EFFECTS OF TRAINING PREPARATORY SCHOOL EFL STUDENTS AT MIDDLE EAST TECHNICAL UNIVERSITY IN A METACOGNITIVE STRATEGY FOR READING ACADEMIC TEXTS

A THESIS
SUBMITTED TO THE INSTITUTE OF HUMANITIES AND LETTERS OF SIÎKENT UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN THE TEACHING OF ENGLISH AS A FOREIGN LANGUAGE

BY
HURGAN TURKMEN
AUGUST 1984
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BY
NURCAN TUNÇMAN
AUGUST 1994
To Gürol
This study was designed to investigate whether one kind of metacognitive strategy, namely semantic mapping (SM), could significantly enhance Turkish English-as-a-foreign-language (EFL) students' reading comprehension.

The study was conducted at Middle East Technical University preparatory school. The participants were 39 Turkish EFL students at upper-intermediate level of proficiency.

It was hypothesized that subjects trained in SM would perform significantly better on a reading comprehension test than comparable subjects in the control group.

The hypothesis was set in order to evaluate the effectiveness of strategy training on the performance of EFL students' in reading comprehension. In order to test the hypothesis, two groups were formed: an experimental group trained in SM and a control group which continued to receive regular classroom instruction. The training period for the experimental group lasted for 4 days, and each daily session took 60 minutes.

The results obtained from an independent-sample t-test supported the hypothesis. The training group scored
significantly higher than the control group on the post-test gain scores (p < .001), demonstrating that explicit instruction and practice in using SM promote EFL students' reading comprehension.

Findings suggest that SM is an effective strategy in improving EFL students' reading comprehension. In addition, it also appears to compensate for language difficulties EFL students encounter while reading difficult-to-process texts.
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Thesis Title : Effects of training preparatory school EFL students at Middle East Technical University in a metacognitive strategy for reading academic texts

Thesis Advisor : Dr. Phyllis L. Lim
Bilkent University, MA TEFL Program

Committee Members : Ms. Patricia J. Brenner
Bilkent University, MA TEFL Program

Dr. Arlene Clachar
Bilkent University, MA TEFL Program
We certify that we have read this thesis and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts.

Phyllis L. Lim
(Advisor)

Patricia J. Brenner
(Committee Member)

Arlene Clachar
(Committee Member)

Approved for the
Institute of Humanities and Letters

Ali Karaosmanoğlu
Director
Institute of Humanities and Letters
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CHAPTER 1 INTRODUCTION

Background of the Problem

Students in English-medium universities in Turkey are required to be highly proficient in English because they use this language as a tool for learning subject matter in content classes. Yet, the majority of students passing from the preparatory school to their departments of specialization encounter serious difficulties in understanding the content of the texts they read. Academic tasks require students to read large amounts of primary and supplementary materials so that they can extend their knowledge independently of their teachers by synthesizing information from different sources. Most of these students say that they give up reading assignments after some time and start relying on their lecture notes, which suggests that they are not competent to do these tasks.

Students at Middle East Technical University (METU) share these problems, especially during the first year of their university education. In informal conversations with their former English language teachers, many of the students report that the reading skills required at their departments are very different from the reading skills they practiced at the preparatory school, where the faculty tries to ensure, with a one-year program of English for academic purposes, that the students reach the proficiency level essential to continue their further studies.
The criticism the students express is that they are not trained to read materials that they are likely to deal with in their departments with the purpose of understanding the content. Furthermore, they complain about not having been taught the study skills to overcome the difficulties of reading in a foreign language (FL) and to adequately fulfill the requirements of reading assignments.

In light of these criticisms, it can be said that the roots of the inadequacy of the program at the preparatory school may lie in the way reading is taught.

Firstly, the instructional materials used at the preparatory school do not represent the texts used in academic contexts, which are lengthy and information-dense, with context-reduced language (Shih, 1992). Therefore, the materials used do not help to arouse interest in students whose primary concern is to read texts related to their studies.

Secondly, the passages are presented to students almost entirely out of context, that is, little is given in the way of prereading activities to activate background knowledge of the topic, which is very important for comprehension. Hudson (1982) states that students who practice prereading activities outperform the ones who do not in terms of comprehending the content. Therefore, this stage is crucial as it provides language preparation and conceptual readiness by
establishing a framework of reference before students start reading (Shih, 1992).

Thirdly, inadequacies arise during reading itself. Students are encouraged to use only such reading skills as guessing unknown vocabulary items from the context or using discourse markers to find key points or changes of topic, and this reduces the efficiency of their reading drastically as these skills are discrete rather than unitary. Such an approach, as Shih (1992) reports, leads students to read the selection to extract only the required information and, thus, distances students from the text, causing them to look upon the reading activity as a test rather than a learning experience.

Fourthly, once a passage has been read and the questions related to practicing some skills answered, there is a tendency for that text to be considered as "dealt with." Little or nothing is done to review the content or to teach students ways of linking the old information they previously possessed to the new information acquired from the text. This also hinders comprehension, which depends on integrating what we know with the information presented in a text and, thus, extending and refining our knowledge of the topic (Carrell & Eisterhold, 1988).

All the deficiencies mentioned above indicate the need to equip students at preparatory school with strategies which will help them become active, efficient,
and independent readers in order to meet the demands of academic reading material.

Purpose of the Study

As Alderson (1984) states, it is not yet clear whether reading comprehension in a second language (SL) or a foreign language (FL) poses a language problem or a reading problem. Some researchers, for example, Jolly (cited in Alderson, 1984) claim that success in reading in SL/FL depends on one’s reading ability in the first language (L₁). Thus, they imply that reading is a reading problem rather than being a language problem. According to these researchers, if learners are good readers in their L₁, they will be good readers in another language as well. Clarke (1980), however, takes a contrary view and argues that there is no guarantee of the transference of L₁ reading skills to L₂ reading situations. He claims that there is a close relationship between the type of strategies—techniques employed to acquire information from texts—readers use and their proficiency level in the L₂. Hudson (1982), on the other hand, supports the view that a high degree of background knowledge can help SL/FL learners overcome problems resulting from linguistic deficiencies.

Despite the lack of consensus among researchers regarding the similarities and differences between L₁ and L₂ reading processes, the fact that reading is more cognitively demanding in SL/FL situations has generally been accepted (Kern, 1989).
Recent research (e.g., Corno, 1986) scrutinizes the active role students can take in their learning processes. Being aware of the task demands and having control over learning activities has been proved to provide better outcomes (Wenden, 1991).

Grabe (1991) purports that being an independent reader requires students to know about the reading context, its demands, and effective strategies. This knowledge and the ability to use it in learning activities is known as metacognitive knowledge, which entails learners' knowledge about their cognitive resources and the suitability of them to the learning situation (Baker & Brown, 1984). Findings on strategy research have revealed the crucial role metacognitive skills play in effective reading in L₁ (e.g., Brown & Palincsar, cited in Carrell, Pharis, & Liberto, 1989). Several studies have indicated the possibility of improving the skills of poor L₁ readers who use fewer and less appropriate strategies through direct training and instruction (e.g., Brown, Armbruster, & Baker; Nist & Mealey, both cited in Grabe, 1991). Similarly, research conducted in SL, for example, Carrell (1985) and Carrell et al. (1989), as well as studies done in FL, for example, Kern (1989), have also reported positive results. Yet, as Kern (1989) states, there have been very few studies that have systematically assessed the effectiveness of explicit strategy training in SL/FL contexts and those that have done so have presented
conflicting results. Nemoianu and Hamp-Lyons (both cited in Kern, 1989), for instance, reported that strategy instruction was highly effective on the reading comprehension of intermediate level ESL students in the separate studies they conducted. Barnett (1988a), however, found that experimental subjects who were studying French as a foreign language did not score significantly higher than the control subjects who did not receive strategy instruction. Moreover, despite the fact that strategy training research provides us with some promising results in enhancing reading comprehension, findings are difficult to compare across studies due to varying sample sizes, differences among participants in terms of their first language backgrounds, age, and proficiency level as well as the diversity of the methods used in the research (Kern). Therefore, as Grabe (1991) and Shih (1992) assert, more strategy training studies should be conducted, including the replication of the studies that claim success.

