T.C.
Mersin Üniversitesi
Eğitim Bilimleri Enstitüsü
Yabancı Diller Eğitimi Ana Bilim Dalı
İngiliz Dili Eğitimi Bilim Dalı

A CASE STUDY ON IMPROVING READING STRATEGIES OF TURKISH ESP LEARNERS

Sibel SERT

YÜKSEK LİSANS TEZİ

Mersin, 2012

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Danışman
Yrd. Doç. Dr. Şaziye YAMAN

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Mersin, 2012

Tez Onay Sayfası

Mersin Üniversitesi Eğitim Bilimleri Enstitüsü Müdürlüğüne,

Sibel SERT tarafından hazırlanan "Özel Amaçlı İngilizce Öğrenen Türk Öğrencilerinin Okuma Stratejilerini Geliştirme Üzerine Bir Vaka Çalışması" başlıklı bu çalışma, jürimiz tarafından Yabancı Diller Eğitimi Anabilim Dalında YÜKSEK LİSANS TEZİ olarak kabul edilmiştir.

Başarılı	Başarısız		
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☒	☐	Üye	Yrd. Doç. Dr. Gülden İLİN
☒	☐	Üye	Yrd. Doç. Dr. Elçin ESMER

Onay

Yukarıdaki imzaların, adı geçen öğretim elemanlarına ait olduklarını onaylarım.

10/09/2012

Prof. Dr. Yüksel KELEŞ

Enstitü Müdürü

To My Beloved Grandfather

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ÖZET

ÖZEL AMAÇLI İNGİLİZCE ÖĞRENEN TÜRK ÖĞRENCİLERİNİN OKUMA STRATEJİLERİNİ GELİŞTİRME ÜZERİNE BİR VAKA ÇALIŞMASI

Sibel SERT

Yüksek Lisans Tezi, İngiliz Dili Eğitimi Anabilim Dalı

Danışman: Yrd. Doç. Dr. Şaziye YAMAN

Ağustos, 2012

Bu çalışma Özel Amaçlı İngilizce öğrenen Türk öğrencilerinin okuma stratejilerini ortaya çıkarmayı ve sekiz hafta süren strateji tabanlı okuma uygulaması ile strateji kullanımlarını arttırmayı amaçlamıştır. Çalışma, Mersin Üniversitesi Tarsus Teknik Eğitim Fakültesi'nin ikinci sınıfında okuyan ve Özel Amaçlı İngilizce öğrenimi gören 62 öğrenciyle gerçekleştirilmiştir.

Uygulama öncesi ve sonrasında, katılımcıların kullandıkları stratejileri belirlemek için, Okuma Becerisi Stratejileri Kullanım Ölçeği (OBSKÖ) ve sesli düşünme protokolleri uygulanmıştır. Ayrıca, yarı yapılandırılmış röportajlar ile geribildirim değerlendirme formları çalışmayı nitel veriyle desteklemiştir.

Uygulama öncesindeki sonuçlar katılımcıların en çok sıklıkla kullandıkları stratejilerin yardımcı stratejiler ve en az sıklıkla kullandıkları stratejilerin öz-düzenleme stratejileri olduğunu ortaya koymuştur. Bununla beraber, ikinci en sıklıkla kullandıkları stratejilerin yönetme stratejileri, ortalama sıklıkta kullandıkları stratejilerin ise oluşturma, görselleştirme ve planlama stratejileri olduğu görülmüştür.

Uygulama sonrasında elde edilen sonuçlar, en çok sıklıkla kullanılan stratejilerin yine yardımcı stratejiler olduğunu göstermiştir. Ancak, diğer stratejilerin sıralamasında farklılıklar ortaya çıkmıştır. Bu bağlamda, uygulama sonrasında ikinci en sıklıkla kullanılan stratejilerin planlama stratejileri, en az sıklıkta kullanılan stratejilerin oluşturma stratejileri, ortalama sıklıkta kullanılanlarınsa öz düzenleme, yönetme ve görselleştirme stratejileri olduğu ortaya çıkmıştır. Ayrıca, analiz sonuçları katılımcıların okuma stratejileri kullanımlarında artış olduğunu da göstermiştir.

Sonuçlar ayrıca katılımcıların uygulama sonrasında genel strateji kullanımlarında anlamlı fark olduğunu ortaya koymuştur. Bununla birlikte, sonuçlar strateji grupları bazında incelendiğinde oluşturma, planlama, görselleştirme ve öz düzenleme stratejilerinde de anlamlı fark olduğunu göstermiştir. Ancak, analiz sonuçları, yardımcı stratejiler ve yönetme stratejilerinin kullanımında artış olmasına rağmen bu farkın anlamlı olmadığını göstermiştir.

Anahtar Kelimeler: Özel Amaçlı İngilizce, Türk Öğrenciler, okuma stratejileri, strateji tabanlı okuma uygulaması

ABSTRACT

A CASE STUDY ON IMPROVING READING STRATEGIES OF TURKISH ESP LEARNERS

Sibel SERT

Master Thesis, Department of English Language Teaching

Supervisor: Asst. Prof. Dr. Şaziye YAMAN

August, 2012

This study aimed to find out reading strategies of Turkish ESP learners and to increase their strategy use through an 8-week strategy-based reading implementation (SBRI). The study was conducted with 62 sophomore students at Tarsus Technical Education Faculty, Mersin University.

In order to find out the strategies used by the participants before and after SBRI, The Scale of Reading Comprehension Strategy Use (SRCSU) and think aloud protocols were administered. Moreover, semi-structured interviews and evaluative feedback forms enriched the study by providing qualitative data.

The results indicated that the participants used assisting strategies the most frequently and self-regulation strategies the least frequently before SBRI. The second most frequently used strategies were management strategies and moderately used strategies were constructing, visualization and planning strategies.

After SBRI, an increase in the participants' strategy uses was revealed. In addition, the participants reported using assisting strategies the most frequently again after SBRI. However, a change in the rank order of other strategy groups was revealed. In this

regard, the second most frequently used reading strategies were revealed as planning strategies. The least frequently used strategies were revealed as constructing strategies and moderately used strategies were found out as self-regulation, management and visualization strategies.

The results also indicated a significant difference in participants' overall strategy use after SBRI. Besides, significant differences were also revealed in the participants' use of constructing, planning, visualization and self-regulation strategies. However, the results did not display any significance for assisting and management strategy groups although an increase in their uses was revealed.

Keywords: English for Specific Purposes, Turkish Learners, reading strategies, strategy-based reading implementation (SBRI)

CONTENTS

LIST OF ABBREVIATONS (In Alphabetical Order)

AS: Assisting Strategies

CS: Constructing Strategies

CSN: Coded Strategy Number

D: Department

EFL: English as a Foreign Language

ESP: English for Specific Purposes

ESL: English as a Secong Language

EGP: English for General Purposes

ELT: English Language Teaching

F: Female

LEA: Language Experience Approach

LSRs: Less Successful Readers

L2: Second Language

M: Male

MAX: Maximum score the participants got from OBSKÖ

MIN: Minimum score the participants got from OBSKÖ

MS: Management Strategies

N: Number of the Participants in the Sample

OBSKÖ: Okuma Becerisi Stratejileri Kullanım Ölçeği

P: Percentage

p: degree of significance

PS: Planning Strategies

R: Rank

RSG: Reading Strategy Group

S: Srategy

SBRI: Strategy- Based Reading Implementation

sd: Standard Deviation

SRCSU: The Scale of Reading Comprehension Strategy Use

SRs: Successful Readers

SRS: Self-regulation Strategies

TAPs: Think aloud Protocols

TF: Total Frequency

VS: Visualization Strategies

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INTRODUCTION

Reading is one of the most prominent skills, which needs to be developed in language learning since it is common knowledge that most English as a Foreign Language (EFL) learners generally have a little exposure to the target language in real life context. In this regard, they gain most of the information in English through written materials both in and out of the academic environment. As Richards and Renandya (2002) highlight, most of EFL learners are exposed to a vast amount of target language through reading since they do not have the opportunity to interact with native speakers. In addition, reading provides learners with independent, life long learning notwithstanding the learners' purposes (Celce-Murcia, 2001). Hence, EFL learners need to develop their comprehension skills and need to be competent readers.

For decades, many studies have focused on the best possible ways to provide learners with better reading comprehension skills. Research has revealed that merely depending on vocabulary and structure knowledge as in traditional reading instruction does not provide learners with adequate skills in reading because reading is a very demanding and complex process requiring active involvement of the readers. It can be stated that successful reading goes beyond the linguistic competence. In this regard, Braunger and Lewis (as cited in Erfani, Iranmehr and Davari, 2011) indicates that readers partake in the process actively and form their own comprehension For instance, while reading they combine their background knowledge with the information from a text for comprehension (Anderson, 2003). Therewith, what readers bring into the text during the process is very crucial (Bedir, 1998). Concordantly, one of the most significant hallmarks of readers is the wide variety of observable and unobservable reading strategies they use.

Researchers have made different definitions of reading strategies. Cohen (1990: 83) describes reading strategies as "mental processes that readers consciously choose to use in accomplishing reading tasks" Goodman (1988) describes them as meaning-making processes with an interaction between the text and the reader. Garner (1987) names them as an action or series of actions employed to interpret a text or get the meaning of it. Paris, Wasik and Turner (1991) identify them as the tactics readers use while reading a text so as to understand it. Pearson et al. (1992) defines reading strategies as plans, which are conscious and are adapted by readers to various texts and learning tasks. Another definition made by Wei (as cited in Ertekin, 2010) explains reading strategies as all kinds of actions deliberately used in order to get the meaning of a written text. The common point all these researchers have is that the reading strategies are the techniques, which helps readers to understand the text at hand much better. In addition, nearly all the definitions highlight comprehending aspect.

The investigations of language learners' reading comprehension strategies have proposed various strategy inventories and classification schemes. In the second/ foreign language literature, the reading strategies are commonly divided into binary categories. Some of these categories are; main-meaning line and word-solving (Hosenfeld, 1977), general and local (Block, 1986), text-level and word-level (Barnett, 1988), top down and bottom up (Carrell, 1989), global and specific (Cohen, 1990), comprehensive and fix-up (Janzen, 1996); deeper level and lower level (Alexander, Murphy, Woods, Duhan and Parker, 1997), global and local (Young and Oxford, 1997; Brantmeier, 2000). The binary categories are all similar in that they reflect strategies representing either comprehension of smaller linguistic units or comprehension of larger linguistic units. Despite the slight differences in the categories, researchers use them together and interchangeably.

In the national scope, studies conducted on reading strategies have given invaluable insights to the field about the reading strategies of Turkish EFL learners (Bedir, 1998; Geridönmez, 1999; Kayacan, 2005; Arpacıoğlu, 2007; Aslan, 2007; Sarıçoban, 2002; Tercanlıoğlu, 2004; Yiğiter, Sarıçoban and Gürses, 2005; Uzunçakmak 2005, Deneme, 2008; Çubukçu, 2008; Mendi, 2009; Yaylı, 2010; Tuncer, 2011). According to the research (Sarıçoban 2002; Temur and Bahar 2011; Yiğiter, Sarıçoban and Gürses, 2005, Yaylı, 2010; Kayacan 2005; Uzunçakmak, 2005; Erktekin 2010) Turkish successful readers of EFL differ from less successful ones in terms of the frequency and the variety of their strategy use. In this regard, Turkish successful readers of EFL use more and various strategies than less successful ones.

Gender difference has also been revealed as in Turkish EFL female learners use more strategies than male learners do (Tuncer, 2011). In addition, more proficient Turkish EFL learners use more reading strategies when compared to low proficient ones (Tuncer, 2011). Studies carried out by Bedir (1998), Salatacı and Akyel (2002), Kantarcı (2006), Çubukçu (2008), Arpacıoğlu (2007), Aslan (2007), Ertekin (2010) have investigated the effects of reading strategy instructions, trainings, or other experiential reading strategy treatments on Turkish EFL learners' reading comprehension. The results have indicated positive outcomes such as improvement in learners' reading achievement scores, reading comprehension skills and strategy use. Such positive impacts are stated to have been the result of the fact that the strategies are teachable. Moreover, it has been observed that learners become more confident in reading, create positive self-concept and their motivation towards reading and learning English has increased. Consequently, all aforementioned research has suggested that developing readers' use of strategy contributes significantly to their reading success in EFL.

Most of the studies on the subject (Bedir, 1998; Tercanlıoğlu, 2004; Sarıçoban 2002; Çubukçu, 2008; Temur and Bahar, 2011; Yiğiter, Sarıçoban and Gürses, 2005; Kantarcı, 2006; Arpacıoğlu, 2007; Aslan 2007; Belet and Gürsoy 2008) have focused on young learners, upper intermediate learners of English for General Purposes (EGP), advanced learners in English language teaching departments or preparatory classes of School of Foreign languages at universities. Nevertheless, reading is also a featured skill for learners of English for Specific Purposes (ESP), which is a major branch of English Language Teaching (ELT) field.

