation from English to Arabic and vice versa. This result has been supported by the think-aloud data, the majority of Arabic native speakers didn't translate from English to Arabic or vice versa when they read both texts. It seems that translating strategy was not beneficial reading strategy for Arabic native speakers. By examining more closely the reading abilities of Arabic native speakers in the two languages, we can see that Arabic native speakers have high proficiency in the two languages (see Table 7). This may be a good explanation of why Arabic native speakers don't use the translation strategy.

The findings of this study also indicated that the Arabic native speakers used many strategies to resolve unknown vocabulary when they read in English and Arabic.

More specifically, when Arabic native speakers encountered unknown vocabulary in the English text, they used the problem solving reading strategies such as: “Reading slowly and carefully” and “Re-rereading for better understanding” strategies. However, when they encountered unknown vocabulary in the Arabic text, they used most often the support reading strategies. This result is not consistent with a recent study by Jimenez, Garcia, and Pearson (1995, 1996) who found that the unknown vocabulary surfaced as an obstacle for the successful and less successful Latino readers when they read passages in English and Spanish.

Native speakers of Arabic were found to use more strategies when reading English than Arabic to compensate their comprehension problems that arise when they read the English text. Additionally, the use of more strategies when reading the English text may very well be due to the unfamiliarity with the English text. The Arabic text dealt with the author’s childhood memories in Egypt. In reading this text the subjects, expressed their fears, anxieties, demands, dream, and nostalgia. In other words, they acted upon the text by bringing meaning to the text, in order to transform it, or they constructed a “word universe” by acting toward the Arabic text as though it is “social reality itself” (Freire & Macedo, 1987). In this regard they consolidated different strategies such as evaluation, reflection and critical analyses and activating prior knowledge more than they did when they read the English text, which dealt with scientific phenomena that was unfamiliar to the majority of them. This can also be taken as evidence of the substantial role of background knowledge in reading comprehension in a second language, and that familiarity with the topic, which helps second-language

readers to construct meaning by activating the proper schemata (Steffensen, Joag-Dev, and Anderson, 1979).

Implications for Reading Research and Instruction

The findings in this study have some implications for teaching, assessment and research. From an instructional perspective, this study indicated that the reading strategies that reported using and actually used by native speakers of Arabic when they read in English and Arabic were significantly different. Teachers, therefore, may need to be flexible in their teaching to meet the different reading strategies of Arabic college students. For instance, from the think-aloud protocol, Arabic native speakers were found to use more often “Using context clues”, “Checking understanding”, “Confirming predictions”, “Reading slowly and carefully”, “Pausing and thinking about reading”, and “asking one self questions” strategies when they read in English to increase their understanding of the text. Therefore, teachers may need to incorporate the role of all of these strategies in their teaching when they teach native speakers of Arabic. On the other hand, the support reading strategies were the least reported and actually used strategies in both English and Arabic. Therefore, teachers must find ways to incorporate methods and ways to teach these strategies directly to native speakers of Arabic because these strategies are vital to the comprehension of the text.

The findings also have implication for assessing students’ reading strategies. There are several ways by which these strategies can be assessed. For example, one can use think-aloud techniques to see what strategies the students use and what strategies they

do not use. However, teachers need to know that think-alouds require knowledge about how to do them and time to do that. Another way to assess strategies through interviews, the Burk Interview (Bird, Goodman & Goodman, 1994) can be used as an example for doing this. Finally, teachers can use instruments such as the SORS instruments (Mokhtari & Sheoery, 2002), which is designed to examine the strategies usage among native and nonnative speakers of English. For native speakers, teachers can assess the Metacognitive awareness by using the Metacognitive Awareness of Reading Strategies (MARS) (Mokhtari & Reichard, 2002), which was developed for use by 6-12th grade students who are native speakers of English. These instruments have well established psychometric properties, can be used in a relatively short period of time (10-15 minutes), and can be used individually and in groups, and yield useful information about students' perceptions about strategy use when reading. However, these two instruments do not provide information about actual strategy use, they give the perceived use of strategy. So teachers may need other instruments like the think-aloud and interview, so they can stand upon solid ground of what students actually use and what they report, so they can meet the different needs of students.

These findings have implications for research. Researchers must consider the reading problems of the nonnative speakers of English. This group of learners needs more consideration, especially in the area of metacognition, "a neglected essential" in second language reading (Casanave, 1988).

Recommendations for Future Research

As a result of this study, the following recommendations are made:

1. Additional research needs to focus on the extent to which these findings are representative of other bilingual and monolingual readers.
2. This study focused on the reading of Arabic native speakers who are college students learning English as a second language. Future research may need to focus on the reading of school children who are learning English as a second language.
3. The Arabic passage was a culturally familiar passage for all Arabic native speakers in this study. Additional research may need to explore how native Arabic speakers comprehend culturally familiar and unfamiliar passages at various difficulty levels.

Limitations

This study has two limitations. First only one passage was used in each language when the subjects completed the think alouds. It is entirely possible that different passages would have produced different results. Second, the use of different types of passages in this study is another limitation. The English passage was expository in nature, while the Arabic passage was a narrative. Variations in the type of passages may affect strategy use while reading.