One of the metacognitive strategies found to be effective in improving reading comprehension in English as a second language (ESL) is semantic mapping (SM) (Shih, 1992). Carrell et al. (1989) describe a semantic map as a visual representation or graphic arrangement of the relationships between concepts in texts. They state that such a conceptual map illustrates how the major and minor ideas are related in a passage.
Johnson, Pittelman, and Heimlich (1986) explain that the procedure of categorical structuring of information in a graphic form provides learners with the relevant background knowledge regarding the specific topic and words presented in a text, and, thus, prepares learners better to understand, incorporate, and evaluate the information in the material. They claim the prereading application of the technique, using students' input, enables the instructor to introduce key vocabulary words and ideas to activate students' relevant background knowledge or "knowledge already stored in the memory" (Anderson & Pearson, 1988, p. 37), which creates conceptual readiness in the learners. In addition, according to them, independent construction of such a graphic organizer by students during postreading stages helps them recognize the organizational structure of the text as well as the content.

Carrell et al. (1989) assert that discussions held during SM are also effective in promoting active processing of knowledge because they lead students to reflect upon what they have read and to relate their prior knowledge on the topic to the information they have newly acquired from texts.

Availability of background knowledge has been found to be very important in SL/FL reading. Several studies in SL have shown that readers who are familiar with the structure of a text comprehend more (e.g., Carrell, 1984, 1985). Many other studies in SL, for example, Carrell
(1983) and in FL (e.g., Omagio; Lee, both cited in Barnett, 1989) have suggested that having well-developed background knowledge of the topic is equally important in understanding texts. However, as Carrell (1988a) states, schema (background knowledge) availability alone is not enough for comprehension. SL/FL students, she asserts, may have difficulties in comprehending text not because they do not possess relevant schema but because they fail to activate it.

In 1989, Carrell et al. conducted a study with ESL students from different language backgrounds. Results of this study demonstrated that learners who were trained in using SM, a metacognitive strategy, at prereading and postreading stages performed significantly better on a reading comprehension test than a comparable group of students who did not receive any treatment. However, because the EFL learning environment is different from the ESL one, these results cannot be assumed to generalize to an EFL context for several reasons. As stated by many researchers (e.g., Brown, 1987; Ellis, 1986; Swain, 1985), compared with ESL students, EFL students are at a considerable disadvantage in terms of the input they receive. The distinction between these two groups of learners is also reflected in motivational orientations. Fransson (1984) states that learners' motivation has also a strong effect on both the product of comprehension and the process of understanding. Thus, as Swain (1985) asserts, the lack of desire and need to
use the language outside the classroom puts EFL students at a disadvantage in terms of language development as well. Considering these differences between ESL and EFL students, the researcher found it necessary to replicate Carrell et al.'s (1989) study in an EFL context.

Research Hypothesis

In this study the effects of training Turkish EFL preparatory school students at METU in SM to read English language academic texts was investigated. The hypothesis of the research was that students trained with SM would do better on reading comprehension tests of content material, which requires more complex cognitive processing in terms of understanding decontextualized features of academic language, than a control group of comparable students, who continued employing the traditional techniques, such as skimming, scanning, and guessing vocabulary in context.
CHAPTER 2 REVIEW OF LITERATURE

Introduction

Until recently, reading has been viewed as a passive skill (Dubin & Bycina, 1991). Today, it is seen as an active, in fact, an interactive process in which two variables, the text and the reader, operate simultaneously (Swaffar, 1988). This perspective has led researchers to emphasize the processes involved in reading, such as the coordination of memory, perceptual, and comprehension processes, rather than the product of reading. Thus, readers, with their varying purposes, cognitive skills, language proficiency levels, background knowledge, and strategies—the techniques used to make sense out of texts—have become central to the process (Barnett, 1989).

The success of recent studies which involve training first language (L\(_1\)) students in comprehension strategies (e.g., Brown, Armbruster, & Baker; Coverly & Orlando; Nist & Mealey, all cited in Grabe, 1991) suggests the possibility of activating such a strategic awareness among second language (SL) and foreign language (FL) learners.

Despite the promise strategy training holds to resolve many problems that SL and FL readers encounter in comprehending reading texts, few studies on the effectiveness of strategies for these readers have been conducted (Grabe, 1991; Shih, 1992) and results have not been generalizable (Kern, 1989).
To place the present study in the body of the literature, in the sections to follow, the literature in three areas is reviewed: changing views of reading theory, an overview of metacognition and strategy training, semantic mapping as a metacognitive strategy, and differences in ESL/EFL learning contexts.

Changing Views of Reading Theory

The skill of reading has become a major focus in SL and FL teaching methodology, especially in higher education in English-medium universities, where the skill is critical to academic success (Grabe, 1991; Shih, 1992).

As Dubin and Bycina (1991) state, interest in this skill in SL and FL teaching situations has grown over the years. In the 1960s, reading was generally viewed as a passive skill, in other words, as a decoding process involving recognition of the letters, words, phrases, sentences, and cohesive ties in the text to get meaning out of it. In the late 1960s, the same perspective governed the teaching of reading because the Audiolingual Method was in favor during this period and this approach used reading texts as a means of examining grammar and vocabulary or practicing pronunciation (Silberstein, cited in Grabe, 1991). At the same time, some researchers (e.g., Fries; Rivers, both cited in Carrell, 1988a) recognized the importance of background knowledge in SL reading comprehension. However, this recognition had no influence on methodological and
instructional focus until the late 1970s. The growing dissatisfaction with the Audiolingual Approach, due to its inadequacy in meeting the needs of ESL students at university level led some researchers to search for a new reading theory in SL in the late 1970s. They referred to Goodman's psycholinguistic model, which had been very influential in L1 reading (Grabe, 1991). Goodman defined reading as a "psycholinguistic guessing game" (cited in Carrell & Eisterhold, 1988, p. 74). According to him, reading is a process of constant prediction, selection, and revision. The act of reading, he states, is one of deciphering "a message which has been encoded by the writer as a graphic display" (cited in Carrell & Eisterhold, p. 74). This process of disentangling the writer's meaning, he asserts, involves continuously sampling from the text and using personal experience and the relevant textual cues to confirm or revise these predictions (cited in Carrell & Eisterhold, 1988). In 1982, Smith (cited in Grabe, 1991) contributed to Goodman's theory by drawing attention to the role of background knowledge in deriving meaning from a text.

This model, as Eskey (1986) states, views reading as a selective process in which readers make and confirm predictions from their background knowledge of different linguistic levels including graphonic, syntactic, and semantic systems of the language. Although Goodman did not relate his theory to ESL readers, researchers working
in the field made efforts to translate his theory to the SL context.