In ESP based teaching, the purpose of reading is to get a text-oriented course tailored to the needs of learners who are specialized in different fields. Being a competent reader provides them both necessary reading skills in a foreign language and the knowledge of field-oriented terminology. Such a focus contributes greatly to learners' academic lives and future careers because with the rapid growth of technology, especially the internet, learners have easy access to the written sources of information in every discipline of which seventy percent are estimated to be presented in English. With proficient reading skills, such an access contributes greatly to the learners' independent lifelong learning in their fields during and after the academic life. They can acquire knowledge in their own specialized area through print media in order to improve their skills and talents and to catch up with the latest developments throughout the world in their fields. Thus, ESP learners need to be efficient comprehenders of field-related texts. Regarding the given importance in determining and developing the strategy use of learners, the present study investigates the reading strategies employed by Turkish ESP learners in a technical education context.

Problem Statement

Obligatory ESP courses in technical and technological education contexts such as engineering, technical education and technology faculties in Turkish universities mostly focus on developing learners' reading comprehension of field-focused texts. Most ESP learners in such faculties mainly encounter with written texts during their academic life and work environment. Therefore, they need to to have good comprehension of written materials to achieve success both in their academic lives and in future careers.

Although there is a strong need to develop Turkish ESP learners' reading skills, there is no such study, which aims both to reveal and to improve reading strategies of those learners in a technical education context. Most of the existing studies conducted in ESP field (Demirbulak, 1992; Uluşan, 1995; Kabadayı, 1996; Ertaş, 1998; Tezcan, 1998; Seçen, 2001; Kanik, 2002; Coşkuner, 2002; Kaygan, 2005; Diken, 2006; Erkaya, 2008; Sabuncuoğlu, 2010) have widely aggregated on needs analysis, coursebook evaluation, and curriculum development.

Another significant point is that the treatments in experimental studies on developing reading strategy use of learners (Çubukçu, 2008; Aslan 2007; Arpacıoğlu, 2007; Erkaya 2008) have been applied independently from learners' needs. They are mostly centered upon the strategies researchers suggest to be essential. However, it is very crucial to design the treatment regarding the learners' needs on the basis of the strategies which need to be emphasized. Besides, learners' strategies in the pre-treatment stage have been found out through quantitative data in most studies. However, a thorough analysis of strategy use requires both qualitative and quantitative data on learners' strategies before starting the treatment. Consequently, the present study tries to fill in the gap in the literature.

Aim of the Study

The present study has two aims. The first aim is to be able to find out the existing reading strategy repertoires of Turkish ESP learners in a technical education context. The second aim of the study is to be able to increase the strategy use of these learners through an 8-week strategy-based reading implementation. Therefore, increasing Turkish ESP learners' reading strategy use may serve as an initial step for them in becoming better readers of technical texts, which is the primary target of their curriculum.

Significance of the Study

The present study provides both qualitative and quantitative evidence as to the determination of the reading strategy use of Turkish ESP learners. Such an insight may provide data for the reconsideration of the methods applied and the course objectives of reading courses in ESP settings in Turkish universities. Although the aim of the most of the obligatory ESP courses carried out in Turkish universities is to improve their learners' reading skills to comprehend field related texts, they are lacking in giving importance to the improvement of learners' reading strategy use. However, studies have indicated that reading strategy development is one of the most essential ways to provide learners with better reading comprehension skills. In this regard, the present study incorporates two significant aspects; the importance of reading in ESP and the essentiality of strategy development in reading. As a result, offering a model for the existing demand is inevitable.

At the institutional level, the study may be invaluable for the participants of it since it may have a role in raising their awareness on their reading strategy use and in changing their attitudes positively towards both reading in a foreign language and learning

a foreign language. Consequently, the participants may be provided the first step to take the initiative to be better readers and lifelong learners.

Research Questions

The first research question with its two sub questions guided this study for the purpose of finding out the reading strategy repertoires of Turkish ESP learners before and after the implementation;

1. Which reading strategies do Turkish ESP learners use?

1.1 Which reading strategies do Turkish ESP learners use before strategy-based reading implementation?

1.2. Which reading strategies do Turkish ESP learners use after strategy-based reading implementation?

In order to reveal any significant difference in the participants' strategy use after the implementation, the second research question quided this study;

2. Is there a significant difference in Turkish ESP learners' reading strategy use after strategy-based reading implementation?

Definitions of Terms (In Alphabetical order)

Assisting Strategies: The strategies used by readers to overcome the difficulties they face while reading (Tuncer, 2011).

Constructing Strategies: The strategies which represent a conceptual reflection of the construction of the strategies by the reader within specific cognitive processing (Tuncer, 2011).

ESP: A major branch of English language teaching which is designed to meet specific needs of the learner and is centered on the language, skills, discourse and genres and its content is related to particular disciplines, occupations and activities (Stevens, 1988; Dudley-Evans and St John, 1998).

Management Strategies: The strategies readers do not employ or ignore within the process.

Planning Strategies: The strategies which represent the specific information about readers' strategy use before they start reading (Tuncer, 2011).

Reading Strategies: Mental operations or comprehension processes readers choose and apply in order to make sense of what is being read (Abbott, 2006).

Reading Strategy Instruction: An instructional model which includes two major components as direct explanation of strategies and scaffolding for the purpose of teaching strategies to the learners (Sinatra, Brown and Reynolds, 2001).

Self-regulation Strategies: The strategies used by readers for controlling or modulating when the text becomes difficult to read (Tuncer, 2011).

Strategies: Actions or tactics learners take consciously to achieve a task (Anderson, 1999).

Successful Readers: For the purposes of this study, successful readers are accepted as those who has an academic achievement grade over 70 in English classes taken in the spring semester.

Unsuccessful Readers: For the purposes of this study, unsuccessful readers are accepted as those who has an academic achievement score below 50 in English classes taken in the spring semester.

Visualization Strategies: The strategies which are related with the readers' imaginative abilities they make use of while reading (Tuncer, 2011).

CHAPTER I: REVIEW OF LITERATURE

This chapter of this study consists of four parts. In the first part, reading and its role in language teaching are explained. In the second part, models of reading provided by different researchers in the literature are presented. In the third part reading strategies, their classifications and reading strategy instruction are explained. Finally, in the fourth part of this chapter reading and reading strategies in ESP are presented.

I.1 Reading

Reading comprehension is one of the main purposes ELT and is an important skill to master. In order to highlight the importance of reading comprehension Rivers (1981:147) states that "reading is the most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a means of consolidating and extending one's knowledge of the language". According to Rivers (1981), many EFL learners master the language mostly through printed materials, which are easy to access.

Cohen (1990) indicates that skillful reading can facilitate language learning. In this respect, the more language learners read the larger vocabularies they have (Krashen, 1981). In addition, they do better in grammar tests and they write better (Kim and Krashen, 1997). Supporting this view, Grabe (1986) suggests that extensive reading enables students to improve their writing skills. Chastian (1988) also emphasizes that the reading activities are tools for facilitating communication fluency in other language skills since the significance of reading is meaning. In the view of all aforementioned insights of pioneering researchers, it can be stated that developing reading comprehension results in high overall proficiency in target language (Anderson, 1999). Therefore, in order to accomplish these

important tasks and to to master the language being learnt, improving reading comprehension is viewed as one of the invaluable ways. Hence, a great body of reserach has been conducted on reading and its process in the literature as focusing on reading comprehension in ELT contexts is a great necessity for its learners.

Different researchers have defined reading in various ways in many sources. However, these different definitions cannot be considered as conflicting but they can be viewed as complementary because they emphasize different aspects of what reading is and how it is processed. Widdowson (as cited in Alderson and Urquhart, 1984:25) defines reading as "the process of getting information via print". Similarly, Grabe and Stoller (2002: 9) describe reading as "the ability to draw meaning from the printed page and interpret the information appropriately". When the definitions are taken into account, the purpose of reading is considered mainly as to receive information. Nevertheless, comprehending a text correctly can be the most troublesome way of getting information because reading is a complex activity, which requires the combination of perceptual, linguistic and cognitive abilities of the reader who actively involves in the process. In this regard, Casaneve (1988) identifies reading as a process in which readers actively involve to make sense of the text. Pressley (2002) also emphasizes that reading is beyond decoding a text for it requires readers' not only decoding the text but also interacting with it.

Reading is also described as an interactive cognitive process in which readers interact with the text by using their prior knowledge and cultural background. According to Eskey (1986: 6) reading is a way of "making sense of the world". In this definition, it is explained that readers combine the new information they read in the text with their background knowledge. In addition, Anderson (1985) has provided another most well known definition. Accordingly, reading is considered as the process of constructing

meaning from written texts. It is also viewed as a complex skill, which requires the combination of interrelated sources of information.

I.2 Models of Reading

One of the significant contributions provided by the infinite number of research on reading and its process is different models of reading. These models have been classified in two main groups; metaphorical reading models and specific reading models (Grabe and Stoller, 2002).

I.2.1 Metaphorical Models of Reading

Metaphorical models consist of three most known reading models in the literature; bottom up, top-down and interactive reading models. These three reading models are the "metaphorical explanations of readers' different mental processes in reading comprehension" (Kantarcı, 2006: 10). They provide an insight to understand what readers are doing during a reading process to comprehend the text.

Bottom up reading model is the first and the earliest of all. This models has been provided with various titles by different researchers such as; text-based view (Bernhardt, 1984), decoding (Aebersol and Field, 1997), data-driven process (Anderson, 1999), serial models (Alderson, 2000), linguistic process (Hedge, 2000) and skills-based approach (Brown, 2001). Although different titles have been attributed to the model, the gist of the process mentioned remains the same. In bottom up reading model, readers recognize the smallest textual component at the bottom such as letters and words. Then, they move to the larger components such as phrases, clauses and sentences in order to comprehend the author's intended meaning in the text at hand (Carrell, Devine and Eskey,

1988). The process is considered as “decoding written symbols into their aural equivalents in a linear fashion” (Nunan, 1999: 252). As a result, readers follow a mechanical pattern which is “a piece- by piece mental translation of the input” in the text and do not include their background knowledge in the process. (Anderson as cited in Razı, 2010: 43).

Despite the efforts made for explaining reading process through buttom-up reading model, it has significant shortcomings in terms of providing the comprehensive process of reading. This model advocates, “in order to assign a phonemic value to a grapheme, it is often necessary to know the meaning of the word containing that grapheme” (Smith as cited in Nunan, 1991: 65). However, readers can read the words without knowing their meaning. Moreover, reading process cannot be explained merely relying on decoding because readers may comprehend a text although they do not decode every component of it. Another opposition is that decoding process in which readers identify the smallest linguistic unit to form larger ones in a text makes reading too slow to understand the information (Nunan, 1991). Hence, all these aforementioned arguments have led to the emergence of top-down reading model which is also known as schema theoric model (Alderson, 2000), schematic process (Hedge, 2000), cognitively-driven process (Anderson, 1999), conceptually-driven process (Brown,2001).

Top-down reading model rejects the notion of bottom-up reading model, which views reading process simply as decoding. In contrast to bottom-up model, top-down model views reading as “ the overall construction of meaning from connected or whole texts, and draw on the readers’ and writers’ schemata and personal experinces” (Weaver as cited in Celce- Murcia, 2001: 157). The model advocates that efficient readers make predictions and hypothese about the meaning of the text and forthcoming information. Therefore, it can be stated that the most distinctive feature of this model is the integration

of background knowledge during reading process. This feature is derived from schema theory. According to schema theory, readers utilize both the text and their background knowledge in order to understand. Thus, experiences and knowledge of the language has a crucial role in reading process. Anderson (1999) indicates that readers' ability to relate their background knowledge and the information provided in the text results in successful comprehension. The concept of background knowledge or prior knowledge in this model refers to life and educational experiences, knowledge of how first and second language works, knowledge of organizations of text in rhetorical aspect and cultural knowledge (Anderson, 1999). Due to these various knowledge readers possess, they do not need to decode every symbol while reading. However, top-down reading model has also limitations. According to Eskey (1988), this model can be effective for skillful, fluent and autonomous readers and may not work properly for less proficient learners. Similarly, Nara (2003) indicates that readers need to be good at grammar and to have large vocabulary knowledge in order to employ this model successfully. Moreover, Nassaji (2003) states that reading is a multivariate skill and requires the interaction of both bottom-up and top-down processing.

The flaws in both reading models and their failure in explaining the reading process comprehensively have led to the emergence of the interactive reading model. This model advocates that in order to comprehend a text readers need to utilize both features of bottom-up and top down processing because reading is a multifaceted process and it cannot be explained thoroughly by excluding any of its facets. According to interactive reading model, two types of interaction are required. The first interaction is between the reader and the text, which means that during reading process readers bring their background knowledge related to the text. The second interaction is between bottom-up and top down

processes, which implies that readers' language competence, background knowledge of the text and affective state interact with text structure, task and contexts (Goodman, Watson and Burke, 1996). Consequently, readers need both decoding and interpretation skills for successful comprehension.

I.2.2 Specific Reading Models

Besides metaphorical reading models, there are also other specific models of reading provided in the literature. Some of the well-known specific reading models are psycholinguistic guessing game model, interactive compensatory model, language experience approach and ACTIVE reading model (Grabe and Stoller, 2002). These models have provided invaluable insights for reading process.

Psycholinguistic Guessing Game Model is developed by Kenneth Goodman (as cited in Razı; 2010) who refuses bottom up model's common sense notion that views reading as a precise process depending on exact, detailed and subsequential perception and identification of letters, words and larger language units. According to Goodman (1988) readers are message encoders and they do not need to read every letter or word in order to comprehend a text. They merely need to succeed three steps that form the foundation of Psycholinguistic Guessing Game Model. These steps are hypothesizing, sampling, and confirming and all three steps are based on readers' background knowledge.