References

- Aebersold, J. A., & Field, M. L. (1997). *From reader to reading teacher*. London: Cambridge University Press.
- Alderson, J. C. (1984). Reading in a foreign language: A reading problem or a language problem. In J. C. Alderson, & A. H. Urquhart (Eds.), *Reading in a Foreign Language*, (pp. 1-27). New York, NY: Longman.
- Alexander, P. A. & Jetton, T. L. (2000). Learning from text: A multidimensional and developmental perspective. In M. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research: Vol. 3*. (pp. 285-310). Mahwah, NJ: Erlbaum.
- Al-Gaitani, G. (2001, June, 8). Nessamat Ellassari. *Sayidaty*. 1506, 68. London, UK: Arab Press House.
- Ahmed, M. K. (1994). Speaking as cognitive regulation: A Vygotskian perspective on dialogic communication. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian Approaches to Second language research* (pp. 157-171). Norwood, New Jersey: Ablex Publishing Corporation.
- Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *The Modern Language Journal*, 75, 460-472.

- August, D., & Hakuta, K. (1997). *Improving schooling for language-minorities children: A research Agenda*. Washington, D.C: National Academy Press.
- Baker, L. (1979). Comprehension monitoring: Identifying and copying with text confusions. *Journal of Reading Behavior*, 11, 363-374.
- Baker, L. & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson, R. Barr, M. Kamil, & P. Mosenthal (Eds.), *Handbook of reading research: Vol. 2*. (pp. 353-394). New York: Longman.
- Ben-Zeev, S. (1977). The influence of bilingualism on cognitive strategy and cognitive development. *Child Development*, 48, 1009-1018.
- Bird, L. B., Goodman, K. S., & Goodman, Y. M. (1994). *Burke Reading Interview, Reading Interest Inventory*. In Bird, L. B., Goodman, K. S., & Goodman (Eds.), *The whole language catalog* (pp. 99-102). Macmillan/McGraw-Hill.
- Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, 20, 463-494.
- Block, E. (1992). See how they read: Comprehension monitoring of LI and L2 readers. *TESOL Quarterly*, 26, 319-343.
- Brown, A. L. (1980). Metacognitive development and reading. In R. J. Spiro, B. C. Bruce and W. F. Brewer (Eds.), *Theoretical issues in reading comprehension*. (pp. 453-481), Hillsdale, NJ: Erlbaum.
- Brown, A. L. (1981). Metacognition: The development of selective attention strategies for learning from texts, In H. Singer and R. Ruddell (Eds.), *Theoretical models and process of reading*(pp. 501-526). Newark, Delaware: International reading Association.

- Brown, A. L., Armbruster, B. B., & Baker, L. (1986). The role of metacognition in reading and studying, In J. Orasanu (Eds.), *Reading comprehension from research to practice*. New Jersey: Lawrence Erlbaum Associates.
- Brown, A. L., Smiley, S. S., Day, J., Townsend, M., & Lawton, S. C. (1977). Intrusion of a thematic idea in children recall of prose. *Child Development*, 48, 1454-1466.
- Bruner, J. (1996). *The culture of education*. Cambridge, Massachusetts: Harvard University Press:
- Carrell, P. L. (1984). The effects of rhetorical organization on ESL readers. *TESOL Quarterly*, 18, 441-469.
- Carrell, P. L. (1989). Metacognitive awareness and second language reading. *The Modern Language Journal*, 73, 121-130.
- Carrell, P. 1991. Second language reading: Reading ability or language proficiency. *Applied Linguistics*, 12, 159-179.
- Casanave, C. P. (1988). Comprehension monitoring in ESL reading: A neglected essential. *TESOL Quarterly*, 22, 283-302.
- Chamot, A. U., O'Mally, J. M. & County, P. W. (1986). Language learner and learning strategies, In N. C. Ellis, (Eds.), *Implicit and explicit learning of languages* (pp. 371-392). London: Academic Press.
- Chamot, A. U., & O'Mally, J. M. (1996). The cognitive academic language learning approach: A model for linguistically diverse classroom. *The Elementary School Journal*, 96, 259-273.
- Chamot, A. U. (1980). Recent research on second language reading. *NCBE Forum*, pp. 3-4.

- Clarke, M. (1979). Reading in Spanish and English: Evidence from adult ESL students. *Applied Language Learning, 29*, 121-150.
- Coady, J. (1979). A psycholinguistic model of ESL readers. In R. Mackay, B. Barkman, & R. R. Jordan (Eds.), *Reading in a second language* (pp.5-12). Rowley, Massachusetts: Newbury House.
- Cohen, A. D. (1986). Metalinguistic measures in reading strategies research: Some recent findings. *English for Special Purposes, 5*, 131-145.
- Cummings, (1981). Four misconceptions about language proficiency in bilingual education. *NABE Journal, 5*, 31-45.
- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism, 19*, 197 -205
- Cziko, G. A. (1980). Language competence and reading strategies: A comparison of first- and second-language oral reading errors. *Language Learning, 30*, 101-114.
- Devine, J. (1981). Developmental patterns in native and non-native reading acquisition. In S. Hudelson (Eds.), *Learning to read in different languages* (pp. 103-114). Washington, DC: Center for Applied Linguistics.
- Devine, J. (1988). A case study of two readers: Models of reading and reading performance. In P. L. Carrel, J. Devine, & D. E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 127-139). New York: Cambridge University Press.
- Dewey, J. (1933). *How we think* (second edition). Boston: Heath.