Interactive Approaches to Reading

Throughout the 1980s, Goodman's and Smith's views on reading were extended, and reading came to be seen as the acquisition of meaning through the interaction of the writer's intended meaning and the reader's background knowledge (Carrell, 1988a). This perspective on reading has changed the role of readers from a passive to an active one involving their participation as information processors. It has also led researchers to study readers' behaviors. As Eskey (1986) states, reading is now viewed as a cognitive process which involves two subprocesses: identification (bottom-up processing/lower-level processing) and interpretation (top-down/higher-level processing). He argues that being an efficient reader requires a person to be able to decode letters, words, phrases, sentences, and cohesive ties in a text (lower-level, or bottom-up processing) as well as to go beyond these skills by relating information acquired through knowledge of language to one's theory of the world. Thus, comprehension results from understanding the words on the page in addition to conceptual strategies (higher-level, or top-down processing) combined with the reader's prior knowledge, or schemata.

The Role of Schema Theory

The issue of prior knowledge in higher-level comprehension processes can be best understood within the
framework of schema theory. Schemata (singular, schema), are readers' existing knowledge or "knowledge already stored in the memory" (Anderson & Pearson, 1988, p. 37). These abstract concepts, as Barnett (1989) explains, comprise the framework into which readers fit what they comprehend from the text. Therefore, if new information derived from the text does not make sense when referred to readers' schemata, the material is misinterpreted or not recognized, or existing concepts are revised to match the newly acquired facts. In 1980, Rumelhart (cited in Shih, 1992) described this kind of processing as simultaneous interaction of bottom-up and top-down processing. Thus, he espouses that, in the schema-theoretic view, the text leads readers to construct meaning from their background knowledge which involves not only linguistic knowledge but also knowledge of content area (content schemata) and of rhetorical and organizational structure of a text (formal schemata).

Recent research emphasizes the crucial role schema theory plays in SL and FL reading. Many studies in L1 have suggested that readers with well-developed content schemata on the topic understand the information in the text better than those who do not (e.g., Rumelhart; Tierney & Cunningham, both cited in Shih, 1992). Research conducted in SL, for example, Carrell (1983) and in FL (e.g., Omagio; Lee, both cited in Barnett, 1989) have also shown the facilitative effect of such knowledge in reading comprehension.
Knowledge about the organizational structure of a text (formal schemata) has also been found to be influential on comprehension. As Shih (1992) explains, possessing such knowledge enables readers to recognize the interrelation between ideas, including the hierarchical relationships between main ideas and details. Findings of studies on identification of text-structure in L1 (e.g., Meyer, Blunt, & Bluth; Slater, Graves, & Piche, both cited in Shih, 1992) have supported these assertions. Research in SL has also produced positive results (e.g., Carrell, 1984, 1985). Carrell, in 1985, conducted a study with 25 ESL students at a high-intermediate proficiency level. The subjects in the experimental group were trained in recognizing text structure. The students in the control group, on the other hand, received no treatment but did some linguistic operations with texts including grammar exercises, sentence analysis, and vocabulary work. Both groups took pre- and post-tests, which required students to write immediate free recalls of the texts after they had finished reading and to answer open-ended questions by identifying the texts' overall organization. Although the scores of the two groups were similar on the pre-test, the scores obtained from the post-test demonstrated that the experimental group, which received the training in recognizing rhetorical organization of the texts, performed significantly better than the control group as
measured by the amount of the original text they were able to remember.

Other research on schema theory suggests that a high degree of background knowledge can help SL learners overcome the problems resulting from linguistic deficiencies. Hudson's study done in 1982 is a case in point. Ninety-three ESL students with different language backgrounds participated in this study. The subjects were heterogenous in terms of their proficiency level in the English language, that is, the sample consisted of beginning, intermediate, and advanced level students. The findings showed the facilitating effects of explicitly inducing content schemata through prereading activities, especially at the beginning and intermediate levels. Thus, Hudson challenged the existence of the so-called proficiency ceiling in FL reading posited by Clarke (1980) by indicating that problems caused by limited knowledge of the language could be overridden by activating and providing background knowledge.

**Comprehension Strategies in L, and SL Reading**

Current research in second language reading has begun to emphasize readers' strategies, which reveals the ways learners manage their interaction with texts and how these strategies promote text comprehension. The term strategies is often referred to as the techniques used by students to acquire knowledge (O'Malley & Chamot, 1990). These learning behaviors are divided into two general categories in literature.
Barnett (1988b), for example, makes a distinction between text-level and word-level strategies. According to her definitions, the former are techniques that are related to the whole passage and involve using background knowledge, titles, pictures or diagrams, skimming, and scanning, whereas the latter include guessing words in context, finding references, and identifying grammatical categories words belong to. Hosenfield’s classification (1977) (cited in Barnett, 1989) of main-meaning line and word-solving strategies, as well as Olshausky’s (cited in Block, 1986) clause-related strategies and word-related strategies, are parallel to those of Barnett.

Despite the lack of consensus on classification of these techniques, effective strategies in the context of reading refer to readers’ conception of a task, their selective attention to relevant textual cues, and techniques that they use to understand the text, including the ones to repair comprehension breakdowns (Langer, cited in Block, 1986). The related research (e.g., Armbruster & Baker; Flood & Lapp, both cited in Shih, 1992) reveals that good readers read with a purpose in mind and modify their reading processes according to task demands. They pay attention to major ideas rather than focusing on unimportant details. This active participation leads readers to notice comprehension breakdown and to take necessary action through techniques such as asking for clarification, rereading, or referring to another source.
Findings of several studies conducted in L1, particularly in English, show that good readers are more capable of monitoring their comprehension than poor readers (Smith; Strang & Rogers, cited in Block, 1986). Researchers working in SL/FL have also investigated the cognitive reading strategies of learners and found similar distinctions between good and poor readers in terms of the types of strategies the students use and their relevancy in meeting the task demands. Hosenfield (1977) (cited in Barnett, 1989), for example, distinguished between the strategies used by successful and unsuccessful readers through the self-reported data she collected from 40 adolescent FL students, half of whom were tested as proficient and half as non-proficient readers in her study. The observed behaviors of efficient readers revealed that good readers approached the text as a whole and focused on the important parts while skipping unimportant details. Unsuccessful readers, on the other hand, were found to read word-by-word, relying on decoding skills which slowed down and impaired their comprehension. Also, Block (1986) conducted a descriptive study with 6 ESL students whose native languages were Chinese or Spanish and 3 native-English speakers at university level. She analyzed data elicited by think-aloud protocols, which involved students verbalizing what they understood and thought about while reading two English passages from a textbook. From the results of cloze tests in English and in their
first language, good ESL readers were found to perform as well as the native speakers. Block classified the successful learners' strategies as general strategies, that is, comprehension gathering and monitoring, and unsuccessful learners' strategies as local strategies, which meant focusing on specific linguistic units. This study indicates that effective readers use a variety of strategies including self-management strategies, that is, planning, monitoring, and evaluating the outcome of learning, whereas less effective students use fewer strategies and often do not use appropriate ones for the task. In other words, the selection and utilization of relevant strategies require readers to have some control and awareness about the processes involved in reading (Snow & Lohman, 1984).

Metacognition

The concepts of having control over learning activities and being aware of one's cognitive resources comprise the meaning of metacognition. John Flavell, a cognitive psychologist, first defined metacognition in 1978 as "knowledge that takes as its object or regulates any aspect of any cognitive endeavor" (cited in Baker & Brown, 1984, p. 353). Baker and Brown (1984) expanded this definition by making a distinction between metacognitive knowledge and metacognitive control. They argued that whereas metacognitive knowledge entails learners' knowledge about their own cognitive resources and their suitability to the learning situation,
metacognitive control refers to the regulation of cognition including checking the outcome of learning activity, planning the next step to be taken, and monitoring the effectiveness of any attempted action, as well as testing, revising, and evaluating strategies for learning. Metacognition in the context of reading refers to knowledge of appropriate strategies required for a task and the control learners have over their actions during reading for various purposes (Brown, Armbruster, & Baker, cited in Carrell et al., 1989).