Although being popular, Goodman's model has been questioned and objected by some researchers because of its drawbacks (Nassaji, 2003). Firstly, the model does not based on a learning theory. Secondly, the model focuses on proficient readers. As a result of this, it excludes the poor readers from the process. Therefore, its applicability in all levels is not possible. Another opposition made by Nassaji (2003) is that the model

overvalues the higher level/top down abilities such as interpretation by using contextual, background knowledge, and largely undervaluing the contribution of the lower level / bottom up abilities such as identification in the reading process. Similarly, Wallace (2002) also indicates that this model supports the excessive use of top down process abilities and discourages the use of bottom up process abilities. Despite aforementioned flaws of the model, it has made great contributions in understanding the process of reading and in the development of top down model.

Interactive Compensatory Model is an extension of Rumerhalt's (1977) interactive model of reading which advocates that bottom up and top down processes operate simultaneously or alternately during reading (Kim and Goetz, 1994). Supporting this view, Stanovich (1984) has added a compensatory hypothesis to Rumerhalt's interactive model in order to explain readers' developmental and individual differences in their use of context to facilitate word recognition while reading. Compensatory hypothesis indicates, "a process at any level can compensate for deficiencies at any other level" (Stanovich, 1980: 36). According to this reading model, when a reader has a deficiency in a lower level process, it can compensate for another process at a higher level. Hence, such a model of reading provides a more accurate conceptualization of reading performance that do strictly top down or bottom up model (Stanovich, 1980: 32). As a result, a poor reader who has inadequate decoding skills may rely on semantic, contextual factors for word recognition while comprehending a text (Stanovich, 1984).

In this model of reading, skilled readers' word recognition when reading a text is assumed to be very rapid. However, less skilled readers need for the use of contextual information in word recognition to make amends for decoding difficulties. Even though the interactive-compensatory hypothesis predicts greater dependence on semantic, contextual

information in word recognition by poor readers who are deficient in decoding, top-down models of reading indicates a different view of reader differences in comprehension. Goodman (1976) advocates that less skilled readers' comprehension difficulties are "the result of their exclusive reliance on visual cues, ignoring syntactic and semantic information" (Kim and Goetz, 1994: 180). Supporting this assumption, some studies have shown that good readers make better use of available context. Isakson and Miller (1976) indicates that skilled readers use semantic and syntactic cues in order to integrate the meanings of individual words into sentence meaning, whereas less skilled/poor readers mostly ignore the cues and treat words as individual entities. In sum, while several studies have verified Stanovich's hypothesis (Ehrlich, 1981; Goldsmith-Phillips, 1989; Juel, 1980; Stanovich, Cunningham and Feeman, 1984) some other studies have failed to verify it (Bowey, 1984, 1985; Simons and Leu, 1987).

Another reading model, Language Experience Approach (LEA), is a whole approach used in L2 reading instruction. It is based on activities and stories developed from personal experiences of learners because the approach advocates that use of familiar texts facilitate reading, which results in better comprehension and more accurate determination for the difficulty level of vocabulary and grammar (McCormick, 1988; Ediger and cites in Celce-Murcia, 2001). Moreover, by using the texts originated from learners' experience, the approach meets two important criteria for the appropriateness of reading materials. Firstly, the reading materials used for foreign language learners must be at a comprehensible level of complexity. Secondly, they must be interesting to readers (Krashen and Terrell, 1983).

In LEA, materials are learner-generated and all skills -reading, writing, listening and speaking- are integrated so that learning is personalized, communicative and

creative (Hall, 1970). The transcription of an individual learner's personal experience is the most basic form of the LEA. It begins with a conversation prompted by a picture, a topic the learner is interested in, a reading text, a short video, or an event the learner has participated in. This helps learner match the topic of the text and his schemata so that it is easier for the reader to make the sense of it. Then, the learner gives an oral account of a personal experience related to that topic.

In most forms of the LEA, the experience is transcribed as the learner dictates it, without transcriber corrections to grammar or vocabulary. The transcriber can be the teacher or a more proficient learner and should be supportive of what the learner says. The transcriber may also help the learner expand or focus the account by asking questions. By the reason of the trasncriber's role, the relationship between the transcriber and learner should be well established before the application of LEA. Errors occured during the actual writing are corrected in the revising and editing stages of the writing process. Therefore, it keeps the focus on the content rather than the form of what is written and provides concrete evidence for the learner's language development over time (Heald-Taylor, 1989).

Although the LEA has been developed primarily as a tool for reading, this technique can be also used successfully to develop listening, speaking, and writing as well. In this sense, it can provide a basis for discussion, writing, and reading. As students see their personal experiences transcribed into the written word, they also gain a greater understanding of the processes of writing and reading. Thus, they are able to make the bridge to reading and writing independently. LEA is considered as a very creative and glorious way to harmonize language teaching with its content (Anderson, 1999).

ACTIVE Reading Model is developed by N.J Anderson (1994) for second language classes. It aims to combine theory and practise for successful reading

comprehension because Anderson states that readers can make a great progress and improvement in all academic areas when they have strengthen reading skills (Anderson, 1994). The method consists of eight strategies. These strategies are; activating prior knowledge which stands for letter "A" in the name of the reading model, cultivating vocabulary which is represented by letter "C", teaching for comprehension which is represented by letter "T" , increasing reading rate which stands for letter "I", verifying reading strategies which is substituted by letter "V" and evaluating progress which is represented by letter "E" (Anderson, 1994: 177). Anderson (1994: 177) adds two more strategies; bulding motivation and planning, and planning for instruction and selecting appropriate reading materials. In this model, each element is indicated to overlap with at least one other element, which "emphasizes the interactive nature of the reading process".

Activating prior knowledge, which is the first strategy in the model, is viewed as a great contributer to reading comprehension. Activating readers' schemata through pre-reading activities, providing related prior knowledge and even in some cases removing the negative effects of the background knowledge are considered very essential in the model. The second stategy that is cultivating vocabulary underlines the importance of the contibution of readers' vocabulary knowledge while comprehending a text. However, Anderson (1999) states that learning vocabulary in a very short time is not very possible and knowing a great number of vocabularies may not necessarily result in comprehending a text successfully. Therefore, it is advocated, "regular, steady study of vocabulary to reading can provide consistent development and growth toward the goal of increasing the knowledge of words and how they word" (Anderson, 1999: 21).

According to the third strategy, readers' monitoring their comprehension makes them more successful in comprehension. The *monitoring* concept in this model

refers to readers' evaluating their own predictions and making adjustments during reading. Hence, the third strategy, which is teaching for comprehension in the model, reflects metacognition in reading process. The fourth strategy, which is increasing reading rate, stands for the notion of automaticity. According to Anderson (1994), increasing reading rate of the learners may help them use their cognitive comprehension skills more effectively. In order to increase reading rate it is stated that readers can be asked to recognize the graphic stimuli in the text. In short, paragraphs readers can practise chunking the graphic stimuli. They can also be asked to finish reading with time restraints. Increasing reading rate are considered to be crucial for learners who are preparing for standardized tests and are required to read a vast amount of printed materials.

For the fifth strategy of the model, Anderson (1994) recommends implementing reading stratgy training. Learning how and when to use reading strategies enables readers to achieve meaning. Therefore, varying reading strategies is considered essential in this model of reading. According to Anderson (1994), qualitative or quantitative assesments should be included in reading process. Therefore, evaluating process is suggested as the sixth strategy in the model. Quantitative data can be gathered via placement tests in-class reading quizzes or final examinations. On the other hand, qualitative data can be gathered via students' responses to questionnaires about reading strategies, teacher observations, and verbal reports from students regarding their cognitive process during reading. Evaluating process is considered an essential part of reading because it helps readers understand their progress and improvement in reading. As a result, this may increase their motivation to continue progressing in the skill.

In the seventh strategy, which is building motivation and planning, Anderson (1994) mainly distinguishes two reasons for reading; to get information and for pleasure. In

the model, it is suggested that if readers integrate a reason in reading, their motivation may increase. The final strategy of the model is planning for instruction and selecting appropriate reading materials. Planning for instruction, which is reviewed as eight steps, includes determining teaching objectives, materials to be used, using warm up section, introduction to the new lesson, presentation, practice, evaluation and application. In selecting appropriate reading materials, it is emphasized that texts need to be interesting for readers and they should be carefully selected in terms of their diffculty level.

To sum up, metaphoric and specific reading models are the inevitable results of vast number of research that attempts to understand the reading process of learners and to provide them with better comprehension skills. The models have not only revealed readers' various mental activities during the process but also provided explicit reading models for language instruction. In parallel with the research on models of reading in the field, the aspects of better readers and how to become a better reader have also been investigated. (Waldman as cited in Razi, 2010) emphasizes that reading a great amount of texts makes the reader better and faster. However, skilled reading is a complex and unitary process and readers are engaged in different reading models in order to achieve the intended message of the writer. Therefore, the focus of research has shifted to reading strategies for the last four decades.

I.3 Reading Strategies

Research on strategies in the field of ELT has started under the influence of cognitivist learning theory, which focuses on how human mind thinks and how it learns (Williams and Burden, 1997; Hismanoğlu, 2000). The leading attempt for the research is considered to be Aaron Carton's *The Method of Inferencing in Foreign Language Study*

which was published in 1966 (Hismanoğlu, 2000). This publication has accelerated the studies to be conducted on the subject (Naiman et al., 1978; Wenden and Rubin, 1987; O'Malley et al 1985; Oxford, 1990; O'Malley and Chamot, 1990; Seliger, 1991; Stern, 1992; Anderson, 2002).

Many researchers have provided various definitions in order to explain the term *strategy*. Rubin (1975: 43) describes language-learning strategies as "the techniques or devices which a learner uses to acquire knowledge". According to Oxford (1990: 23), strategies are "certain behaviours that makes learning easier, faster, more enjoyable, more effective, and more transferrable". Another definition by Cohen (1990: 75) explains strategy as "actions of storing, memorizing, remembering and application of grammar rules that aim to enrich the use of foreign language". Similarly, Woolfolk (1998) also describes strategies as a plan employed to manage the aims. O'Malley and Chamot (1990: 1) indicate that learning strategies are "special ways of processing information which enhance comprehension, learning, or retention of the information".

In the literature, strategies have also been examined in skill base as listening strategies,speaking strategies,writing strategies and reading strategies because during a language learning process learners use strategies in all four skills. Hence, not exploring strategies in skill base may cause failure in language learning (Ertekin, 2006). In this regard, one of the most frequently investigated skills in strategy research is reading. Many researchers in the field highlight the significance of using strategies during reading process. Cohen (1990) states that reading is an active process, which requires identification and interpretation skills. In such a process, readers are the active participants of the process. They need to interact with the printed material to construct meaning. Inaddition, they need to solve the comprehension problems by using strategies (Silberstein, 1994).

Thompson (1987) also indicates that one of the dynamics of active and fluent reading is efficient application of reading strategies because it facilitates the comprehension. Moreoever, according to Allen (2003) and Rubin (1987) the efficient use of strategies in reading provides learner with autonomy and creates independent readers since they can self direct their own individual reading. Therefore, readers need to know effective application of strategies within reading process.

Although a large body of research has been conducted on reading strategies, researchers have not agreed on an exact definition. This has two main reasons. Firstly, the term has been used both in the research of L1 and foreign language learning settings (Cohen, 1998; Razı, 2010). Secondly, the process is mentally complex (Kantarcı, 2006). However, all the definitions provided have shed invaluable insights on the subject. Among the researchers providing definitions for reading strategy, Garner (1987) describes sthem as deliberate and planned activities which active readers use in order to overcome cognitive failure. Similarly, Anderson (1991) indicates that strategies are the tactics, which readers use deliberately when their usual techniques are inadequate to comprehend the text. Carrel, Gajdusek and Wise (1998) also define reading strategies as the actions, which readers choose and control to achieve their goals. More recently, Abbott (2006: 637) states that reading strategies are "mental operations or comprehension processes that readers select and apply in order to make sense of what they read". Another definition views reading strategies as deliberately used tactics by readers to get the intended meaning from a text comprehend texts better (O'Malley and Chamot, 1990; Duffy, 1993; Paris et al., 1991, Liu; 2010).

All the definitions highlight the fundamental aspect, which is consiously selection of the strategies by the readers. However, several researchers indicate that the

strategies function best when they are used without deliberation (Pressley, Forrest-Presley and Elliot-Faust as cited in Paris et al., 1991). Similarly, Noda (as cited in Razı, 2010: 85) points out that "it is very common for readers to be unaware of the strategies they use while reading a text". Janzen and Stoller (1998) also states that expert readers use strategies both conciously and unconciously. This disaccord on the notion of deliberate or unconsious application of reading strategies is one of the prominent reasons of disagreement on the definition of reading strategies.