- Diaz, R. M. (1983). Thoughts and two languages: The impact of bilingualism on cognitive development. *Review of Research in Education, 10*, 23-54.
- Farquharson, M. (1988). Ideas for teaching Arab students in a multicultural setting. *Paper presented at the Annual Meeting of the Teachers of English to Speakers of other languages, Chicago, IL.* (ERIC Document Reproduction Service No. ED296575).
- Feng, X., & Mokhtari, K. (1998). Reading easy and difficult texts in English and Chinese: Strategy use by native speakers of Chinese. *Asian Journal of English Language Teaching, 8*, 19- 40.
- Field, M.L., & Aebersold, J.A. (1990). Cultural attitudes toward reading: Implications for teachers of ESL/Bilingual readers. *Journal of Reading, 33*, 406-41 0.
- Fitzgerald, J. (1995). English as a second language learners' cognitive reading processes: A review of research in the United States. *Review of Educational Research, 65*, 145-190.
- Flavell, J. H. (1978). Metacognitive development, In J. M. Scandura & C. J. Brainard (Eds.), *Structural/ process theories of complex human behavior*. The Netherlands: Sijthoff & Noordhoff.
- Freire, P., & Macedo, D. (1987). *Literacy: Reading the word and the world*. Westport, CT: Bergin and Garvey.
- Garcia, E. G. (1991). Factors influencing the Spanish reading test performance of Spanish-speaking Hispanic children. *Reading Research Quarterly, 26*, 371-392.
- Garner, R. (1980). Monitoring of understanding: An investigation of good and poor readers' awareness of induced miscomprehension of text. *Journal of Reading Behavior, 12*, 55-63.

- Garner, R. (1987). *Metacognition and Comprehension*. Norwood, New Jersey: Ablex Publishing Corporation.
- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.
- Goodman, K. S. (1973). Psycholinguistic universals of the reading process. In F. Smith (Eds.), *Psycholinguistics and reading*, (pp. 21-29). New York: Holt, Rinehart and Winston.
- Goodman, K. S. (1976) Behind the eye: What happens in reading, In H. Singer & R. B. Ruddell (Eds.), *Theoretical model and process of reading* (pp. 470-496). Newark, Delaware: International Reading Association.
- Gorman, C. (2000, October, 23). The breath of life: Inhaled Steroids now seem to be safe for children with moderate asthma: What you should know. *Time: the Weekly News Magazine*, 156, 98.
- Grabe, W. (1991). Current development in second language reading research. *TESOL Quarterly*, 25, 375- 405.
- Holquist, M. (1990). *Dialogism: Bakhtin and his world*. New York. NY: Routledge.
- Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and unsuccessful second language learners. *System*, 5, 110-123.
- Hudson, T. (1982). The effects of induced schemata on the "short circuit" in L2 reading: Noncoding factors in L2 reading performance. *Language Learning*, 32, 1-31.
- Huey, E. B. (1968). *The psychology and pedagogy of reading*. Cambridge, Massachusetts: M.I.T. Press.

- Ianco-Worrall, A. D. (1972). Bilingualism and cognitive development. *Child Development*, 43, 1390-1400.
- Jimenez, R., Garcia, G., & Pearson, P. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly*, 31, 90-112.
- Jimenez, R., Garcia, C., & Pearson, P. (1995). Three children, two languages, and strategic reading: Case studies in bilingual/monolingual reading. *American Educational Research Journal*, 32 (1), 67-97.
- Jimenez, R., Garcia, G., & Pearson, P. (1994). *The metacognitive strategies of Latina/o students who read Spanish and English, Technical Report # 601*. Urbana-Champaign, IL: University of Illinois, Center for the Study of Reading.
- Johnston, P. (1983). *Assessing reading comprehension*. Newark, Delaware: International Reading Association.
- Jolly, D. (1978). The establishment of a self-access scheme for intensive reading. *Paper presented at the Goethe Institute. Paris: British Council Colloquium on reading*.
- Kavale, K., & Schreiner, R. (1979). The reading process of above and average readers: A comparison of the use of reasoning strategies in responding to standardized comprehension measures. *Reading Research Quarterly*, 15, 102-127.
- Kletzien, S. B. (1991). Strategy use by good and poor comprehenders reading expository text of differing levels. *Reading Research Quarterly*, 26, 67-86.
- Kletzien, S. B. (1992). Proficient and less proficient comprehenders' strategy use for different top-level structures. *Journal of Reading Behavior*, 24, 191-215.