Padron and Waxman (1988) investigated the relationship between students' metacognitive awareness about reading, elicited through a questionnaire, and their performance on reading comprehension tests. The subjects of the study were 82 Hispanic elementary school ESL students. The researchers administered a standardized reading comprehension exam twice to observe the relationships between the gain scores and reading strategies students reported in the questionnaire (RSQ). This RSQ contained 14 strategies, half of which were negatively related to reading achievement, such as focusing on every word and ignoring the parts that are not understood in the story, and half of which positively related to reading comprehension, for example, summarizing and underlining. The results of this study indicate that students' perceptions of their strategies are closely related to reading achievement because those
who self-reported using negatively related strategies did poorly in the exams.

**Strategy Training Research in L. and SL/FL**

Since the 1980s, studies on strategies have become very important in suggesting ways to promote reading comprehension. Strategy research suggests that less efficient readers can become better readers if they are trained in strategies that have been proved to be effective in successful reading (Grabe, 1991).

Many studies have investigated metacognitive awareness of strategies, strategy use, and reading comprehension with the aim of teaching learners to adjust their cognitive ability to enhance comprehension. The literature on direct training of students in comprehension strategies in L₁ (e.g., Baker & Brown; Brown, Campione, & Day; Gavelek & Raphael, all cited in Carrell, 1988b) has indicated that such training is successful and this has led researchers to conduct similar studies both in SL (e.g., Carrell, 1985; Carrell et al., 1989), and in FL. Kern (1989), for example, trained American students who were studying French as foreign language (FL) at the intermediate level in specific strategies including ones for finding the meaning of unknown words (e.g., cognates, prefixes), recognizing and using discourse level cues, cohesion markers, and finding main ideas. The course content was the same for both the experimental and for the control group. Results showed that the former group outperformed
the control group on both the comprehension and word inference measures. Kern also found that even poor readers benefit from strategy instruction.

Semantic Mapping

One of the strategies that has been shown to aid comprehension and learning is semantic mapping (SM) (Shih, 1992). Carrell et al., (1989) describe this conceptual map as the visual display of the relationships between concepts in a text. It illustrates, they state, how the major and the minor ideas are related in a passage.

Johnson, Pittelman, and Heimlich (1986), in their article "Semantic Mapping," espouse that the procedure of categorical structuring of information in graphic form provides learners with the relevant background knowledge regarding the specific topic and words presented in a text, and, thereby, prepares the students better to understand, incorporate, and evaluate the information in the material. They also state that the prereading application of the technique, using student input, enables the instructor to introduce key vocabulary words and ideas to activate learners' relevant schemata of the content and, thus, to create conceptual readiness in the students. Another point they make is that SM is an effective way of filling in important gaps in the students' knowledge. According to them, independent construction of such a graphic organizer by students during postreading stages helps them recognize the
organizational structure of the text (formal schemata) as well as the content.

In addition to its effectiveness in terms of activating and providing content and formal schemata, Carrell et al. (1989) also assert that discussions held during SM have been found to be influential in active processing of knowledge because they lead students to reflect upon what they have read and to relate the information they already possess to the information they have newly acquired from the text.

Carrell et al. (1989) conducted a study to investigated the effectiveness of training students in two metacognitive strategies namely, SM and experience-text-relationship (ETR) method on reading comprehension. Both of these strategies aim at activating and providing appropriate background knowledge. In their study, SM referred to the process whereby readers' existing knowledge of the topic of a text is used to make a diagram of what they expect to find in the text at the prereading stage, which will then help readers understand the meaning and the relationships of important concepts in the text. The students were also asked to construct a postreading map to help them see how their schemata on the topic had been expanded for future use. The ETR method, on the other hand, used discussion to link background knowledge to what had been derived from the text. This method consisted of three stages: experience, text, and relationship. In the first stage,
the teacher led students in discussion to elicit what they already knew about the subject matter. Then, in the text stage, students read short parts of the text and were asked to answer questions about the content after each section was read. Finally, during the relationship sequence, the teacher helped students to draw relationships between the content of the text and their experiences or prior knowledge. Unlike SM, ETR did not lead the students to produce a visual display of the information in texts. The subjects in this study were 26 ESL students in Level 4 of the intensive program at Southern Illinois University from different language backgrounds (Arabic [8], Japanese [5], Bahasa Malaysian [4], various African languages [4], Chinese [2], Greek [1], Spanish [1], French [1]). The proficiency level of subjects corresponded to TOEFL scores ranging from 470-524. Seventeen of them were undergraduate students, and 9 were graduates. There were 19 male and 7 female learners, and their ages ranged from 19 to 43.

Subjects were placed in four intact reading classes; 9 were trained in SM, 9 received ETR training, and 3 and 5 of them were placed in two classes functioning as control groups. All subjects were given identical pre- and post-tests. Findings indicated that each training group showed significant gain scores on the reading comprehension test.
Differences in ESL/EFL Learning Contexts

Eskey (1986), and Faerch and Kasper (1986) state that comprehension results from the interplay of ability to decode letters, words, phrases, and sentences in a text (bottom-up processing) as well as to relate information acquired through knowledge of language to one’s existing knowledge (top-down processing). Bottom-up processes are based on the input, which is referred to as the language addressed to the learner. Long (1983) and Varonis and Gass (1985) (cited in Swain, 1985) assert that input plays an important role in learning the target language provided that it takes place in interaction, which means negotiated meaning exchanges. In this respect, as Ellis (1986) purports, an EFL context is less like an input-rich (ESL) environment because the learners receive the L₂ input from only their native/non-native teachers and from their non-native peers. In addition, classroom instruction provides limited opportunities for the negotiation of meaning due to its non-interactional nature. In contrast, ESL learners study and experience the target language at the same time. In other words, the L₂ not only functions as a medium of instruction, but also as a means of communication. Thus, an ESL context is more like a natural setting. Spada (cited in Ellis, 1986) investigated if there was any interaction between the type of exposure to the language and the type of instruction on the proficiency level of 48 adult ESL learners. She found that instruction interacted with the
exposure to the L₂ outside classroom and caused adult ESL learners to attain higher levels of proficiency and to perform better. This study provides evidence for the view that EFL students are at a considerable disadvantage compared with ESL students in terms of the quantity of input they receive.

Another reason for EFL students' linguistic deficiency could be the quality of their output, which means contextualized language use (Swain, 1985). Swain conducted a study with 69 English-speaking students studying French as a second language in an immersion program in Canada. These students were similar to EFL students in that they received limited input and used the target language outside the classroom less frequently than ESL students. Swain examined the relationship between input and output at the level of language proficiency, using a communicative competence model consisting of grammar, discourse, and sociolinguistic components. Findings indicated that immersion students failed to attain native-like levels for the grammar and sociolinguistic traits. Swain concluded that a lack of demand to produce the target language puts SL students at a disadvantage in terms of language development, which would apply to an EFL situation.

The difference between ESL and EFL contexts is also reflected in motivational orientations. According to Fransson (1984), learners' motivation has a strong effect on both the product of comprehension and the process of
understanding. As Brown (1987) states, EFL students learn a non-native language in their own culture so they have poor motivation or desire to use the language outside the classroom as well as having fewer opportunities to engage in a two-way interaction. The environment in which ESL students learn the language, on the other hand, increases the intensity of their motivation because they feel the need to learn the language not only for instructional purposes but also to survive in a different culture. This situation forces ESL students to make use of the linguistic context and their general knowledge in order to interpret the language at which they are not fully competent (Swain, 1985). Thus, it can be stated that ESL learners are more likely to improve their language skills and to achieve automatic control of their knowledge for use in authentic communication compared to EFL learners.