Related to the disaccord, another reason of the disagreement emerges; the difficulty of differentiating the notion of *skill* and *strategy*. In some studies, the terms are used interchangeably (Uzunçakmak, 2005). However, in some other studies (Paris et. al., 1991; Paris, Wasik and Turner, 1991; Urquhart and Weir, 1998) a distinction is made between the two terms. According to this distinction, while skill is regarded as the techniques, which are applied unconciously due to repeated practice and expertise in order to process information, strategy is stated as "actions selected deliberately to achieve particular goals" (Paris, Wasik and Turner, 1991: 611). Another distinction between skill and strategy is that the skills are "text oriented" but strategies are "reader-oriented" (Urquhart and Weir, 1998: 96). In this regard, strategies are conscious tactics of readers chosen according to their cognitive default. On the other hand, the use of skills emphasizes textual features (Kantarcı, 2006).

In spite of failing to meet on a common ground about the terminology, numerous studies have been conducted on reading and strategy use. Undoubtedly, they all have provided invaluable insight not only about the nature of reading and the process readers go through while comprehending the text but also about the ways to create skillful readers in language learning. In the light of the previous literature, the present study

identifies the term “reading strategies” as “mental operations or comprehension processes readers select and apply in order to make sense of what they read” (Abbott, 2006: 637).

I.3.1 Classification of Reading Strategies

Many researchers (Hosenfeld, 1977; Johnston, 1983; Block, 1986; Barnett, 1988; Carrell, 1989; Cohen, 1990; Block, 1992; Janzen, 1996; Alexander, Murphy, Woods, Duhan and Paker, 1997; Young and Oxford, 1997; Brantmeier, 2000; Brown, 2001, Abbott, 2007) have classified reading strategies in binary groups. In this regard, Hosenfeld (1977) has categorized reading strategies as main-meaning line strategies and word solving strategies. Johnston (1983) has classified them as assisting comprehension strategies and monitoring and adapting strategies. Block (1986) also indicates two categories for reading strategies as general strategies and local strategies. The former group involves recognizing text structure, distinguishing main ideas, monitoring comprehension, correcting behaviour, focusing on textual meaning as a whole and reacting to the text. On the other hand, the latter group consists of rereading, paraphrasing, questioning the meaning of words, clauses and sentences.

Barnett (1988) has proposed another binary classification as text level and word level strategies. Text level strategies are also named as global or top-down strategies, and word level strategies are named as local or bottom-up strategies. In this category, using background knowledge, reading the title, predicting, skimming, and scanning the text are mentioned. On the other hand, identifying word families and grammatical categorization of words are listed as the examples of word level strategies. Similar categorizations have been made by Carrell (1989), Brantmeier (2000), Brown (2001), Young and Oxford (1997) and Abbott (2007) as global (or top-down) strategies and local (or bottom-up) strategies.

Another binary classification stated by Cohen (1990) is global strategies and specific strategies. While guessing new words from the context is listed as a global strategy, performing interparagraph analysis to guess words is indicated as an example of specific strategies. Similarly, Block (1992) has categorized reading strategies in two groups as meaning based and word-level. Moreover, Alexander, Murphy, Woods, Duhan and Paker (1997) have named them under the title of deeper level and lover level strategies. Finally, Janzen (1996) has categorized the reading strategies as comprehensive and fix-up strategies.

Despite the fact that these binary categorizations have been made under different nomenculature such as bottom-up and top-down, local (or analytic) and global, data driven and concept-driven, form-based and meaning-based, decoding and meaning-getting (or interpretation), language-based and knowledge-based, word-level and text-level, lower level and higher level (or deeper level), micro and macro, it is important to state that they reflect either strategies for the comprehension of smaller linguistic units as in bottom-up processing or larger ones as in top-down processing and the terms are used interchangeably (Ertekin, 2010).

When all aforementioned strategy categorizations are examined, it is essential to highlight that reading strategies which are mostly dependent on ortographical functions of language such as paraphrasing, rereading, identifying grammatical categories of words and word families, using dictionary to look up an unknown word, translating a word or a phrase, breaking lexical items into parts questioning the meaning of a word, clause or sentence, matching key words to key visuals are listed under bottom up (or local, word level, micro, decoding, data-driven etc) strategies (Uzunçakmak, 2005; Razı, 2010; Ertekin, 2010). On the other hand, reading strategies such as utilizing background

knowledge, drawing inference, prediction of the upcoming information, recognizing text structure and main idea,theme or concept, monitoring comprehension, summarizing, changing reading speed, previewing, skimming, focusing on textual meaning as a whole are listed under the top-down (or global, concept-driven, higher level, macro, knowledge-based etc) strategies (Uzunçakmak, 2005; Ertekin, 2010).

Some researchers (El Koumey, 2004; Urquhart and Weir, 1998) have indicated another binary classification as cognitive and metacognitive reading strategies. There exists a common distinction between cognitive and metacognitive strategies. Cognitive reading strategies involve "direct manupilation" and "the transformation of language" (Chamot, 1987: 72; Oxford, 1990: 43). According to Brown and Palinscar (1982), cognitive strategies have to do with individual tasks and require the material to be manipulated or transformed in order to enhance comprehension. Aebersold and Field (1997) maintain that while reading, people's minds constantly engage in different complex processes. They start by processing information at the sentence level by using bottom-up strategies. They focus on identification of a word's meaning and its grammatical category on sentence structure, on text details, and so forth. During this process, readers constantly check their own schemata to see if the new information fits by using top-down strategies such as background knowledge and prediction (Barnett, 1988; Carrell, 1989).

Ertekin (2010: 20) lists cognitive strategies as "using titles to predict the text content, relating pictures or illustrations to the text content, skimming, taking notes, translating, using a dictionary, using background knowledge, summarizing, rereading, and visualization". Therefore, it can be stated that cognitive reading strategies can involve both bottom up and top down strategies. By contrast, metacognitive strategies function to monitor and regulate cognitive strategies (Flavell, 1979). These include "checking the

outcome of any attempt to solve a problem, planning one's next move, monitoring the effectiveness of any attempted action, testing, revising, evaluating one's strategies for learning, evaluating what one has learnt, " (Baker and Brown, 1984; 354). For instance, skimming a text for key information requires a cognitive strategy. However, evaluating how effective is skimming can be defined as a metacognitive strategy.

Other categorizations of reading strategies have also been provided by other prominent researchers in the field such as Sarig (1987), O'Malley and Chamot (1990, 1994), Oxford (1990), Pritchard (1990), Mohktari and Sheorey's (2002). According to Sarig's (1987) findings about comparative research on L1 and L2, four types of reading strategies exist. In the first category, there are technical aid strategies such as skimming, scanning, using glossary. In the second category, there are clarification and simplification strategies such as decoding meanings of words, paraphrasing, and syntactic simplification. The third category consists of coherence detection strategies such as identification of text type and use of prior content schemata. Finally, the last category is monitoring strategies such as mistake correction, slowing down, summarizing, comparing main ideas and identification of misunderstanding.

O'Malley and Chamot (1990, 1994) have provided a taxonomy that defines strategies in three categories as cognitive, metacognitive, and social/affective. This categorization depends on the emprical studies on learners' strategy utilization. Pritchard (1990) defines five types of reading strategies. These are developing awareness, accepting ambiguity, establishing intrasential ties such as; gathering information, paraphrasing, reading ahead, extrapolating, and using background knowledge. Oxford (1990) categorizes the reading strategies in two main groups as direct and indirect strategies. Direct reading strategies consist of three main strategy groups; memory strategies, cognitive strategies and

compensation strategies. Memory strategies help learners store and retrieve information by creating mental linkages (such as grouping, associating, or placing new words into a context), applying images, structure reviewing, and employing action such as using mechanical techniques or physical response. Cognitive strategies help learners understand and produce new language. Practicing, analyzing and reasoning, taking notes, summarizing and highlighting can be listed in cognitive strategies category. The final strategy group in direct strategy categorization is compensation strategies that help learners use the language by using linguistic clues even when they have knowledge gaps.

Indirect reading strategies consist of metacognitive strategies, affective strategies and social strategies. Metacognitive strategies help learners coordinate their own reading process. Organizing, identifying the purpose of the reading task, setting goals and objectives, self-evaluating or monitoring, seeking for practice opportunities can be listed under metacognitive strategies category. Affective strategies are the tactics used by readers in order to overcome or control their negative emotions, attitudes and low motivation level. Using music, encouraging oneself, using laughter, lowering anxiety, making positive statements, or rewarding yourself can be listed in this category. The last group of indirect strategies is social strategies. This group emphasizes that langauge is a social behaviour and it requires other people's involvement in the process. Therefore, cooperating with others such as peers or proficient learners of the language, asking for clarification or verification, developing cultural understanding are listed in this category.

Another taxonomy depends on Mohktari and Sheorey's (2002) Survey of Reading Strategies (SORS). They have investigated both the reading strategies of adolescent and adult learners of English as a second language and how frequent the strategies are used while the paticipant read an academic material. The research has laid

out three types of strategies; global, problem solving and support strategies. While global strategies are similar to metacognitive strategies, problem-solving strategies are similar to cognitive strategies.

Global Reading Strategies are defined as intentional ve carefully planned techniques. These strategies are used by the learners to monitor and manage their reading. Reading with a specific purpose, previewing the text in terms of its length and layout, using graphs, tables and figures for better understanding, reading the text for a specific purpose and deciding whether the text is suitable for the aim, skimming the text properties, distinguishing important and unimportant information in the text, using contextual clues, making critical analysis, checking understanding while reading, predicting the content and checking the predictions are listed under Global reading strategies.

Problem-solving strategies are defined as the actions readers employ while studying directly with the text. These strategies are utilized when the reader face with a problem while trying to comprehend the text. Actions such as reading slowly and carefully, going back when the concentration is lost, adjusting the reading rate according to the difficulty level of the text, focusing much more on what is being read, stopping to think, thinking about what has been read, visualization of knowledge in order to gain help in remembering, rereading to improve comprehension, guessing unknown words are listed under problem solving strategies.

Finally, support strategies are defined as the support mechanisms that helps readers to comprehend the text such as note taking,translating difficult parts into mother tongue, reading aloud, underlining important information, using dictionary, explaining difficult parts with other words,establishing relation between different parts of the text,

asking questions to oneself which should be answered in the text, thinking both in English and mother tongue.

All aforementioned classifications in the literature have tried to provide a deeper understanding of the multifaceted and multifactorial experiences that readers go through within any reading process in order to achieve a successful comprehension. Besides, such classifications also pave the way for creating better comprehenders by outlining the important aspects of the process.

I.3.2 Research on Reading Strategies

A great body of research on reading strategies has been conducted in the literature. Some of these studies have been conducted to reveal the differences between good and poor readers in terms of their cognitive process, use of reading strategies and strategic behaviours.

Hosenfeld (1977) has identified the strategy use of successful and unsuccessful readers of second language (L2) via think-aloud protocols. The findings of the study have indicated that successful readers focus on the content, keeps the meaning of the passage in mind, read in broad phrases, skip the words, which are considered unimportant and have a positive self-concept. However, unsuccessful readers cannot keep the meaning of the sentences in their mind, read in short phrases, prefer word-by-word processing, rarely skip unimportant words, and have a negative self-concept. Similarly, another study conducted by Block (1992) has revealed that successful readers use more top down strategies to comprehend the overall meaning. However, poor readers deal with lexical problems in order to decode the text at the local level. Oxford et al. (2004) have reported similar

findings. This study has indicated that good readers employ top-down strategies quiet often whereas poor readers rely on mostly bottom- up strategies.

Block (1986) has also identified the strategies of L2 users via think-aloud protocols. Successful readers, who are called integrators in this study, have been observed to integrate information. Moreover, they are aware of the text structure, deal with the message of the text, and monitor their comprehension. On the other hand, unsuccessful readers who are called non-integrators are not able to integrate information or understand the text structure.

Pandaron and Waxman (1988) have investigated the relationship between 82 English as a second language (ESL) students' cognitive reading strategy use and their performances of reading strategies. The findings have indicated that students' perception of cognitive strategies predict their reading comprehension.

Anderson (1991) has investigated differences in reading strategy use of 28 Spanish ESL students via think-aloud protocols. The findings of the study have shown that there is no significant difference in the strategy use of low and high proficient learners during reading activity. They seem to use the same strategies. Therefore, Anderson highlights that of using a strategy successfully and applying it strategically are more important that knowing what strategy to use. Similarly, Uzunçakmak (2005) have conducted a research to investigate the reading strategy use of successful and unsuccessful readers. The findings of this study have also revealed that readers do not differ significantly in their reported use of reading strategies. However, in the stimulated recall of reading task performance it has been observed that successful readers employ more top-down strategies than less successful ones.

Yiğiter, Sarıçoban and Gürses (2005) have identified the reading strategies of good readers in pre-, during-, and post reading stages. The findings have revealed that poor readers are not able to brainstorm ideas about the title of the text or illustrations. Besides, poor readers do not use pre-reading activities effectively. On the other hand, good readers pay attention to descriptions, word phrases, and illustrations in during reading stage. Moreoever, they find ways to interpret the message and characterize people and events in the text. In addition, good readers can guess the meaning of unknown words and expressions. However, poor readers cannot use the clues in the text efficiently and cannot guess the meaning of unknown words. Finally, in post reeading stage good readers are able to summarize, use reflection, and comment on encoded message of the auther to comprehend the text as a whole.