- Landry, R. G. (1974). Comparison of second language learners and monolingual on divergent thinking tasks at the elementary school level. *Modern Language Journal*, 58, 10-15.
- Langer, J. A. (1982). The reading process. In A. Berger, & H. A. Robinson (Eds.), *Secondary school reading: What research reveals for classroom practice* (pp. 39-52). New York, N.Y: National Institute of Education.
- Langer, J. A., Bartolomé, L., Vásquez, O., & Lucas, T. (1990). Meaning construction in school literacy tasks: A study of bilingual students. *American Educational Research Journal*, 27, 427-471.
- Lantolf, J. P. & Appel, G. (1994). Theoretical framework: An introduction to Vygotskian approaches to second language research. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian Approaches to Second language research*, (pp. 1-32). Norwood, New Jersey: Ablex Publishing Corporation.
- Lightbown, P. M. (1978). French L2 learners: What they are talking about. *Language Learning*, 27, 371-381.
- Lincoln, Y. S., and Guba, E.G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Mack, M. (1984). Early bilinguals: How monolingual-like are they? In M. Paradis, & Y. Lebrun (Eds.), *Early bilingualism and child development*, (pp. 161-173). BV: Swets & Zeitliner.
- Macnamara, J. (1970). Comparative studies of reading and problem solving in two languages. *TESOL Quarterly*, 4, 107-116.
- Mallory, B. L., Charlton, J. I., Nicholls, R. W., & Marfo, K. (1993). Traditional and changing views of disability in developing societies: Causes, consequences,

cautions. *The International Exchange of Experts and Information in Rehabilitation Monograph 53*.

- McCafferty, S. G. (1994). The use of private speech by adult ESL learners at different levels of proficiency. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian Approaches to Second language research* (pp. 117-134). Norwood, New Jersey: Ablex Publishing Corporation.
- Mägiste, E. (1979). The competing language systems of the multilingual: A developmental study of decoding and encoding process. *Journal of Verbal behavior*, 18, 79-89.
- Miramonte, O., & Commins, N. L. (1989). A study of oral and reading proficiency of mixed-dominant Hispanic bilingual students. *Paper presented at the annual convention of the American Educational Research association*, New Orleans, LA.
- Mokhtari, K., & Reichard, C. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94, 249-259.
- Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, 25, 2-10.
- Mokhtari, K. (2002). Strategic reading across three languages: A case study. Unpublished manuscript.
- Olshavsky, J. E. (1976-1977). Reading as problem solving: An integration of strategies. *Reading Research Quarterly*, 12, 654-674.
- O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R. P., & Kupper, L. (1985). Learning strategy applications with students of English as a second language. *TESOL Quarterly*, 19, 557-584.

- Oxford, R. & Crookall (1989). Research on language learning strategies: Methods, findings, and instructional issues. *Modern Language Journal*, 73, 404-419.
- Paris, S. G., Lipson, M. Y. & Wixson, K. (1983). Becoming strategic reader. *Contemporary Educational Psychology*, 8, 293-316.
- Paris, S. G., Wasik, B. A & Turner, J. C. (1996). The development of strategic readers. In Bar, R. Kamil, M. L., Mosenthal, P. & Parson, P. D. (Eds.), *Handbook of Reading Research*, Vol. II, (pp. 609-640). NJ: Lawrence Erlbaum
- Peal, E., & Lambert, W. E. (1962). The relation of bilingualism to intelligence. *Psychological Monographs: General and Applied*, 27(546), 1-23.
- Phifer, S. J., & Glover, J. A. (1982). Don't take students' word for what they do while reading. *Bulletin of the Psychology Society*, 19, 194-196.
- Pressly, M. & Afflerbach, P. (1995). *Verbal reports of reading: The nature of constructively responsive reading*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Pritchard, R. (1990). Reading in Spanish and English: A comparative study of processing strategies. Paper presented at the National Reading Conference, Miami. FL.
- Ratner, C. (1991). Culture variation in cognitive processes from a sociohistorical psychological perspective. *The Journal of Mind and Behavior*, 12, 281-296.
- Roberts, P. (1998). Extending literate horizons: Paulo Freire and the multidimensional word. *Educational Review*, 50, 105-144.
- Scardamalia, M., & Bereiter, C. (1984). Development of strategies in text processing. In H. Mandl, N. L. Stein & T. Trabasso (Eds.), *Learning and Comprehension of text* (pp. 379-406). Hillsdale, NJ: Lawrence Erlbaum.

- Sheorey, R. & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System: An International Journal of Educational Technology and Applied Linguistics*, 29, 431-449.
- Steffensen, M. S., Joga-Dev, C., & Anderson, R. C. (1979). A cross cultural perspective on reading comprehension. *Reading Research Quarterly*, 15, 10-29.
- Thorndike, E. L. (1917). Reading as reasoning: A study of mistakes in paragraph, *Journal of Educational psychology*, 8, 323-332.
- Vygotsky, L. S. (1934/2000). *Thought and Language*. Cambridge, Massachusetts: The M.I.T. Press.

Appendix A

General Information

-
1. Age: ___ 2. Gender: Male ___ Female ___ 3. Birth place: _____
4. Length of stay in US: ___ 5. Years studying English: _____ 6. Current major in college: _____
7. Rank in College: Graduate ___ Undergraduate __ (1st Year ___ 2nd Year ___ 3rd Year ___ 4th Year ___)
8. Grade Point Average (Optional) _____ 9. TOEFL Score in English (if known): _____
10. List all the languages you can speak, read, and write? _____

11. Which language(s) is (are) your first or native language(s)? _____
- 11.1. How often do you use your first or native languages? Everyday ___ Often ___ Occasionally ___ Never ___
- 11.2. For what purposes do you use your first or native language(s)? _____
- 11.3. Where did you learn your first or native language? Home Country ___ Another Country _____
- 11.4. On a scale from 1-10, rate your proficiency in your first or native language. Please provide a rating for each of the language skills listed. Circle your proficiency ratings.