Considering differences between ESL and EFL students in terms of the learning environment and motivation, it cannot be assumed that results obtained in an ESL context will generalize to an EFL environment. Therefore, the researcher found it necessary to replicate Carrell et al.'s (1989) study in an EFL context. Because of the time constraints, she trained students only in SM since the test scores obtained in the study to be replicated did not show significant differences between the groups trained with ETR or SM. As for choosing which strategy to use, the researcher chose SM because it was believed
that the map/diagram produced by students in SM would also provide them with a study-guide for test preparation; thus, it might be a more useful technique than ETR for these students in the future. Another factor which led her to undertake such a study was to add to the knowledge in the area of strategy training, as more studies are required to attain consistency (Grabe, 1991; Shih, 1992). The researcher holds the hope that this study will lend itself to more reliable generalizations as it was conducted with a much larger sample (39 subjects) compared to that of the study to be replicated.

To conclude, in this study, the researcher investigated the effects of training Turkish EFL preparatory students in SM for enhancing their reading comprehension of academic texts. The hypothesis of the study was that the students trained with SM would do better on reading comprehension tests than comparable students, who continued employing the traditional techniques such as skimming, scanning, and guessing vocabulary in context.
CHAPTER 3 RESEARCH METHODOLOGY

Introduction

The current study aimed at investigating the effects of training Turkish EFL preparatory school students at Middle East Technical University (METU) in one kind of metacognitive strategy, namely semantic mapping (SM), to read English language academic texts. The purpose of the study was to determine whether this one particular strategy alone could significantly enhance EFL students' reading comprehension.

In this chapter, the research design, subjects, training materials, instrument, procedures and data analysis are described.

Research Design

In this study, the researcher hoped to establish a cause and effect relationship between the independent variable (SM) and the dependent variable reading comprehension, as operationalized by a reading comprehension test using a pre-test, post-test intact group design. Students at preparatory school had already been assigned to classes according to their scores on the placement test held at the beginning of the spring semester. Using this design, the researcher expected the independent variable, SM, to cause changes in the dependent variable, reading comprehension. An experimental and a control group was formed. The former group received a carefully designed instructional treatment, whereas the latter group continued to receive
the usual classroom instruction. Both groups took pre- and post-tests.

Subjects

The research was conducted at METU in Ankara, Turkey. It is one of the most well-known and reputable universities in Turkey. Students are admitted to this university after getting a high score on the "University Entrance Exam". Since the medium of instruction is English at METU, students are required to be highly proficient in English as well. At the beginning of the first academic year, an English proficiency exam set by METU is administered to all students, and those who perform adequately on this exam are considered proficient enough to enroll as freshman students in their departments of specialization. The students whose English is not found adequate, on the other hand, start studying English for academic purposes at the preparatory school, where the faculty tries to ensure that the students reach the proficiency level necessary to continue their further studies.

The participants in this study were 39 Turkish EFL students studying English language at the preparatory school at METU. There were 13 females and 8 males in the experimental group, and there were 11 females and 7 males in the control group. The age of the participants ranged from 17 to 19. At the time of the study, the subjects were at an upper-intermediate level of EFL instruction. There were two reasons for choosing this proficiency
level. Firstly, it was not possible to locate instructors at other levels who would agree to assist the researcher. Secondly, research in the field has shown that readers at this level are more capable of applying schemata consistently (Hudson, 1982). To assign the two classes randomly to control and experimental groups, the following procedure was used. Class numbers of the two groups were put in a bag and the first number drawn was assigned to the experimental group. Then, subjects in both groups were asked to fill in a consent form (see Appendix A), which informed them about the study.

Materials

Training Materials

Four reading passages were chosen by the researcher for training on the basis of their being appropriate to the level of the subjects. "Two Concepts of Discipline," from Build it Up (Levine, Oded, & Statman, 1985), was selected for the first session for its detail and easy to recognize structure. "Malnutrition," a 332-word passage used in a study by Carrell et al. (1989), was studied during the second meeting. The other two passages, namely "Sources of Error in Scientific Investigation," from A Course in Basic Scientific English (Ewer, & Lattoire, 1969), and "Meet Your Memory," from Study Reading (Glendinning, & Holmström, 1992), were used in the last two sessions consecutively as they were lengthier and believed to be more complex passages.
**Instrument**

The instrument used in the study was a reading comprehension test (see Appendix C) which consisted of two passages: "Talking to Babies," a 580-word passage used in a study by Block (1986) taken from an introductory psychology textbook by Rubin and McNeil, and "Cholesterol," a 302-word passage from a study by Carrell et al. (1989). After each passage, there were 5 open-ended questions. One of these inquired about the main idea of the passage; another was a reference question. The remaining three wh-questions required students to draw conclusions and generalize information from different parts of the passage. In addition, after the first passage, the subjects were asked to complete a partial semantic map. After the second passage, participants were asked to construct their own map referring to the cloze map from the first passage as a model.

**Procedure**

**Training Procedure**

The training procedure in this study was developed referring to the suggestions made by several researchers. Some of these suggestions included explicitly informing students about what the strategy is, its rationale, how to use it, when to use it, and how to evaluate the outcome (Shih, 1992; Wenden, 1991). Modeling the use of the technique, that is verbalizing the mental processes involved in reading (Davey, cited in Shih, 1992),
constituted the core of the training in the current study.

The researcher trained only the experimental group; the control group, on the other hand, studied the same reading materials as the experimental group with their regular instructor. The control and experimental groups met concurrently.

The total training period was four days, during which the researcher met the experimental group for 60 minutes each day. The same amount of time was devoted in the control group to deal with the same materials.

The following section presents the steps of each session during which the experimental group was trained in SM. There were four sessions altogether. The first one was an introductory session in which the trainer presented the concepts that the students would come across in the following sessions. The purpose of the remaining three sessions was to teach and practice the strategy under investigation. In the descriptions below, the researcher first states the purpose of each step and then explains the procedure to meet that purpose.

Session 1 procedures.

A. Introducing the concept of metacognition
   i. The trainer explained what metacognitive knowledge and control means.

B. Introducing semantic mapping strategy
i. The subjects and the trainer discussed the meaning of the term discipline as a pre-reading activity.

ii. The trainer wrote the ideas she elicited from the students on the blackboard.

iii. The ideas on the board were organized into a map. The organization of the map was then discussed in terms of the relationship between the main topic and subtopics as well as vocabulary.

iv. The students copied this pre-reading map and then read the passage "Two Concepts of Discipline."

v. A post-reading map was constructed by the students. At this stage they read the material on their own and individually displayed what they understood from the text.

vi. One of the students drew the class map on the blackboard, gathering input from the students.

Session 2 procedures.

A. Reviewing the concept of metacognition and establishing the notion that maps were visual representation of background knowledge for processing new information.
i. The trainer and the students discussed the pre- and post-reading maps of the "Two Concepts of Discipline" passage studied in the previous session.

B. Guided-practice of semantic mapping.

i. The same procedure as in the first session was used to create a pre-reading map for the "Malnutrition" passage.

ii. Students read the passage themselves and constructed the post-map the same way as they did the first day.

iii. The trainer and students discussed the pre- and post-reading maps and the trainer summarized what had been done, providing rationale for the use of semantic mapping strategy.

Session 3 procedures.

A. Reviewing the concept of metacognition and semantic mapping.

i. The trainer explained the role of activation of background knowledge in comprehending the content of reading texts.