Tuncer (2011) has conducted a research with 292 (M=76/F=216) freshman, sophomore, junior and senior students at ELT department in Mersin University. In his study, reading strategy use of the participants regarding their sex was investigated. The results have indicated that female students use more strategies than male students do. Tuncer (2011) have also investigated reading strategy use of the participants regarding their proficiency level. In this regard, the results have indicated that advanced learners used all reading strategies more frequently than intermediate learners did.

Ebrahimi (2012) has conducted a research on reading strategy use of Iranian postgraduate English students in ESL context. The findings have revealed that advanced proficiency students use more reading strategies than less proficient ones. Moreover, an overlap in the types of reading strategy use in both L1 and L2 has been revealed.

All these aforecited studies in the field have demonstrated that good readers mostly rely on top down reading strategies. They can use contextual clues and background

knowledge to interpret the intended meaning. Besides the number of strategies they employ is more than poor readers do. However, poor readers mostly rely on bottom-up reading strategies. They rely on word-by-word processing in other words mostly decoding skills to comprehend the text. They seldom skip the unknown words. Besides, they do not use background knowledge, the contextual clues and illustrations effectively.

Despite all the mentioned aspects revealed by reseachers, a counter argument about the efficient top-down strategy use of successful readers exists. According to this counter argument, poor readers encounter more linguistic problems during reading. Therefore, they have difficulties in understanding the text on the word level in contrast with the good readers. Good readers, on the other hand, can comprehend the words and phrases better than the poor ones. As a result, poor readers may rely on mostly the top-down strategies like guessing word meaning and activating background knowledge in order to grasp the overall meaning (Wade, 1990). On the other hand, good readers do not need to rely on top-down strategies to make predictions due to their efficient decoding skills (Dijk and Kintsch as cited in Grabe, 1988). Examining all these views on the features of successful readers, researchers have stated on who a strategic reader is.

According to Anderson (1991) and Oxford (2001), a distiction such as good strategies and bad strategies does not exist. They state that what makes strategies effective is the application of them by the readers. As Kantarcı (2006: 20) has indicated, "the element which differentiates good readers' strategy use from that of their less successful peers is the recognition of when and how to use appropriate reading strategies in different combinations flexibly according to their changing needs and task demands".

Grabe and Stoller (2002: 195) have also proposed, "Strategic readers understand the goals of an activity, have a range of well-practiced reading strategies at

their disposal, apply them in efficient combinations, monitor comprehension appropriately, recognize miscomprehension, and repair comprehension problems effectively."

I.3.3 Reading Strategy Instruction

Disclosure of the strategic behaviours of succcessful readers have led the way to the development of different strategy instruction models aiming to teach strategies to the learners, especially who have low comprehension abilities. Although researchers (Palinscar and Brown, 1984; Chamot and O'Malley, 1987; Guthrie et al., 1998) have proposed different models with their own principles, the models encapsule the two major characteristics of strategy instruction, which are direct explanation and scaffolding. Direct explanation has four components which requires the instrutors to explain learners the benefits of using strategies and motivate them, to to describe the strategies and explain the learners how to use the strategies, to provide various contexts to practice the strategies they have learned, and finally guide learners to evaluate their strategy use (Sinatra, Brown and Reynolds, 2001). The second characteristic, scaffolding, represents assisting students to overcome the difficulties they face while applying the strategies and "at later stages gradually decreasing this support through guidance, practice, and feedback to help students use the strategies independently" (Uzunçakmak, 2005: 25). The findings of the studies on reading strategy instruction have revealed the fact that the strategies are teachable (Chamot and O'Malley, 1994; Janzen and Stoller, 1998). Hence, the effects of strategy training on learners' reading comprehension have been being investigated for the last few decades.

Kıroğlu (1995) has conducted a research at chemsitry and mathematics departments in 19 Mayıs University in his masters' thesis. In the study, the effect of SQ3R (Survey, Question, Read, Recite and Review), which is one of the meaningful learning

strategy instruction model, on reading comprehension was investigated. The findings have shown a significant difference between the experimental and control group in terms of their achievement and level of recall.

In his doctoral dissertation, Kıroğlu (2002) has investigated the effects of chunking which is one of the reading strategies on reading comprehension. The study was conducted at ELT department of 19 Mayıs University. The results of the study indicated that the achievement scores of the poor readers in experimental group significantly different from those of control group.

Kantarcı (2006) has conducted a study on the impact of a top-down reading strategy training which lasted for three weeks. The findings have revealed a slight decrease of bottom-up reading strategy use of the participants according to pre and post scale results. Moreover, the findings have indicated that the means of top down strategy use display significant differences. However, it is important to state that, the think aloud protocols, which were conducted with five volunteers, have revealed that the participants still have the tendency to use bottom-up strategies while reading.

Arpacıoğlu (2007) has conducted a research on the effect of combined strategy instruction on reading comprehension. The experimental group in the study has shown a significant improvement on the reading test applied at the end of the strategy instruction, which lasted for four weeks. Moroever, in the think aloud protocols the participants in the experimental group has used a broad range of reading strategies.

Salatacı and Akyel (2002) have investigated the effect of metacognitive reading strategy instruction on strategy use and reading comprehension by gathering both quantitative and qualitative data. The findings have revealed a positive impact on reading comprehension and on the use of top-down strategies. The participants have used less

bottom-up but more top-down strategies after the instruction. Moreover, participants have commented more on their reading behaviour after the instruction.

Çubukçu (2008) has determined the effectiveness of direct instruction of metacognitive strategies on 130 teacher trainees in an English department. Pre- and post-test scores of the participants have revealed a statistically significant difference between the control and experimental group. In the experimental group, vocabulary development is higher after the strategy instruction. Moreover, the results of the reading comprehension test of experimental group are higher than the control group after the instruction.

Razı (2010) has conducted a study on the effect of metacognitive strategy application on reading comprehension of pre-service teachers in an ELT department. The findings have revealed that metacognitive strategy application has increased reading comprehension significantly when compared to the traditional teaching of reading. Moreover, it results in increasing the awareness of the participants about their metacognition.

I.4 Reading and Reading Strategies in English for Specific Purposes

As English has become the accepted international language of technology, science, and commerce, new learners of English with specific needs have been created. In this regard, the focus has been shifted on learners' needs, which have become equally paramount as the methods employed disseminate linguistic knowledge. Hence, specific courses with specific purposes have been developed to fulfill those needs. In the literature, many researchers have defined English for specific purposes (ESP). Mackay and Mountford (1978) have indicated that the term ESP is generally used to refer to the teaching of English for a clear utilitarian purpose. El-Minyawi (1984) has highlighted that

ESP courses are based solidly upon the need to express the facts and ideas of some special subjects after which the student should be able to read the specialized subjects confidently and speak about them fluently.

Hutchinson and Waters (1987) have defined ESP as an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning. In the literature, some characteristics of ESP have also been defined. Stevens (1988) has stated that ESP consists of English language teaching designed to meet specified needs of the learner. Moreover, it is emphasized that ESP is related in content to particular disciplines, occupations, and activities.

Dudley-Evans and St. John (1998) have modified the characteristics to form their own. They have proposed that ESP is designed to meet specific needs of the learner and it is centered on the language, skills, discourse and genres appropriate to these activities. They have also stated that ESP may be related to or designed for specific disciplines and may use a different methodology from that of general English. Moreover, it has been stated that ESP is likely to be designed for adult learners who are having tertiary education or in a professional work situation. However, it may also be designed for learners at secondary school level (Dudley-Evans and St. John, 1998).

According to Carter (1983), there are three types of ESP. The first type is English as a restricted language. The language used by air traffic controllers or by waiters can be given as the examples of English as a restricted language. The second type is English for academic and occupational purposes. In this category English for science and technology, English for Business and Economics, English for social studies, English for academic purposes, and English for occupational purposes can be listed. Lastly, the third type is English with specific topics. This type concerns with anticipated future English

needs of, for example, scientists requiring English for postgraduate reading studies, attending conferences or working in foreign institutions. Reading skill has a fundamental role in ESP. As Carrell (1988) indicates, in high education or in other programs, reading becomes the pioneer among all the other skills of the English language. The reason for this essentiality is that most theoretical knowledge comes from sources such as textbooks written in English, articles published in the international journals, magazine, and the Internet. Besides, learners of different majors at university are also exposed to long texts, which are written for native speakers of the language or for people who have good command of the language. Carrell et al. (1989) also implies that the ability to read and comprehend the written text is considered as one of the most important factors of success in the university learning. Moreover, ESP students continue to use reading skill even after they graduate. In this regard, it can be stated that new academic and occupational knowledge they need to improve their professional lives is mostly accessible in printed materials in English. Hence, their proficiency or deficiencies in reading skill have a great impact on their future academic and professional progress. As Savaş (2009) highlights in his study on the role of functional academic literacy in ESP teaching, the use of strategies such as demonstrating, outlining, using visuals, rephrasing, scaffolding, linking new information to learners' previous knowledge can make input comprehensible and context-embedded while presenting new information. Therefore, in consideration of aforecited reasons and of the research, which has proven the positive impact of strategic reading on comprehension, it can be stated that ESP learners need to use the reading strategies effectively in order to become better comprehenders of written texts.

Many studies on reading strategies conducted in the field of ESP have provided invaluable insight about the essentiality of effective reading strategy use of ESP learners.

They have also displayed similar results specifically when ESP learners are exposed to strategy training. The research by Dhieb- Henia (2003) has investigated the reading process of ESP learners. The participants of the study are 62 students who are studying biology at university. As the result of her metacognitive strategy training with those students, she has observed that the participants' proficiency in reading research articles related to their academic field has increased after the strategy training.

Dreyer and Nel (2003) have also conducted a research on strategic reading instruction. The findings has indicated that 131 students who were taking ESP course in a South African university got higher scores from the reading texts after the instruction.

Martinez (2008) has conducted a research at chemistry and engineering departments in Oviedo University. The participants are 157 Spanish nonnative ESP students. This study, which examines the metacognitive strategy use of the participants, has shown that the strategy awareness of the students whose mother tongue is not English has increased. Moreover, it has indicated a higher reported use of problem solving and global reading strategies among Spanish ESP learners. In addition, females have displayed significantly higher frequency of strategy use. They have also tended to use support strategies more than men do.

Similarly, Oranpattanachi (2010) has also conducted a survey in order to assess the metacognitive awareness of reading strategies among Thai pre-engineering high and low proficiency readers. The results have shown that high reading ability students use strategies more frequently than low-reading ability students do. In addition, high proficiency readers utilize top down strategies significantly more than the low proficiency readers do.

Verdugo (2006) has conducted another research on strategy training with 40 students who were taking technical English course at a computer department in Madrid University. Findings of the study have indicated that the experimental group got much higher scores than control group.

Shen (2008) has conducted a study on reading strategy use of ESP students in China Medical University. The findings have revealed that the participants are not metacognitively aware readers in the content area reading. They are not skilled in using effective reading strategies to overcome reading problems they encounter. High achievers use strategies more frequently. Moreover, they employ global reading strategies. The only strategy, which low achievers use much higher than high achievers do, is the use of the English-Chinese dictionary.

Erfani, İranmehr and Davari (2011) have investigated the role of visualization strategy on ESP reading comprehension ability of 60 Iranian students at chemistry department in Damghan University. The findings of the study have revealed that the experimental group showed a significant difference in the reading test applied at the end of a 12-week instruction.

Malcolm (2009) conducted a survey of reading strategy use with 160 first year and fourth year medical students in Bahrain in order to compare perceived reading strategy use of readers at varying English proficiency levels and years of study. While all students reported high usage of overall reading strategies, significant differences were found in perceived use of individual reading strategies such as ‘translating from English to Arabic’. In fact, low proficiency level students and those in their first year reported translating strategy more, while upper year students translated less and used more global strategies.

In the wake of all these studies in ESP field, it can be stated that good or high proficiency ESP learners utilize top down (global) strategies more than poor or low proficiency readers (Martinez, 2008). In addition, good readers display higher frequency of strategy use when compared to poor readers. The studies have also indicated that effective strategy use has a considerable impact on ESP reading comprehension. When learners in ESP context are trained through strategy instruction, they displayed significant increase in their achievement scores as the natural result of the improvement in their reading comprehension skill. In conclusion, in language learning contexts whether the purpose is specific or general, the research has proven that effective strategy use in reading process and providing learners with strategy instruction result in better comprehension of written material and create better comprehenders.

CHAPTER II: METHODOLOGY

This chapter presents the methodology of the study including the participants, data collection tools, data analysis methods and strategy-based reading implementation (SBRI).

II.1 Participants of the Study

The participants of this study are 62 (47 M/ 15 FM) sophomore students in three different departments at Tarsus Technical Education Faculty, Mersin University, Turkey. Out of these 62 students, 20 students are from Control Department, 21 students are from Electronics Department, and 21 students are from Computer Department. 15 out of total participants are females; 10 of them are in Control Department and five of them are in Computer Department.

Aim of the departments is to qualify the students by providing them the field knowledge of electronic systems, control systems and computer systems. Students take ESP courses in their freshmen, sophomore, and junior years. The objective of English language courses in those departments is both to enable learners to comprehend technical texts, and to enhance their technical vocabulary knowledge mainly related to their majors. The participants' English proficiency levels change from elementary to pre-intermediate.

II.2 Data Collection Tools

In order to find out the answers to the research questions of this study, both qualitative and quantitative data were gathered via reading strategy scale: OBSKÖ, think aloud protocols, evaluative feedback forms, and semi-structured interviews.