Language Skill	Low Proficiency										High Proficiency									
• Listening	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Speaking	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Reading	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Writing	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10

12. Which language(s) is (are) your second language(s)? _____
- 12.1. How often do you use your second language(s)? Everyday ___ Often ___ Occasionally ___ Never ___
- 12.2. For what purposes do you use your second language(s)? _____
- 12.3. Where did you learn your second language(s)? Home Country ___ Another Country _____
- 12.4. Approximately how old were you when you began learning your second language? _____
- 12.5. Approximately how many years did you spend learning your second language? _____
- 12.6. On a scale from 1-10, rate your proficiency in your second language. Please provide a rating for each of the language skills listed. Circle your proficiency ratings.

Language Skill	Low Proficiency										High Proficiency									
• Listening	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Speaking	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Reading	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
• Writing	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10

14. Overall, in which of the languages above are you most proficient? _____ and least proficient? _____
15. What particular difficulties, if any, do you face when you read in your first, or second languages?
-
-

Appendix B

SURVEY OF READING STRATEGIES (SORS)

Mokhtari & Sheorey (2002)

The purpose of this survey is to collect information about the various techniques you use when you read academic materials in English (e.g., reading textbooks for homework or examinations; reading journal articles, etc.).

All the items below refer to your reading of college-related academic materials (such as textbooks, *not* newspapers or magazines). Each statement is followed by five numbers, 1, 2, 3, 4, and 5, and each number means the following:

- '1' means that 'I never or almost never do this'.
- '2' means that 'I do this only occasionally'.
- '3' means that 'I sometimes do this'. (About 50% of the time.)
- '4' means that 'I usually do this'.
- '5' means that 'I always or almost always do this'.

After reading each statement, *circle the number* (1, 2, 3, 4, or 5) which applies to you. Note that there are no right or wrong responses to any of the items on this survey.

Category	Statement	Never				Always
GLOB	1. I have a purpose in mind when I read.	1	2	3	4	5
SUP	2. I take notes while reading to help me understand what I read.	1	2	3	4	5
GLOB	3. I think about what I know to help me understand what I read.	1	2	3	4	5
GLOB	4. I take an overall view of the text to see what it is about before reading it.	1	2	3	4	5
SUP	5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
GLOB	6. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
PROB	7. I read slowly and carefully to make sure I understand what I am reading.	1	2	3	4	5
GLOB	8. I review the text first by noting its characteristics like length and organization.	1	2	3	4	5
PROB	9. I try to get back on track when I lose concentration.	1	2	3	4	5
SUP	10. I underline or circle information in the text to help me remember it.	1	2	3	4	5
PROB	11. I adjust my reading speed according to what I am reading.	1	2	3	4	5
GLOB	12. When reading, I decide what to read closely and what to ignore.	1	2	3	4	5
SUP	13. I use reference materials (e.g. a dictionary) to help me understand what I read.	1	2	3	4	5
PROB	14. When text becomes difficult, I pay closer attention to what I am reading.	1	2	3	4	5
GLOB	15. I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
PROB	16. I stop from time to time and think about what I am reading.	1	2	3	4	5
GLOB	17. I use context clues to help me better understand what I am reading.	1	2	3	4	5
SUP	18. I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
PROB	19. I try to picture or visualize information to help remember what I read.	1	2	3	4	5
GLOB	20. I use typographical features like bold face and italics to identify key information.	1	2	3	4	5
GLOB	21. I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
SUP	22. I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
GLOB	23. I check my understanding when I come across new information.	1	2	3	4	5
GLOB	24. I try to guess what the content of the text is about when I read.	1	2	3	4	5
PROB	25. When text becomes difficult, I re-read it to increase my understanding.	1	2	3	4	5
SUP	26. I ask myself questions I like to have answered in the text.	1	2	3	4	5
GLOB	27. I check to see if my guesses about the text are right or wrong.	1	2	3	4	5
PROB	28. When I read, I guess the meaning of unknown words or phrases.	1	2	3	4	5
SUP	29. When reading, I translate from English into my native language.	1	2	3	4	5
SUP	30. When reading, I think about information in both English and my mother tongue	1	2	3	4	5

استقراء لإستراتيجيات القراءة

الهدف من هذا الاستقراء هو جمع المعلومات عن الإستراتيجيات التي تستخدمها حين قراءة المواد الأكاديمية باللغة العربية
مثالاً على ذلك كتب الدراسة ومقالات الدوريات وغيرها.