B. Independent practice of semantic mapping.

i. Students were asked to construct pre-reading maps about "Sources of Error in Scientific Investigation" without any discussion of the topic.
ii. Students were given the text and asked to create their post-reading maps.

C. Discussing the significance of semantic mapping strategy.
   i. Pre- and post-reading maps were discussed and students were encouraged to employ semantic mapping while reading texts.

Session 4 procedures.

A. Independent practice of semantic mapping.
   i. Students prepared pre- and post-reading maps for "Meet Your Memory" passage.

B. Reviewing semantic mapping strategy and emphasizing its value for promoting reading comprehension.
   i. The trainer summarized the nature and uses of semantic mapping, suggesting that maps prepare students better to understand, incorporate, and evaluate the information in texts.

Testing Procedure

Before the tests were administered to the experimental and control groups, both the materials and procedures were piloted on students similar to the sample chosen in this study. After piloting, instructions were made clear, some of the questions likely to cause
comprehension problems were reworded, and spelling mistakes found in the texts were corrected.

One day before the training, all subjects in both groups were given the pre-test to collect baseline data. At the end of the training sessions, 8 days later, a post-test, the same test as the pre-test, was administered to both classes to measure the effect of SM on reading comprehension.

The reason for having identical pre- and post-tests was to have exactly comparable tests. Because the students would not be provided with the correct answers to the questions in the pre-test, the 8-day period between the administration of pre- and post-tests was considered long enough to exclude possible short-term memory effects. This interval was short enough to control for any important learning other than that resulting from the training. In addition, any effects due to experience with the test would be comparable for each of the two groups.

Each pre- and post-test was evaluated by two judges working independently. Both of the raters were experienced English language teachers working at the preparatory school at METU.

The scoring rubric was introduced to the two raters by the researcher. The descriptions of the question types were made and the answers expected from the examinees were discussed.
The 10 open-ended questions were each scored on a 3-point scale, with a possible maximum total of 30 points. Three points for a question were assigned if the subject's answer showed full comprehension of the passage, that is, for a student to get a full score, the answer needed to be accurate and complete, demonstrating understanding of the passage (see Appendix B). As for the scoring of the partial map, each blank was assigned .5 points, with a maximum total of 7 points. Evaluation of the open-ended map was the same as that of Carrell et al.'s (1989). The scoring rubric contained 3 band scales based on completeness of the map referring to the passage as well as on how well the map illustrated the subject's comprehension, with a possible maximum total score of 3 points (see Appendix B). The total scores of each student (maximum 40 points possible) were then converted into percentages, with a maximum total score of 100 percent, for easing computation.

Data Analysis

Interrater reliability for both pre- and post-tests were computed in order to have confidence in the ratings. Pearson Product Moment Correlation Formula was used to find the correlation coefficients between the raters.

In order to find out whether the means of the experimental and control groups truly differed on the pre- and post-reading comprehension tests, a t-test for independent-samples was used as the measurement procedure
in this study. The data analysis consisted of the following three stages.

In the first stage, Kolmogorov-Smirnov Two-Sample Test was run to see if the data was normally distributed, since normal distribution is a necessary assumption of t-tests. During the second stage, the mean scores of both groups on the pre-test were compared using a t-test to find out if the performances of the subjects in the experimental and control groups were equivalent at the beginning of the study. In the third stage, the mean gain scores of the two groups on the post-test were computed, and compared with a t-test to see whether the strategy instruction had caused the experimental group to perform significantly better than the control group.
CHAPTER 4 ANALYSIS OF DATA

Introduction

The purpose of the study was to find out whether one kind of metacognitive strategy, namely semantic mapping (SM), could significantly enhance Turkish EFL preparatory school students' reading comprehension. It was hypothesized that subjects trained in SM would perform better on reading comprehension tests than subjects in the control group, who continued to receive the usual classroom instruction.

In this chapter the data collected to compare the effectiveness of SM training on comprehension of academic texts in English language are presented. The findings of the study were evaluated on the basis of the interrater reliability and the comparison of the test results between groups.

Interrater Reliability of the Tests

Each pre- and post-test was scored by two independent raters, both of whom were experienced English language teachers working at the preparatory school at Middle East Technical University (METU). Before the evaluation of the tests, the researcher held a training session to introduce the scoring rubric. Possible answers to each question were discussed to support consistency between the raters. Later, raters scored the tests independently.

After the scores were collected from the two raters, the interrater reliability for each test was computed
using Pearson Product Moment Correlation Formula in order to have confidence in the scoring. The interrater reliability coefficients for the pre- and post-tests were .99 and .99 respectively, indicating a very high degree of interrater consistency.

Data Analysis

The hypothesis of the current study was that the subjects trained in SM in the experimental group would perform significantly better than the subjects in the control group, who did not receive the treatment. In order to test this hypothesis t-tests were employed. The p-value considered significant in this study was p < .05, as this level is suggested by the usual educational convention. Analysis of data consisted of the following three stages.

In the first stage, the Kolmogorov-Smirnov Two-Sample Test was run to find out if the pre-test data was normally distributed because this is prerequisite to the application of a t-test. The probability level was found to be .68. This is considerably larger than p< .05; therefore, the test scores were considered normally distributed.

During the second stage, the means (M) and standard deviations (SD) of the experimental and the control groups for the pre-tests were computed. Then, an independent-samples t-test was used to see if the performance of the two groups was the same at the beginning of the experiment. Table 1 indicates the means
and standard deviations as well as t-observed for the pre-test scores.

Table 1

Means, Standard deviations, T-observed values for Pre-Test scores

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>t-observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>48.35</td>
<td>11.26</td>
<td></td>
</tr>
<tr>
<td>(n = 21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>43.37</td>
<td>12.60</td>
<td>1.30 n.s.</td>
</tr>
<tr>
<td>(n = 18)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspection of Table 1 indicates that the performance of both groups was the same at the pre-test; there was no significant difference between the mean scores of the experimental group and the control group. Therefore, any significant difference on the post-test could be assumed with some confidence to result from the effect of the training provided by the researcher.

In the third stage, the mean scores and standard deviations of the gain scores of the experimental and the control groups for the post-test were calculated and an independent-samples t-test was applied to see whether there was any significant difference in the training group’s performance due to the treatment. Table 2 illustrates the means, standard deviations, and t-observed values for the post-test gain scores.
Table 2

Means, Standard Deviations, and T-observed Values for Post-Test Gain Scores

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>t-observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>12.1</td>
<td>4.59</td>
<td>4.58 **</td>
</tr>
<tr>
<td>(n = 21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>6.68</td>
<td>2.17</td>
<td>4.58 **</td>
</tr>
<tr>
<td>(n = 18)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05 ** p < .001

Table 2 displays a statistically significant difference between the gain scores of the training and control groups. The findings indicated that the experimental group had significant higher gain scores (p < .001) than the control group on the post-test. As a result, it appears that SM training enhances reading comprehension. In other words, the hypothesis, which proposed that subjects in the experimental group would benefit from the explicit strategy instruction, was not rejected.
CHAPTER 5 CONCLUSION

Summary of the Study

The main concern of the present study was to investigate whether one type of strategy training, semantic mapping (SM), would be effective with EFL students in improving reading comprehension. It was hypothesized that subjects trained in SM would perform significantly better on a reading comprehension test than comparable subjects in the control group who continued to receive regular classroom instruction.

The study was conducted at the Middle East Technical University (METU) preparatory school. The participants were 39 Turkish EFL students who were currently studying English language at the preparatory school at METU. At the time of the study, they were at an upper-intermediate level of EFL instruction. Subjects in the experimental group were trained to use SM strategy, whereas subjects in the control group did not receive any treatment, but continued to receive the usual classroom instruction. The training period lasted for 4 days, and each daily session took 60 minutes.