II.2.1 Okuma Becerisi Stratejileri Kullanım Ölçeği (OBSKÖ) / The Scale of Reading Comprehension Strategy Use (SRCSU)

Okuma Becerisi Stratejileri Kullanım Ölçeği (OBSKÖ), which is also titled as The Scale of Reading Comprehension Strategy Use (SRCSU), has been adapted and developed from Deane and Pereira-Laird's (1997) Reading Strategy Use (RSU) scale by Erkuş, Yaman and Tuncer (as cited in Tuncer, 2011). In addition, during the adaptation process, some items of OBSKÖ have been taken from a number of scales developed by other researchers (Akyol & Ulusoy, 2009; Mokhtari, 2002; Saricoban, 2002).

OBSKÖ is specifically chosen for the present study. There are many essentials for this selection. Firstly, assessing learners' reading strategies demands valid and reliable self- report instruments. However, when considering the inventories or scales that are widely used to examine the reading strategies of Turkish EFL learners (Deane and Pereira-Laird, 1997; Taraban et al., 2004; Mokhtari and Reichards, 2002; Sariçoban, 2002; Mokhtari and Sheorey, 2002; Schmitt, 1990; Akyol and Ulusoy, 2010) their reliability/validity, proximity of factor loadings among items and high reliability values display inadequacies (Tuncer, 2011). Scales with high reliability values may indicate that they contain only one factor; and yet the strategies need to be distinct and cannot be grouped in one factor (Tuncer, 2011). Secondly, reading strategies may not operate similarly in different cultures because some distinctions exist in linguistic and cultural backgrounds. Such distinctions may influence the assessment for revealing learners' strategies. Hence, culturally adopted and developed scales need to be used to identify the strategies. OBSKÖ, in that case, is a reliable scale, which was specifically developed for Turkish EFL learners and shows a high reliability with its six factors.

OBSKÖ is a five point Likert-scale ranging from "1" (asla bana uymaz/never suits me) to "5" (kesinlikle bana uyar/ definitely suits me). The scale consists of 28 item statements and of six sub strategy factors (strategy groups). The first factor is constructing strategy group representing "a conceptual reflection of the construction of the strategies by the reader within specific cognitive processing" (Tuncer, 2011: 32). The second factor is planning strategy group. This group gives "specific information about readers' strategy use before they start reading" (Tuncer, 2011: 32). The third factor is management strategy group representing "the strategies readers do not employ or ignore within the process and the fourth factor is assisting strategy group representing "the strategies readers employ to help them overcome the difficulties they face while reading" (Tuncer, 2011: 32). The fifth factor is visualization strategy group representing "readers' use of strategies related with their imaginative abilities they make use of while reading" (Tuncer, 2011: 32). Finally, the sixth factor is self-regulation strategy group representing "the strategies for controlling or modulating when the text becomes difficult to read" (Tuncer, 2011: 33). In the scale, items representing management strategy group (3, 9, 15, 21, and 26) are negatively worded (see Appendix A). The reliability of the scale is .82, which displays reliability overall. The validity of the developed scale was field tested with a sample of university students (N=292) who were freshman, sophomore, junior and senior level student. In this study, the scale, OBSKÖ, is administered to the participants both before and after the implementation as pre and posttest.

II.2.2 Think Aloud Protocols (TAPs)

Think-aloud is a technique providing deeper understanding and close observation of the hidden thoughts readers go through during reading process and it is

widely used as a data collection instrument in area of language learning research linked to a cognitive perspective. In the present study, TAPs are used as a data collection tools both before and after the implementation for a close observation and determination of the participants' actual reading strategy use in an ongoing process.

Before the actual protocols participants receive a training session with a sample text, titled "Crash Test Dummies" from Technical English 2 (Bonamy, 2008) (for the text see Appendix B). In the actual TAPs, text titled "Meet The Famous Robots: ASIMO and The Robosaurus" from Tech Talk students' book (Hollett and Sydes, 2005) and "The Greatest Engineering Project Ever" from Business Basics (Grant and McLarty, 1996) are used (see Appendix C). During both first and second protocols, 12 volunteered participants take part. 12 participants are comprised of four participants from each department who are chosen according to their academic achievement scores in English classes of spring semester. Two out of four participants from each department have achievement scores between 70 and 100, and for the purpose of this study, they represent successful readers (SRs). Two out of four participants from each department have achievement scores under 50 and they represent less successful readers (LSRs) in the study. As a result, six out of 12 participants are SRs and the other six participants were LSRs. All the participants are given these two technical texts text titled "Asimo and the Robosaurus", which is an elementary level text and "The Greatest Engineering Project Ever" which is a pre-intermediate level text due to the differences in their proficiency level. Moreover, during the protocols the researcher takes observation notes. The protocols are conducted in the participants' native language, Turkish. All the protocols are audio recorded.

II.2.3 Evaluative Feedback Forms

In the present study, two types of "participant-to-instructor" evaluative feedback forms are administered. The first type is collected each week during the implementation (see Appendix D). There are two purposes of collecting it. The first purpose is to raise awareness of the participants during the process. The second purpose is to gather the participants' opinions about the implementation at the end of each week. The second type of form is collected at the end of the 8-week implementation. The purpose of the second type of forms is to gain participants' overall evaluation of the whole process they are involved.

II.2.4 Semi-structured Interviews

In the present study, semi-structured interviews are also conducted at the end of the implementation. Interviews are conducted with the twelve volunteered students who have also participated in the think-aloud protocols. The participants are asked five questions (see Appendix E). Participants are asked to reflect on the implementation phase, to evaluate themselves and the process. The aim of the semi-structured interviews is to search for students' perceptions. Similar to the think-aloud protocols, the interviews are also conducted in the participants' native language, Turkish and all the interviews are audio recorded.

II.3 Data Analysis Methods

In the present study descriptive statistics analysis, Wilcoxon Signed Ranks analysis, Paired Samples T Test, and content analysis are conducted as data analysis methods.

The participants' reading strategy repertoires are revealed through OBSKÖ and think-aloud protocols both before and after the implementation. For the analysis of OBSKÖ, descriptive statistics including the mean values and the percentage scores of each strategy group are calculated via SPSS 11.5 programme. In the analysis of the TAPs, frequencies of the strategies used by the participants are calculated. In order to find out whether there is a significant increase in the participants' reading strategy use after the implementation, Wilcoxon Signed Sank analysis and Paired Samples T Test are conducted depending on the normality test results. In addition, these analyses are conducted for not only the total pretest and posttest scores of the participants but also the total scores of each strategy group in pretest and posttest.

In the analysis of TAPs, the researcher has prepared a reading strategy list based on the item statements in OBSKÖ (see Appendix F). This list is used as a standard to analyze the type of the strategies and their frequencies during TAPs (see Appendix G). The consistency between the scale items and think-aloud codes is maintained in order to overcome the possible problems in the comparison of these two data collection tools. Finally, for the analysis of evaluative feedback forms and semi-structured interviews, content analysis is applied.

II.4 Strategy-based Reading Implementation (SBRI)

The researcher has designed SBRI based on the two fundamental principles of strategy instructions, which are direct explanation and scaffolding (Sinatra, Brown and Reynolds, 2001). The whole process of the study including the first data gathering before SBRI, the analysis of the data, text selection, the implementation, the second data gathering, and the analysis of the second data after SBRI is conducted in spring semester of

2010 -2011 Academic year, which consists of fourteen weeks. In addition, the researcher is also the instructor of the departments. The weekly plan of the study is illustrated in Table 1.

Table 1

The weekly plan of the study

SPRING SEMESTER WEEKS	PROCEDURE WEEKLY
WEEK 1	Participants' absence
WEEK2	OBSKÖ was applied as pretest
WEEK3	First TAPs were performed
WEEK4	Analysis of TAPs and pretest
WEEK5	Text determination
WEEK6	Implementation
WEEK7	Implementation
WEEK8	Implementation
WEEK9	Implementation
WEEK10	Implementation
WEEK11	Implementation
WEEK12	Implementation
WEEK13	Implementation
WEEK14	OBSKÖ was applied as posttest Second TAPs were performed Interviews were performed

SBRI has started in the sixth week and ended in the thirteenth week of the spring semester. Each week the participants study two technical texts specifically chosen according to their majors. The aim of selecting the texts appropriate for the majors of the participants is to increase their interests to the sessions. The departments have a four-class-hour session every week and each class hour is 40 minutes. The study on one text lasts 80 minutes. The texts are selected from different textbooks (for the list of sources see Appendix H). The selected texts are illustrated in Table 2.

Table 2

The weekly distribution of the texts selected for each department

Implementation Week	Control D.	Electronics D.	Computer D.
1	-Homeworking -Wind Turbines	-Homeworking -Wind Turbines	-Homeworking -Types of Computer
2	-Parts of a Computer -The Car that Drives Itself	-The Car that Drives Itself -Engineering	-Parts of a Computer -Printers
3	-Laptop Computers -Mobile Phones	-Laptop Computers -Mobile Phones	-Laptop Computers -Mobile Phones
4	GPS: Lost Never Again -Found	GPS: Lost Never Again -Found	-GPS: Lost Never Again -Found
5	--Robot Skin Computer: Heaven or Hell?	-Robot Skin -Electronics in the Home	-Computer: Heaven or Hell? -Robot Skin
6	-Everyday Uses of Computer -Electronics in the Home	-Electric Circuits -Mechanisms	-Everyday Uses of Computer -Computer Mouse
7	-How Electricity is Generated -Mechanisms	-How Electricity is Generated -Fault Finding	-Input Devices -How to read a monitor Ad
8	-Tracking of Hank Shaw -Alexander Graham Bell and Telephone	-Tracking of Hank Shaw -Alexander Graham Bell and Telephone	-Storage Devices -Bill Gates

The activities including the selected strategies are designed by the researcher before SBRI have started. The activities designed for each text aim to emphasize and to train the selected strategy groups, which are revealed as moderately, and the least frequently used ones according to the analysis results of OBSKÖ as the pretest. In the selection the strategy groups integrated in SBRI, the researcher has determined a percentage cut point for the OBSKÖ pretest results. The percentage cut point is 70. The strategy groups under the cut point (revealed as constructing, visualization, planning, and self-regulation strategy groups) are selected as the strategy groups to be integrated into the implementation. The strategy groups above the cut point (revealed as assisting and

management strategy groups) are excluded. The activities are presented as pre-, while- and post-reading activities. This general framework, which has significant impact on students' comprehending the text, is one of the major applications in reading instruction. Pre-reading activities enable access to the background information, stimulates students' interest and set up students' expectations. While-reading activities guide learners through the text, make sense of understanding complex structures and difficult concepts. The goal of post-reading activities is to help learners remember what they have individually created in their minds from the text. Considering all aforementioned positive impacts the researcher has designed the text related activities as pre-, while and post activities (for a sample of an adapted text see Appendix I).

CHAPTER III: RESULTS AND DISCUSSION

This chapter presents the analysis results of the data gathered and the discussion of the results in relation to current literature. The results are introduced in three sections considering the order of the research questions of the study.

III.1 Results and Discussion of the Descriptive Statistics Analysis of the Pretest and the Frequency Analysis of the First Taps

OBSKÖ, 5 points likert-type and 28 items, is administered to 62 learners as pretest so as to find out the participants' existing strategy repertoires before SBRI. By this means, the reading strategies used by Turkish ESP learners before SBRI are addressed. For the analysis of the pre-test, descriptive statistics analysis including mean values and percentage scores are computed for each reading strategy group. The strategy groups are rank ordered from the most frequently used group to the least frequently used one considering their percentage scores. The results of the descriptive statistics analysis of the pretest are presented in Table 3.

Table 3

The results of descriptive statistics analysis of the pretest

Rank	Reading Strategy Groups	Min	Max	Mv	sd	P (%)
1	Assisting Strategy G.	7	20	15.87	2.67	79.35
2	Management Strategy G.	9	24	18.75	3.45	75.00
3	Visualization Strategy G.	6	19	13.93	3.26	69.55
4	Constructing Strategy G.	9	25	17.01	3.67	68.04
5	Planning Strategy G.	11	31	23.54	4.09	67.25
6	Self-regulation Strategy G.	5	14	9.90	2.40	66.00

As illustrated in Table 3, assisting strategy group is ranked as the first reading strategy group. The minimum score the participants get from this strategy group is seven

and the maximum score is 20. In addition, the mean value of the participants' score for this strategy group is revealed as 15.87 and the percentage score is calculated as 79.35. In this regard, the pretest results indicate that Turkish ESP learners report using assisting strategies the most frequently before SBRI. This result indicates that the participants tend to use the strategies, which helps them overcome the difficulties they face while reading, the most frequently. This may be a result of their low proficiency levels and inadequate linguistic knowledge causing barriers for their fully comprehension of the texts at hand. Thus, they may use assiting strategies such as rereading to overcome their comprehension problems.

The second most frequently used strategy group is revealed as management strategies displaying a percentage of 75. In this strategy group, the minimum score the participants get is nine and the maximum score is 24. The mean value for management strategies are revealed as 18.75.