كل الفقرات الواردة بالنص ادانة تعود الى قراءتك باللغة العربية للمواد الأكاديمية لمختلف المواد التي تدرسها في كليات
الدراسة(عدا المجالات و الصحف) كل فقرة ستتبع بخمسة أرقام 1، 2، 3، 4، 5 وكل رقم يعني الآتي:

- 1- أبدا لا أفعل هذا إطلاقاً.
 - 2- أفعل ذلك من حين إلى آخر.
 - 3- أحيانا أفعل ذلك (بنسبة 50 بالمائة).
 - 4- عادة أفعل ذلك.
 - 5- دائماً أفعل ذلك.
- بعد قراءة كل فقرة ، ضع دائرة حول الرقم الذي تراه مناسباً، مثلاً على ذلك لو أنك عادة تقرأ بعد وجبة الغداء ستضع

علامة على هذا النحو: أقرأ بعد وجبة الغداء 1 2 3 **4** 5

نرجو أن نلفت انتباهك انه لا توجد إجابة صحيحة أو خاطئة للفقرات الواردة بهذا النص، ارجوا أن تضع دائرة على الرقم الذي تراه

مناسباً

1. يكون لي مقصداً حينما أقرأ
2. أكتب بعض الملحوظات حينما أقرأ لمساعدتي في استيعاب ما قرأت
3. أفكر في ما اعرفه مسبقاً لمساعدتي في فهم ما أقرأ
4. ألقى نظره عامه على القطعة لمعرفة ما هيئها
5. حينما يصبح النص صعباً أقرأ بصوت جهوري لمساعدتي استيعاب ما أقرأ
6. أفكر فيما إذا كان محتوى القطعة المقروء يتفق مع مقاصدي.
7. أقرأ ببطء ويتروي لتأكد من استيعابي لما قرأته
8. أستقرئ النص في البداية لمعرفة بعض المميزات كطول وتنظيم القطعة
9. أراجع النص مره ثانيه حينما افقد التركيز فيما أقرأ
10. أضع خطأ أو دائرة حول المعلومات في النص لمساعدتي في تذكرها
11. تتوافق سرعتي تبعاً لما أقرأه
12. احدد بالضبط ما أقرأه بتمعن وما يمكنني إهماله
13. استعين ببعض المراجع كالمعاجم لمساعدتي في استيعاب ما أقرأ
14. حينما يصبح النص صعباً ابدأ التذيق فيما أقرأ
15. استعين بالجداول والأشكال والصور بالنص لزيادة استيعابي
16. أ توقف من حين لآخر لأفكر فيما قرأته
17. أستعين ببعض المؤشرات في مجزوي النص لمساعدتي فهم ما أقرأ
18. أصيغ بعض الأفكار بمفرداتي الخاصة لاستيعاب ما قرأت
19. أحاول أن أتصور و أتخيل المعلومات لمساعدتي في تذكر ما قرأته
20. استعين بالترتيبات المطبعية مثل تفخيم الخط والاقواس لمعرفة المعلومات الأساسية
21. احلل و أقيم المعلومات المطروحة في النص
22. أراجع النص مرارعة تامة لإيجاد علاقة بين الأفكار في النص
23. أراجع ما استوعبته حينما تعترضني معلومات جديدة
24. أحاول تخمين محتوى القطعة المقروء حينما أقرأ
25. حينما يصبح النص صعباً أقرأ مره ثانيه لافهمه فهما تاماً
26. أطرح على نفسي بعض الاسئلة عند قرأتني للنص لعلني أجد لها إجابات
27. أراجع لانتثبات اذا ما كانت تنبؤاتي عن القطعة المقروء صواباً أم خطأ
28. أحاول تخمين معنى الكلمه في الجملة التي لا افهمها
29. حينما أقرأ أترجم من اللغة العربية الى الإنجليزية
30. عند القراءة أفكر في المعلومات المعطاة بكلتا اللغتين

Appendix C

The Breath of Life

Inhaled Steroids now seem to be safe for children with moderate asthma. What you should know

Christine Gorman

Doctors have long been aware that daily treatment with inhaled steroids is critical to saving the lives of patients with severe asthma—both children and adults. Although the drugs cannot stop an asthma attack that has already started (different medications are needed for that), inhaled steroids are very good at counteracting the chronic inflammation that predisposes the lungs to asthma attacks in the first place. Until now however, many physicians have hesitated to use inhaled steroids to treat milder cases of asthma in children. The drugs have side effects—most notably an apparent slowing of bone growth—that make them seem less than for youngster, whose bones are still developing.

But two reports published last week in the *New England Journal of Medicine* conclude that the benefits of inhaled steroids outweigh the risks in children after all. In the first study, which tracked more than 1,000 North America kids ages 5 to 12 suffering from mild to moderate, researchers found that boys and girls on inhaled steroids were much less likely to be rushed to the emergency room or to need treatment with even more powerful drugs. While these kids were needed about 0.4 in. shorter than children on nonsteroid drugs after the first year of treatment, the lag in growth rates quickly disappeared. Results from the children's X rays indicate there should be no measurable difference in adult height. Similarly, in the second study, of 211 adults from Denmark who started treatment with inhaled steroids as children, researchers found no long-term effect on height.

These results should reassure parents who have been told their son or daughter needs inhaled steroids. “The word steroid is scary and confusing to people,” says Dr. Gail Shapiro, a clinical professor of pediatrics at the University of Washington School of Medicine in Seattle and a co-author of one of the papers. The first problem is that corticosteroids (the scientific name of asthma drugs) sound awful lot like the anabolic steroids used by some body builders. They aren't. Not only are corticosteroids safer but the inhaler makes them especially effective as well. Breathing in the drugs allows most of it to settle in the lungs, where it does the most good and causes fewer side effects.