The instrument used in the study was a reading comprehension test which consisted of two passages: one of them 302 and the other 580 words in length. One day prior to the training, subjects in the experimental and control groups were given a pre-test to gather baseline data. At the end of the training, 8 days later, the same
test as the pre-test was administered to all subjects to measure the effect of SM on reading comprehension.

The reason for having identical pre- and post-tests was to have exactly comparable tests. Because the students would not be provided with the correct answers to the questions in the pre-test, the eight-day period between the administration of pre- and post-tests was considered long enough to exclude possible short term memory effects. This interval was short enough to control for any important learning other than resulting from the training. In addition, any effects due to experience with the test would be comparable for each of the two groups.

The tests were evaluated by two raters independently referring to the scoring rubric designed by the researcher. The interrater reliabilities of the two raters were computed for the pre- and post-tests and were found to be .99 and .99 respectively. These correlation coefficients demonstrated that the scoring of the raters was consistent and reliable.

The data was collected to compare the performance of the experimental and control groups on the reading comprehension pre- and post-tests. It was analyzed in three stages. First, the Kolmogorov-Smirnov Two-Sample Test was employed to see if the interval data was normally distributed, which is prerequisite to the application of t-tests. In the next stage, the means (M) and standard deviations (SD) of the two groups scores on
the pre-test were computed, and an independent-samples t-test was run to find out whether the performance of the training and control groups on the pre-test was the same at the beginning of the experiment. Finally, the comparison of the means of the gain scores of the subjects in both groups was made using an independent-samples t-test. The findings supported the hypothesis of the researcher, who claimed that the subjects trained in SM would significantly outperform the subjects in the control group (p < .001).

Discussion of Findings and Conclusions

In the current study, it was hypothesized that explicit instruction in a particular metacognitive strategy, namely semantic mapping, would promote reading comprehension of Turkish EFL preparatory school students at METU. The results demonstrated the strong positive effect of the strategy which led the researcher to suggest SM as a very helpful instructional technique to be employed in order to enhance EFL learners' reading comprehension in preparing them to participate in the academic mainstream.

The researcher successfully replicated Carrell et al.'s (1989) study in an EFL context, and the findings confirmed the view schema theory holds about reading comprehension. As stated by Rumelhart (cited in Shih, 1992), this theory claims that texts require readers to construct meaning from their background knowledge, which involves not only linguistic knowledge but also knowledge
of the content area (content schemata) and of rhetorical and organizational structure of texts (formal schemata). Related research in SL (e.g., Carrell & Eisterhold, 1988; Carrell et al., 1989) indicates that readers with a well developed content schemata, that is, background knowledge of the topic, understand texts better than those who do not have such knowledge. Many other studies, for example, Carrell (1985), show the positive effect of formal schemata in improving reading comprehension as well. The present study supported the conclusions of these studies because SM appears to have dramatically contributed to the students’ comprehension, presumably by helping them activate the relevant schemata and, thus, facilitating meaningful and intelligent interaction with texts. During the training sessions, the mapping procedure appears to have helped students activate their existing knowledge on the topics, and, thus, as Johnson, Pittelman, and Heimlich assert (1986), created a conceptual readiness in them. This could have resulted in the students’ better incorporating and understanding the content. The procedure also obliged them to engage in an intense involvement with the meaning encoded in the texts. Studying the relationships between the main and supporting ideas and organizing them in diagrams may have led them to think in depth and process the information as a whole instead of treating each sentence as a discrete unit. This, in turn, may have released the students’
cognitive resources from surface level processing (Kern, 1989).

Secondly, the study provided empirical evidence about the effectiveness of informed strategy training in an EFL reading context. Similar to the relevant research conducted in SL, for example Carrell (1985), Barnett (1988), and Carrell et al. (1989), the study demonstrated the possibility of also teaching EFL students to adjust their cognitive ability to promote comprehension. This active participation and knowledge of why, when, and how to use a strategy seemingly developed a metacognitive control in the students described by Baker and Brown (1984) as the regulation of cognition.

Thirdly, the fact that the experimental subjects scored significantly higher than the control subjects of equal language proficiency on the post-test indicates that explicit instruction and practice in using SM can also help EFL students overcome the effects of language proficiency limitations on readers. In informal conversations with the researcher, the students expressed the view that using SM compensated for language difficulties they encountered while reading difficult to process texts. Therefore, from statistical results and from the feedback she got from the students, the researcher holds the view that SM works well with academic texts which are known to be difficult for EFL students due to their limited knowledge of English language. This finding was also in line with Hudson’s
hypothesis that the so-called language competence ceiling is relative and can be overridden when students are equipped with effective strategies that foster comprehension.

Finally, SM appeared to increase the motivation of students because their reaction to the training was extremely positive. In informal conversations many of them told the researcher that they had learned a helpful technique which benefited them.

Pedagogical Implications

The results of the study revealed that training EFL students in a particular metacognitive strategy, namely semantic mapping, had a strong positive effect on learners' reading comprehension.

The experiment was conducted in a natural classroom setting and the instructional procedures used in the study were found to be teachable as well as being effective in significantly enhancing comprehension of academic texts in English language. During the training sessions, modeling of mental processes involved in understanding the content of texts appeared to be very beneficial. Teaching the processes of understanding written texts by providing knowledge about SM's utility and its rationale, as stated by Wenden (1991), seemed to arouse an awareness in learners which may have promoted their relaxed and effective interaction with texts.

The encouraging results of the study led the researcher to suggest implementing strategies shown to be
effective into regular instruction. She believes that it is possible for teachers to apply training procedures and, thus, help their students attain learner autonomy, which should be the ultimate goal of education.

Learning strategy instruction, as Chamot and O’Malley (1987) state, changes the role of students from passive learners to active processors as well as bringing about new responsibilities for teachers. The teacher-centered approach, which aims at improving students’ comprehension by asking questions and having them provide answers, that is, focusing on the product of reading activities, should be replaced with a reader-based approach, which involves equipping learners with the techniques contributing to their intelligent and independent interaction with texts.

One of the most important issues in implementing strategy training into regular instruction is to develop in teachers the understanding of importance of strategies. Workshops or training sessions during which teachers receive information about strategies and practice incorporating these techniques into their teaching situations could be a solution.

To conclude, the current study points to the importance of SM, a metacognitive strategy, in improving reading comprehension. This supports the argument that teachers should play an active and valuable role in teaching strategies and the process of understanding texts rather than emphasizing only the product of
comprehension by giving directions or telling students the steps to follow in reading activities.

Implications for Further Research

There are several implications of this study for future research. First of all, although statistically significant results minimize the possibility that the differences between the two groups occurred by chance, the sample size in the experiment was not large enough to make strong claims about all EFL learners. Therefore, further research is necessary with larger sample of the Turkish EFL population in order to maximize external validity.

Secondly, future studies could be carried out to see if SM improves students' other language abilities such as knowledge of structure and vocabulary along with reading comprehension or if the mapping procedure enhances summarizing or retelling abilities. The researcher expects SM to be helpful in such activities as summarizing and retelling because a complete map, as stated by Johnson, Pittelman, and Heimlich (1986), may serve as a guide to structure a topic to be written about, with the headings serving as topic sentences, or main ideas for the paragraphs and details serving as the content to be included.

Thirdly, as Kern (1989) states, more studies need to be conducted to determine if students at different proficiency levels benefit equally from strategy instruction. In addition, as Carrell (1985) asserts,
research is required to compare the effectiveness of training various procedures as well as investigating the maintenance of techniques after training.