Visualization strategies are ranked as the third strategy group with a percentage of 69.55. The descriptive statistics analysis indicates that the participants get 6 as the minimum score and 19 as the maximum score from this strategy group. The mean value of the participants' score is found out as 13.93. This result indicates that the participants use the strategies representing their imaginative abilities moderately. This may result from their habitual way of processing the text. They may not be accustomed to underlining or taking notes, which is also revealed during the first TAPs as only four of the participants are observed using underlining or circling difficult parts and necessary information in the text.

In the fourth rank, constructing strategy group is revealed according to the pretest results. The minimum score the participants get from this strategy group is nine and

the maximum score is 25. The mean value for this strategy group is calculated as 17.01 and the percentage score is revealed as 68.04. This result reflects that the participants are not very efficient in constructing strategies within their cognitive processes during reading. Planning strategy group is ranked as the fifth group with a percentage of 67.25. The participants get 11 as the minimum score and they get 31 as the maximum score from this strategy group in the pretest. The mean value is calculated as 23.54. This result indicates that the participants do not tend to use the strategies very frequently before they start reading. This may result from their lack of awareness about the use of planning strategies such as previewing, skimming, determining the text length or text lay out. In this regard, they may not have any knowledge about how to use these strategies and their benefits. Instead, they may merely focus on detailed reading of the text.

Finally, the sixth strategy group is revealed as self- regulation strategy group with a percentage of 66. The minimum score the participants get from this strategy group is five and the maximum score they get is 14. The mean value for self-regulation strategy group is calculated as 9.90 according to the pretest results. In this regard, self-regulation strategies are found out to be the least frequently used reading strategy group by Turkish ESP learners before SBRI. This result indicates that the participants use the strategies for controlling and modulating the least frequently such as adjusting the speed of reading according to the text itself, or text type and using different reading styles when they do not understand the text or when it gets difficult. This may result from their lack of knowledge about different reading styles such as skimming, scanning, or detailed reading, and about the differences between these styles. In addition, they may not pay attention to the text type since they may not see it related with comprehension.

The frequency analysis is conducted for the first TAPs in which 12 volunteers are participated in order to find out the participants' strategy use during an actual reading process. After computing the frequencies for each strategy group, the groups are rank ordered from the most frequently used group to the least frequently used one. The frequency analysis results of the first TAPs are presented in Table 4.

Table 4

The Frequency Analysis Results of the First Taps

RSG	CSN	ELECTRONICS D.		CONTROL D.		COMPUTER D.		TF
		SRs	LSRs	SRs	LSRs	SRs	LSRs	
AS	S10	-	-	1	-	1	-	
	S16/22	12	18	11	16	13	16	105
	S27	9	3	3	-	2	-	
MS	S3	-	-	-	-	-	-	
	S9	9	7	8	3	8	5	
	S15	7	4	6	-	12	-	97
	S21	5	2	7	-	8	-	
	S26	2	-	1	-	3	-	
CS	S1	7	4	6	2	5	3	
	S7	3	-	4	-	7	-	
	S13	-	-	-	-	-	-	89
	S19	5	2	7	-	8	-	
	S24	5	3	11	4	3	-	
VS	S5	7	4	6	-	12	-	
	S11	-	-	-	-	-	-	
	S17	5	4	3	-	2	-	86
	S23	6	10	5	7	7	8	
PS	S2	3	-	-	-	-	-	
	S4	-	3	2	-	1	-	
	S8	3	2	-	-	3	-	
	S14	-	-	-	-	-	-	17
	S20	-	-	-	-	-	-	
	S25	-	-	-	-	-	-	
	S28	-	-	-	-	-	-	
SRS	S6	-	-	-	-	-	-	
	S12	1	-	-	-	-	-	1
	S18	-	-	-	-	-	-	
TF		89	66	91	32	95	32	395

According to the frequency analysis of the first protocols, the most frequently used reading strategy group by Turkish ESP learners is revealed as assisting strategy group

(TF=105) including *rereading when the text gets difficult or when it is not understood* (S16/S22), *deciding between more important and less important information while reading* (S27), and *trying to go back to what is being read when the concentration is lost* (S10). This result indicate a consistency with the pretest results.

When the TAPs results are examined on the basis of each strategy in assisting strategy group, it is observed that the participants use *rereading* (S16 and S22) the most frequently during an actual reading process. Using rereading with higher frequency may result from the participants' lack of linguistic knowledge as stated for the pretest results. Due to this lacking, they may need to reread the sentences, which they cannot comprehend at once. In addition, it is also observed that *rereading* is employed more frequently by LSRs in all three departments before SBRI. This may result from LSRs' low proficiency level when compared to SRs'. Having a low proficiency might cause them to encounter more barriers while comprehending a text than SRs do. Therefore, in order to understand the text at hand, LSRs may feel the need to reread the sentences more frequently than SRs who have better linguistic knowledge and better comprehension skills.

The TAPs results also indicate that S10 is used by only one of the SRs from Control and Computer departments. SRs from Electronics department do not use S10 during protocols. In addition, none of the LSRs from all three departments uses S10 while reading. This may result from the conditions of the protocols. Firstly, the participants are accepted into the protocol room one by one so this may prevent any possible interruption in their concentration. Secondly, the participants are audio recorded during the protocols. Thus, they may focus on reading the texts with a higher concentration. S27 is used by all SRs from each department. Moreover, they use S27 more frequently than LSRs. None of the LSRs from Control and Computer departments uses S27 during the protocols. In this

regard, when the total frequency results of SRs and LSRs' strategy use are compared, the results indicate that SRs use assisting strategies more frequently than LSRs. In addition, SRs' strategy use shows variety when compared with LSRs' strategy use during reading. As stated in the previous studies conducted in the literature (Grabe and Stoller, 2002; Vacca, 2002), successful readers can use a wide variety of strategies while performing a reading task. On the other hand, less successful readers are not as effective in varying their strategies as successful readers do in accordance with their purpose.

According to the first TAPs results, the second most frequently used reading strategy group is revealed as management strategies (TF=97) including *caring for tidying up the reading environment (S3), having the need to examine the text from different angles for better comprehension* (S19), *dealing with outlining the main points of the text in mind* (S26), *dealing with linking the previous knowledge with what is being read* (S21), and *dealing with underlining the important information while reading* (S15). This result also indicates a consistency with the pretest results.

When the strategies in management strategy group are examined, S3 is not used by any of the participants although the desk at which the participants attend the protocols is untidied with a few books and some papers intentionally by the researcher. However, this may result from the respect to the authority figure in the protocols since the researcher conducting the protocols is also the English language instructor of the participants. As a result, the participants may think that tidying the desk can reflect disrespectfulness to the authority figure. For that reason, they may not touch the papers and books on the desk. Other results revealed for management strategy group are that S9 is used by both SRs and LSRs. In addition, SRs use S9 more frequently than LSRs. S15 and S21 are used by both SRs and LSRs in Electronics department. However, in Control and

Computer departments, S15 and S21 are only used by SRs. Also, the frequency analysis indicates that S15 and S21 are used more frequently by the SRs. S26 in this strategy group is only used by SRs in all three departments. None of the LSRs uses S26 during the protocols. Therefore, the results indicate that SRs use management strategies more frequently than LSRs during the protocols. Moreover, as revealed for assisting strategy group, SRs' strategy use also shows variety for management strategy group.

Constructing strategy group including *learning new words by picturing them in mind in a situation which they occur* (S13), *trying to understand what is being read by forming pictures in mind* (S1), *telling what is being read in one's own words and picturing them in mind to help one remember* (S7), *reading by comparing the information presented in the text with the information already exist in mind* (S19), and *stopping once in a while and asking oneself questions to see how well what is being read is understood* (S24), is ranked as the third strategy group according to the first TAPs frequency analysis results (TF=89). This result indicates an inconsistency with the pretest results since the participants report using visualization strategies as the third strategy group in their pretest results. The inconsistencies between the results of the two data collection tools in terms of constructing and visualization strategies may result from the differences between the actual use of a strategy during an ongoing process and simply reporting the use of it on a scale. The actual process requires the use of appropriate strategies whenever needed. Knowing a strategy may not result in successful application of it during reading. As Baker and Brown (1984) indicate, the strategic reading requires both declarative knowledge, which represents *knowing that* and procedural knowledge *knowing how*. This result supports some studies (Singhal, 2001) which indicate a lack of correlation between the participants' reported use and the actual use while reading.

For constructing strategy group, the first TAPs frequency results indicate that S13 is not used by any of the participants during the protocols. S1 is used by both SRs and LSRs. In addition, SRs use S1 more frequently than LSRs. S7 is used merely by SRs in all three departments. S19 is used by both SRs and LSRs in Electronics department. However, it is only used by SRs in Control and Computer departments. Finally, S24 is used by SRs and LSRs both in Electronics and Control departments; however, in Computer department, it is only used by SRs during the protocols. When the total frequencies for SRs and LSRs are examined, SRs are observed using constructing strategies more frequently than LSRs. Similar to previous findings, SRs' constructing strategy use shows variety when compared to LSRs'. In addition, SRs use constructing strategies more frequently than LSRs.

Visualization strategy group including *circling or underlining the necessary information in the text to help one remember* (S5), *taking notes for better comprehension while reading* (S11), *trying to read the text from the beginning to the end and trying to underline the difficult words and phrases while trying to understand the main idea* (S17), and *dividing the text into phrases or pieces to comprehend the complicated sentences* (S23) is ranked as the fourth group in the frequency analysis of the first TAPs. This result is inconsistent with the pretest results displaying constructing strategies as the fourth group as mentioned previously.

In visualization strategy group, S11 is not used by any of the participants during reading. On the other hand, S23 is used by both SRs and LSRs in all three departments. S5 and S17 are used by both SRs and LSRs in Electronics Department but it is only used by SRs in Control and Computer department. Excluding S23, all reading strategies in this group are used more frequently by SRs. Similar to previous findings, SRs strategy use shows variety in visualization strategy group as well. However, it is observed

that S23 was used more frequently by LSRs. This may result from LSRs' mostly relying on word-level processing (bottom-up processing) due to their low proficiencies. The studies (Carrell et al. 1998; Grabe and Stoller, 2002; Vacca, 2002) have indicated that successful readers try to get the gist of the text even when they do not know some of the words in the context However, less successful readers mostly focus on word-level strategies. That is, they try to comprehend the text mainly relying on word-by-word decoding. When they do not comprehend the text, they reread the sentences and try to guess the meaning depending on single words they know in the context. However, successful readers try to get the gist of the text or infer the general meaning using linguistic clues. This result supports the similar results of the studies about reading strategy use of ESP learners (Martinez, 2008). In this regard, successful readers use their general knowledge; focus on the overall meaning of text (Block, 1986). However, poor readers rarely do any of these things (Brantmeier, 2002). Similarly, Hosenfeld (1977) has also reported that successful readers keep the meaning of the passage in mind while reading, skip words unimportant to the meaning of the sentence, read in broad phrases, use context to determine word meaning. Poor readers, on the other hand, translate sentences, lose the general meaning of the passage, and rarely skip words.

Planning strategy group including *reading the whole passage quickly to get the general idea before reading it thoroughly* (S2), *going back to the point where one get lost* (S4), *previewing the text to see what it is about before reading it* (S8), *setting goals before starting to read* (S14), *determining the text type after examining and skimming it through* (S20), *skimming through the text by taking its length and layout into consideration* (S25), and *reading the text with specific purposes in mind* (S28), is ranked as the fifth group according to the TAPs frequency analysis. This result is consistent with the pretest results.

When the TAPs results are examined, planning strategy group displays a very low total frequency (TF=17) when compared with the first four strategy groups. In this group, S14, S20, S25 and S28 are not used by any of the participants during reading. This may result from the participants' lack of awareness about planning strategies. They might not know how to use them or they might not have any knowledge about them at all since they have not received any strategy training. In planning strategy group, S2 is only used by one SR in Electronics department. None of the participants in Control and Computer departments uses S2. On the other hand, S4 is used by LSRs in Electronics department, SRs in Control and Computer departments. S8 is used by both SRs and LSRs in Electronics department and only by SRs in Computer department. These findings also indicate that SRs use planning strategies more frequently than LSRs.

The sixth strategy group according to the TAPs frequency analysis is revealed as self-regulation strategies including *adjusting the speed of reading according to the text type* (S6), *adjusting the speed of reading according to the text being read* (S12) and *changing reading style when the text is not understood* (S18). During the protocols, merely one SR in Electronics department uses S12 only once (TF=1). Hence, the least frequently used reading strategies are found out as self-regulation strategies according to the frequency analysis of the protocols before SBRI. In this regard, this result is consistent with the pretest results, which also display self-regulation strategies as the least frequently used reading strategies by Turkish ESP learners.