There was one surprise from the North America study. Contrary to expectations, children on inhaled steroids did not fare the control group test that measure lung capacity. Researchers speculate that there was already some permanent damage that the steroids could not counteract, as study subjects had been found to have asthma an average of five years before they started treatment. Some experts believe that for optimal results, steroid therapy should begin within two or three years of the initial symptoms. If that's the case, doctors may need to give inhaled steroids to children as young as one and two years old. Before that can happen, new studies — some already under way—must determine if the benefits of inhaled steroids outweigh the risks for toddlers. Until then, doctors and parents of youngest patients are going to face some tough decisions.

Reference: Gorman, C. (2000, October, 23). The breath of life: Inhaled Steroids now seem to be safe for children with moderate asthma. What you should know. *Time: the Weekly News Magazine*, 156, 98.

Questions on the English passage

1. What is true about inhaled steroids?
 - A) It does not function well.
 - B) It can stop an asthma attack that has already started.
 - C) It can't stop an asthma attack that has already started.
 - D) It does not have side effects.

2. What are the side effects of inhaled steroids?
 - A) It causes chronic inflammation.
 - B) It slows bone growth.
 - C) It strengthens eyesight.
 - D) It causes nausea.

3. What were the benefits of inhaled steroids according to the studies?
 - A) Children in inhaled steroids grow faster than those on nonsteroids.
 - B) Children in inhaled steroids were shorter than those on nonsteroids.
 - C) Inhaled steroids do not affect children at all.
 - D) Children on inhaled steroids were less likely to be rushed to the emergency.

4. For optimal results, some experts believe that:
 - A) Steroid therapy does not affect children with asthma.
 - B) Steroid sounds an awful lot like the anabolic steroids.
 - C) Steroid therapy should begin within two or three years of the initial symptoms.
 - D) Steroid therapy is not important for some children.

5. According to this article:
 - A) Inhaled steroid is definitely safe for children.
 - B) Inhaled steroid is not safe at all.
 - C) Inhaled steroids now seem to be safe.
 - D) Inhaled steroid is 100% safe.

6. What is the writer of this article calls for?
 - A) Doctor to stop prescribing inhaled steroids.
 - B) Children to stop taking inhaled steroids.
 - C) Parents to stop taking their kids to doctors.
 - D) New studies.

نسمة العصاري

ولدت في جبهة بسوهاج، محفوقاً بنخيل الصعيد وظلاله وسمووقه واصالته، لكنني نموت وشببت في الخلاء القاهري، ومنه أستمد أقدم صور عمري. أقامت اسرتي في المنزل رقم واحد، عطفة باجنيد، المنقرعة من درب الطبلاوي، بيت ربما بني في القرن التاسع عشر، مكون من خمسة طوابق، وهذا ارتفاع له شأن في الأربعينيات عندما بدأ عيي يلتقط أول مظاهر الوجود. كنا نسكن الطابق الأخير، وامامنا يمتد سطح فسيح أو هكذا كان يبدو لي في طفولتي فلکم تتغير نسبية الأشياء مع التقدم في العمر.

كان الأفق القاهري رحيماً بالنظر، خلاء ممتد، وتاريخ واضح، الاهرام في الغرب، ومآذن السلطان حسن والرفاعي ومحمد علي والحمودية ومندنة سيدنا الحسين، كلها تسمق في الجنوب، والمقطم الذي لم نعرف جبلاً أكثر منه ارتفاعاً يحد المدينة من المشرق، وكانت عمارة حديثة مرتفعة تقوم إلى الشمال. ناحية عمرة، تحمل اعلاناً دائرياً، يلعب في الليل عن مشروب غازي. لم يكن الأفق القاهري مدججاً بالخرسانة والابراج كما يبدو الآن، ولم يكن التلوث بهذه الدرجة التي نراها الآن، حيث تجثم غمامة كثيفة على المدينة طوال ساعات النهار.

كنت أشب على قديمي لأتطلع إلى الأفق الفسيح، واسطح البيوت المجاورة والمعالم، ولو انني اخترت من حياتي لحظات حاتية، لكان أولها لحظات العصاري في المدينة القديمة، خاصة عندما تنكسر درجات الحرارة إذا كان الفصل صيفاً، أو تغرق الظلال مسرعة باكتمال الليل شتاءً، ولأن معظم شهور السنة حارة، لذلك اشتد الشوق إلى النسمة، والهواء الطيب في بلادنا يجي من الشمال، ومن العبارات التي تتردد كثيراً في ذاكرتي منذ الطفولة:

"عايزة أشم الهواء

ياسلام على نسمة العصاري"

كانت نسمات العصاري من مفرجات الكروب، وبواعث الراحة، واسباب هدهدة الورح في القاهرة القديمة، لذلك اتخذ المعماري القديم مايفل استدارة البناء تجاه الشمال، يستقبل النسمات الحانية، المرطبة، ومن التكوينات الغربية التي لفتت نظري في الصبا، بناء هرمي الشكل من خشب غامق، يواجه الشمال بفتحة واسعة، وكان مثيراً للخيالي، خاصة انه ارتبط بالقصر القديم، المهجور، قصر المسافر خانة.