Finally, the researcher suggests conducting strategy studies in which the trainer enters both the experimental and the control group. She thinks this application may minimize the possibility of "halo" effect common to all training studies, which causes experimental subjects to perform well to please the trainer rather than having benefitted from the treatment.
References


Appendix A

Consent Form

I am conducting an educational research study about the relation of a particular strategy and reading. I hope you will agree to take part as your participation is important so that more can be learned about effective reading strategies. Your participation is voluntary and will not harm you in any way. I will be analyzing your data as a group and no one will be identified as an individual. Your test results will not affect your grades in this class. You may withdraw from this study at any time. When I finish my study I will be happy to give you your individual results and tell you a little about my findings.

If there are any questions about this study, you may contact either the researcher:

Nurcan Tunçman  
MA TEFL Student  
Bilkent University

or the study advisor:

Dr. Phyllis Lim, Director  
MA TEFL Program  
Bilkent University  
at +(312) 266 43 90

Thank you

Informed Consent Form

I agree to participate in an educational research study. I understand there is no possible harm in taking part and that if I wish I may withdraw from the study at any time. It has also been made clear by the researcher that my identity will be totally confidential and I will not be identified by name.

Name (print): ________________________
Signature : ________________________
Date : ________________________
Appendix B

Scoring Rubric

Open-ended questions:

3 Answer must show full comprehension of the passage.

1-3 Answer demonstrates some degree of understanding of the passage.

1 Answer shows a little understanding of the passage.

0 Answer is devoid of content or simply wrong.

Open-ended semantic map:

3 Map is relatively complete and displays that student has comprehended the passage.

2 Map is almost complete, and the map shows that the student has understood some of the passage.

1 Map is quite incomplete, and the map illustrates that the student has not really understood the passage.

0 Map does not have any meaningful content.

* Nothing provided.
Appendix C

Reading Comprehension Test

The test consists of two passages. After reading each, answer the questions following them. You can give short answers where possible. If you cannot answer a question do not spend much time on it and try to do the next one. Some questions ask you to complete a diagram with information from the passage.

TALKING TO BABIES

All of the world's languages, from English to Urdu, share one special kind of speech: baby talk. Recent research has confirmed that in spite of the differences among cultures and languages, the general properties of speech used with babies who are learning to talk remain the same.

Baby talk sounds different from adult speech. When talking to 1- or 2-year olds, adults usually raise the pitch of their voices and adopt a "sing song" intonation, in which the voice rises and drops dramatically, often ending a sentence at a high point. (Imagine the way you would say to a baby, "Hi Johnny. You're playing with your teddy, aren't you?"

What is the point of these peculiarities? Research has shown that babies prefer sounds in higher pitch ranges (Kearsley, 1973). Adults may quickly learn that they are more likely to get a smile or a satisfied gurgle from a baby when they raise their voices a bit. And the melodious rise and the fall of the speech signal may hold the babies attention that isn't easy to do. For the toddler who has begun to utter a few words, the rising voice at the end of the sentence serves as a signal; "Your turn." It marks the end of the adult's verbal offering and invites the child to make a response.

Adult speech to toddlers is also characterised by short sentences, limited vocabulary, and straightforward grammar. There are lots of questions and there is plenty of repetition (Snow, 1972). Furthermore, speech to beginning talkers tends to be tied to the here and now, with few references to the past or future. A father is much more likely to say, "See the birdie, Franny?" than "Do you remember the bird we saw yesterday?: The grammar simplicity and concreteness of baby talk help make the structure and rules of language clearer to someone just starting to learn it, and they help ease communication with a small person who cannot yet understand much speech.
Adults seem to catch on to baby talk quite naturally, Catherine Snow (1972) found that non-mothers (who almost no experience with babies) made the same speech changes when they talk to babies that mothers did. And Marilyn Shatz and Rochel Gelman (1973) found that even 4-year-old children will make similar speech modifications when talking to 2-year-olds. Babies themselves help to shape baby talk, through their reactions to adult utterances. When mothers were asked to talk to an imaginary baby, they did not simplify their speech as much as when they spoke to a real one (Snow, 1972). The child's presence—giving evidence of comprehension, boredom, or pleasure was necessary to elicit "true" baby talk from the mothers. True baby talk, with its particular grammatical simplifications, does not appear in parents until the baby is about 18 months old and begins to demonstrate some understanding of what is being said (Phillips, 1973).

Roger Brown (1977) suggests that there is something else baby talk can do besides helping babies learn to talk: It can express affection in ways that normal speech can't. He points out that sometimes baby talk occurs between adults, but that such behaviour is usually limited to lovers. And this may be as important a function as language learning and communication. Children need to learn to talk. They need to understand "Stay away from the stove" and "Don't eat the Swedish ivy". But they also need to hear "I love you" and to feel the meaning of these words even before the words themselves are actually understood.

Based on the passage, please answer the following.

1. What does "these peculiarities" refer to (paragraph III, line 1)?

2. Why do adults use "sing song" intonation while talking to babies?

3. What shows that baby talk is easy for everybody?

4. How can a baby influence the way adults talk to them?
5. What does "this" refer to (the last paragraph, line 4)?

Evidence for natural use of baby talk
a. 
b. 

The ways babies influence the adults speech
a. showing, understanding of what is being said 
b. 
c. 

BABY TALK

Functions of baby talk
a. teach the language 
b. 

c. 

Characteristics at sound level
a. sentences end at high points 
b. 
c. 

d. 

e. 

Possible reasons for the changes at sound level
a. 
b. 
c. to attract attention 
d. 

e. 
CHOLESTEROL

All around this country, breakfast tables are taking on a new look. Gone are the eggs, bacon, sausage, cream, and buttered toast Americans have been accustomed to. Here to stay are fresh fruit, whole grains, and low-fat dairy products. Why? Because more and more people are becoming concerned about cholesterol. Research shows that a high level of cholesterol in the blood is a major risk factor for coronary heart disease. Fortunately, you can control cholesterol by making simple changes in your diet and exercise habits.

Along with smoking and high blood pressure, cholesterol is one of the major risk factors for coronary heart disease. But, it is also one of the easiest to control. All other risk factors aside, a 25% reduction in serum (blood) cholesterol can reduce your risk of heart disease by 50%.

Cholesterol is a vital part of every body cell. In the blood, it travels in a "package" coated with protein. "Bad" cholesterol (LDL) has a thinner protein coating than good cholesterol (HDL). LDL deposits itself on the walls of your arteries causing a waxy build-up called plague, while HDL carries cholesterol out of the blood stream. Plague narrows or blocks the openings of your arteries, which impairs blood flow and can lead to heart attack, stroke and death.

Saturated fat is a dietary fat that raises the level of cholesterol in the blood. Saturated fat can also cause arterial plague. When trying to reduce your cholesterol levels, it is important to reduce your intake of saturated fats as well.

You can reduce your cholesterol and fat levels by making some simple low-cholesterol, low-fat choices in the foods that you eat. You can also maintain your ideal weight and get regular exercise which can lower total cholesterol and increase levels of the "good" cholesterol, HDL.

Based on the passage, please answer the following questions:

1. What kinds of people are most likely to have coronary heart disease?
2. What does "which" refer to (paragraph III, line 5)?

3. What causes arterial plague?

4. What is the author's general purpose in writing about cholesterol?

5. In what ways does fat contribute to heart disease?

Based on the passage, using the diagram from the previous passage, "Talking to Babies", as a sample, please construct a complete diagram for "Cholesterol".