شينا فشيناً عرفت ان هذا التكوين اسمه "ملقف" وانه مخصص لاستقبال الهواء ودفعه إلى قاعات وغرف البيت، انه ابتكار عتيق فرضته ظروف البيئة منذ العصر الفرعوني، على جدران مقبرة "نب آمون" من الاسرة التاسعة عشرة، نري الملاقف، ويذكر المهندس الراحل حسن فتحي في دراسة جميلة عن القاعة القاهرية ان منازل تل العمارنة ضمت قاعات تحيط بها الحجرات ويرتفع سقفها إلى أعلى من منسوب باقي السقف، بها فتحات لتصريف الهواء الساخن، تماماً كما هو الحال في القاعة العربية ولكن بدون الملقف.

بدءاً من الاسرة التاسعة عشرة بدأ ظهور الملقف، واستمر في التطور حتى وصل إلى درجة متقدمة من الاكتمال في العمارة العربية، واحتفظت المنازل القاهرية بملقف متكاملة، أهمها قصر المسافر خانة وقاعة محب الدين.

للحواء حركة داخل المباني، تنشأ من اختلاف الضغوط، حيث يمضي الضغط من العالي إلى الواطي، وخلال عملية التصعيد والاحلال، يصعد الساخن ويستقر البارد الملطف ليجد طريقه عبر ثنايا البيت، من الملقف إلى الطوابق العليا، ثم السفلى، حتى ابعاد نقطة في البناء.

ان الهواء القادم من الشمال يتجمع عند الفتحة، اعلى الملقف، هنا يحدث ضغط للدخول عبر هذه المصيدة المحكمة، وشينا فشيناً تنتقل النسمات من اعماق الكون إلى ثنايا الصدور، وليس مثل صدورنا القاهرية في نسمها الهواء الطيب ساعة العصاري، وكان من اسعد حالاتي تلك اللحظات التي اجلس فيها داخل قاعات المسافر خانة أو حجراتها، اصغي إلى حفيف النسمات السارية وأحن إلى الزمن الجميل واحمد الله على تلك النسمات وكل ماتأتي به المقادير.

Reference: Al-Gaitani, G. (2001, June, 8). Nessamat Ellassari. Sayidaty. 1506, 68. London, UK: Arab Press House.

أسئلة على القطعة العربية:

- 1- ولد الكاتب في:
 - أ- شمال مصر
 - ب- منطقة الدلتا
 - ج- جنوب مصر
 - د- منطقة سيناء
- 2- هذه القطعة تدور حول:
 - أ- تاريخ القاهرة
 - ب- الأفق القاهري
 - ج- معالم القاهرة
 - د- زمن العصر ونسائمه في القاهرة القديمة
- 3- ولد الكاتب:
 - أ- في السبعينات
 - ب- في الخمسينات
 - ج- في العشرينات
 - د- في الأربعينات
- 4- الملقب ابتكار:
 - أ- فرعوني
 - ب- ابتكره المهندس حسن فتحي
 - ج- من ابتكارات فن العمارة العربية
 - د- ابتكرته أسرة محمد علي باشا
- 5- يعمل الملقب:
 - أ- بنظرية التوتر السطحي
 - ب- بنظرية رد الفعل
 - ج- بفعل الجاذبية
 - د- بعملية الضغط الجوي
- 6- من هذه القطعة نستشف أن القاهرة الأربعينات كانت:
 - أ- مدججة بالخرسانة والأبراج
 - ب- من أكثر مدن العالم تلوثاً
 - ج- من أجمل مدن العالم
 - د- رحبة رحيمة بخلاء ممتد وتاريخ واضح

Appendix D

Institutional Review Board Approval

**Oklahoma State University
Institutional Review Board**

Protocol Expires: 1/14/03

Date: Tuesday, January 15, 2002

IRB Application No ED0260

Proposal Title: AN EXAMINATION OF THE METACOGNITIVE READING STRATEGIES USED BY
NATIVE SPEAKERS OF ARABIC WHEN READING ACADEMIC TEXTS IN ARABIC AND
ENGLISH

Principal
Investigator(s):

Negmeldin Alsheikh
91 S. University #9
Stillwater, OK 74075

Dr. Kouider Mokhtari
248 Willard
Stillwater, OK 74078

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :


Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 203 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,


Carol Olson, Chair
Institutional Review Board

Negmeldin O. Alsheikh

Candidate for the Degree of

Doctor of Education

**Thesis: AN EXAMINATION OF THE METACOGNITIVE READING STRATEGIES
USED BY NATIVE SPEAKERS OF ARABIC WHEN READING ACADEMIC
TEXTS IN ARABIC AND ENGLISH**

Major Field: Curriculum and Instruction

Minor Field: Reading Education

Biographical:

Personal Data: Born in Alhoash, Sudan, January 1, 1963, the son of Omer Alsheikh Abbas and Mekka Ahmed Elmekki . Married to Hala Elhoweris; father of Omer Alsheikh and Mohammed Alsheikh.

Education: Received Bachelor of Arts from University of Khartoum in August, 1991; received Master in Education in Curriculum and Instruction/ Supervision from Oklahoma State University in Spring, 1998; completed requirements for the Doctor of Education degree at Oklahoma State University in August, 2002.

Professional Experience: French and English Teacher, Sudan Institute, January, 1990 to December, 1993; Research Assistant, Department of Education in the school of Curriculum and Educational Leadership, Oklahoma State University, Spring, 1999 to May 2001.