Overall, the results of the pretest and first TAPs analyses indicate that the most frequently used reading strategies by Turkish ESP learners before SBRI are assisting strategies and the least frequently used ones are self-regulation strategies. The second most frequently used reading strategies by Turkish ESP learners are management strategies. In

addition, moderately used reading strategies are found out as visualization, constructing and planning strategies before SBRI. However, there is a difference in the strategy use of successful readers and less successful readers during an ongoing reading process. In this regard, successful readers are observed using reading strategies more frequently than less successful readers during the actual reading. In addition, successful readers' strategy uses show variety when compared to less successful readers'. These findings support the research conducted on the subject (Carrell et al. 1998; Grabe and Stoller, 2002; Green and Oxford as cited in Oxford et al., 2004; Vacca, 2002) highlighting better strategy use of successful readers both in frequency and in variety when compared to less successful ones. However, the reason for the difference in the strategy use of successful and less successful readers can also be verbalizing ability and anxiety level (Cohen, 1990). Successful readers may have a better verbal ability and they may express the strategies they use during the protocols better. In addition, successful readers' anxiety level may be lower than less successful ones during the protocols. On the other hand, less successful readers may not be able to express themselves appropriately or clearly due to their lack of verbalizing and high anxiety level, because low achievers usually avoid reading textbooks due to the difficulties they face frequently during reading and they cannot prevent the fear of using strategies (Shen, 2008). In this regard, low proficiency of the participants may cause them to have a higher anxiety level than high achievers have and this may affect their use of strategy during the protocols.

III.2. Results and Discussion of the Descriptive Statistics Analysis of the Posttest and the Frequency Analysis of the Second Taps

OBSKÖ is administered to the same 62 participants as posttest so as to identify the participants' reading strategy repertoires after SBRI. By this means, the reading strategies used by Turkish ESP learners after SBRI are addressed. For the analysis of the posttest, the same procedure in the pretest analysis is applied. The mean values and the percentage scores for each strategy group in the scale are calculated and they are rank ordered from the most used strategy group to the least used one. The results are presented in Table 5.

Table 5

The results of descriptive statistics analysis of the posttest

Rank	Reading Strategy Groups	Min	Max	Mv	sd	P (%)
1	Assisting Strategy G.	11	20	16.30	2.61	81.50
2	Planning Strategy G.	20	35	27.79	3.77	79.4
3	Visualization Strategy G.	9	20	15.83	2.42	79.1
4	Management Strategy G.	12	25	19.74	2.67	78.96
5	Self-regulation Strategy G.	8	15	11.77	1.65	78.46
6	Constructing Strategy G.	13	24	18.87	2.61	75.48

As illustrated in Table 5, assisting strategy group is ranked as the first strategy group according to the posttest scores. Hence, the most frequently used reading strategies by the participants are revealed as assisting strategies after SBRI as it was before SBRI. This result indicates that the most frequently used reading strategies by the participants after SBRI are the strategies, which help them overcome the obstacles they have during reading in order to comprehend the text better. The reason for this result may be the length of the implementation since 8 week cannot be considered as a long term and a great amount of change in the participants' proficiency level cannot be expected in such a short

period. Therefore, assisting strategies may remain the most frequently used strategy group even after the implementation In addition, an increase is observed when the pretest and posttest scores of assisting strategy group were compared. According to the posttest results, the minimum score the participant get from this strategy group is 11 and the maximum score is 20. The mean value for this strategy group is revealed as 16.30 (pretest mean value= 15.87) and the percentage score is calculated as 81.50, which indicates a higher rate in use (pretest percentage score= 79.35). This increase may be the result of the strategy training the participants have received for 8 weeks since such trainings raises the awareness of the learners about strategies and their uses (Malcolm, 2009). Therefore, the participants may report using assisting strategies more frequently after the implementation.

The second most frequently used reading strategy group is revealed as planning strategies according to the posttest results. In this sense, a change is revealed in the second most frequently used reading strategies of the participants after SBRI. This may result from the consciousness-raising characteristic of the strategy instructions. This characteristic may cause a raise in the awareness of the pariticipants' planning strategy use and its contribution to better comprehension of the texts. In this regard, the implementation may lead them to use these strategies more frequently than before. In addition, an increase in the use of this strategy group is revealed according to the posttest results. In this sense, the minimum score the participant get is 20 and the maximum score is 35. The mean value for planning strategies is revealed as 27.79 (pretest mean value= 23.54) and the percentage score is found out as 79.4, which indicates a higher rate in use after SBRI (pretest percentage score= 67.25).

Visualization strategies are ranked as the third reading strategy group according to the posttest results. Hence, this strategy group remains at the same rank as

revealed in the pretest rank ordering. However, this strategy group also displays an increase when the mean value and percentage scores are examined. The participants get nine as the minimum score and 20 as the maximum score from this strategy group. The mean value of the participants' score is found out to be 15.83 (pretest mean value= 13.93). In addition, the percentage score is found out as 79.1 which indicates an increase in the use of this strategy group (pretest percentage score= 69.55).

Management strategy group is revealed as the fourth group according to the posttest results. This strategy group indicates a decrease in its rank order after SBRI. However, when the mean value and percentage score of the group are examined, an increase in the participants' use is revealed. In this sense, the posttest results indicate that the minimum score the participants get from this strategy group is 12 and the maximum score is 25. The mean value for this strategy group is calculated as 19.74 (pretest mean value= 18.75) and the percentage score is calculated as 78.96, which display an increase after SBRI (pretest percentage score= 75). Self-regulation strategy group is ranked as the fifth group with a percentage of 78.46. The participants get eight as the minimum score and they get 15 as the maximum score from this strategy group in the posttest. The mean value is calculated as 11.77 (pretest mean value= 9.90) and the percentage score is found out as 78.46 (pretest percentage score= 66). These results indicate an increase in the use of this strategy group after SBRI.

Finally, the sixth reading strategy group is determined as constructing strategy group. In this regard, this strategy group is revealed as the least frequently used reading strategy group by the participants after SBRI. However, when the analysis results are examined, this strategy group also displays an increase on the basis of the participants' use. In this sense, the minimum score the participants get from this strategy group in the

posttest is 13 and the maximum score they got is 24. The mean value for self-regulation strategy group is calculated as 18.87 (pretest mean value= 17.01) and the percentage score is found out as 75.48 (pretest percentage score= 68.04) according to the posttest results.

The posttest results indicate an increase for each strategy use after SBRI. This may result from the implementation in which the participants took part for 8 weeks. In this regard, the explicit emphasis of the strategies and integrating them into reading activities may help the participants to self-evaluate themselves in their own strategic behaviours and to observe how each strategy works during reading. Hence, they may have changes in their views about the use of some strategies they thought they were employing before SBRI. They may realize that they do not use these strategies during an ongoing process as frequently as they think or they may start using some strategies, which can be useful for their comprehension after the implementation. The answers in the interviews also support this finding as in the following excerpts.

> **Participant 6**: This implementation has helped me to see which strategies I use the most and which are beneficial for my reading. Before these strategy lessons I thought I was a student who took notes a lot but after the implementation, I realized that I did not use this strategy very often. Instead, I saw that I used previewing and skimming the most frequently.
>
> **Participant 12**: After this implementation, I started to look at the pictures more carefully and more frequently. Before, I was not looking at them at all.

As the participants stated, they experience a change in their views on strategy use after they practice them during SBRI. In addition, the participants experience the benefits of some strategies, which they did not use before SBRI. Thus, it can be stated that their awareness about strategy use may increase. In addition, Participant 12's statement and the

high increase in the use of planning strategies indicate that the participants may start to examine the text also with a global view in addition to local since planning strategies such as skimming, previewing belong to top down processing. They help learners to examine the text as a whole. In this regard, raising the awareness for using the two processes in an interaction can be regarded as one of the positive impacts of SBRI.

The second TAPs are also conducted with the same 12 volunteers after SBRI to find out the participants' strategy use during an ongoing reading process. The results of the second TAPs are presented in Table 6.

Table 6

The Frequency Analysis Results of the second TAPs

RSG	CSN	ELECTRONICS D.		CONTROL D.		COMPUTER D.		TF
		SRs	LSs	SRs	LSRs	SRs	LSs	
AS	S10	1	2	1	1	2	-	
	S16/22	11	16	9	11	13	18	194
	S27	7	5	5	4	5	5	
VS	S5	15	11	6	5	11	9	
	S11	-	-	-	-	-	-	
	S17	8	9	4	6	4	6	158
	S23	10	12	9	10	8	15	
MS	S3	-	-	-	-	-	-	
	S9	7	10	8	13	15	11	
	S15	15	11	6	5	11	9	154
	S21	6	3	7	4	6	3	
	S26	-	-	-	-	4	-	
CS	S1	-	-	8	5	2	-	
	S7	17	8	10	4	9	6	
	S13	-	3	-	-	-	-	150
	S19	6	3	7	4	6	3	
	S24	7	6	9	6	9	12	
PS	S2	6	6	6	3	6	6	
	S4	1	2	1	1	2	-	
	S8	6	6	6	6	6	6	
	S14	-	-	-	-	-	-	96
	S20	3	3	-	-	3	-	
	S25	3	3	-	-	3	-	
	S28	1	-	-	-	1	-	
SRS	S6	-	-	-	-	-	-	
	S12	-	-	2	1	2	-	8
	S18	-	2	-	-	1	-	
TF		130	121	104	99	129	109	760

When the frequencies are calculated for each strategy used by the participants during the second protocols, the results also indicate an increase in the frequency of the participants' strategy use. In addition, it is observed that the participants use various reading strategies, when compared with the first TAPs results. According to the frequency analysis of the second TAPs, the most frequently used reading strategy group is revealed as assisting strategies (TF=194). This result is consistent with the posttest results. An increase in the frequency of the participants' use of assisting strategies is also observed during the second protocols. Moreover, the participants use some strategies, which they did not use during the first protocol. For instance, S27 is also used by LSRs in Control and Computer departments. In addition, S10 is used by both SRs and LSRs from Electronics and Control departments.

The second most frequently used strategy group is revealed as visualization strategies (TF= 163). This result is inconsistent with the posttest results. An increase in the frequency of this strategy group is revealed as well. For instance, S5 and S17 are used by both SRs and LSRs from all departments. An increase in the frequency of the participants' use of S23 is also displayed. However, similar to the first analysis results S11, representing *note taking,* is not used by any of the participants during the second protocols. This may be a result of the nature of the TAPs since the participants are not given any comprehension questions about to the texts at the end of the protocols. Hence, they may not feel the need to take notes while reading.

Management strategy group is ranked as the third group according to the second TAPs results. This result indicates an inconsistency with the posttest results since the posttest results indicate that the participants report using visualization strategies as the third strategy group. However, similar to previously examined strategy groups,

management strategies also indicate an increase in the frequency. For instance, all the participants use S9, S15 and S21 during reading. In addition, S26 is only used by SRs in Computer department. However, S3 is not used by any of the participants, which also occurred during the first TAPs. Constructing strategy group is ranked as the fourth group according to the frequency analysis of the second TAPs. This result is inconsistent with the posttest results since they indicate management strategies as the fourth group. The frequency of constructing strategy group indicate an increase as well. In this regard, S19, S24 and S7 are used by all SRs and LSRs in all departments. S1 is used by SRs in Control and Computer departments and by LSRs in Control department. S13 is only used by LSRs in Electronics department.

Planning strategy group, which also indicates an increase in its frequency, is ranked as the fifth group according to the second TAPs results. The result is inconsistent with the posttest results since self-regulation strategies are ranked as the fifth group according to the posttest. In planning strategy group, S2 and S8 are used by both SRs and LSRs in all three departments. S20 and S25 are used by both SRs and LSRs in Electronics department. None of the participants from Control department uses S14, S20, S25 and S28. In computer department, S20, S25 and S28 are used only by SRs. Excluding LSRs in Computer department, both SRs and LSRs use S4 during the second TAPs.

Finally, the sixth strategy group according to the second TAPs frequency analysis is revealed as self-regulation strategies. This result is also inconsistent with the posttest results. However, the frequency analysis also indicates an increase for self-regulation strategy group. For example, S12 is used for the first time by both SRs and LSRs in Control department and SRs in Computer department. Moreover, S18 is used by LSRs in Electronics department and by SRs in Computer department.

The results of both posttest and second TAPs analysis indicate higher scores in the participants' strategy use. In addition, the participants are observed using the strategies they did not use in the first protocols. However, when the results of the two data collection tools administered after SBRI are compared, it is observed that five strategy groups including planning, visualization, constructing, management and self-regulation strategies display inconsistencies in their rank orders. One of the reasons for the inconsistencies may be the result of the nature of learning and internalizing strategic behaviours. As stated in the literature, learning strategies is a long-term process and they cannot be learnt in a short time because effective strategy instruction takes a considerable amount of time for both the students and the teachers (Grabe and Stoller, 2002). In addition, it requires a great deal time to become a strategic reader because students need to internalize the reading strategies through practice and evaluation (Pressley, 2002). In this regard, developing strategic readers requires a long time commitment for teachers (Pressley, Goodchild, Fleet, Zajchowski and Evans as cited in Sinatra et al., 2001). Thus, an 8-week implementation might be inadequate for the participants to internalize strategic behaviours. Semi-structured interviews also support the lack of internalizing strategic behaviours as exemplified in the following excerpt:

> **Participant 2**: Although I find all the strategies useful, I still do not use them. For example, underlining and taking notes are beneficial because when you underline you remember the important points or you see the difficult words or parts you do not understand in the text but I still do not use them while I am reading. I do not know why. Maybe I do not have the habit.

As reported in the excerpt above, the participants have not been able to internalize the strategic behaviours and to overcome their old habits during reading yet. Hence, they

might not be able to use strategies during reading since learning strategies requires a long time to be able to use them in the actual process.

Another reason for the inconsistencies may result from the participants' individual differences that have a great effect on strategy use. That is, a strategy, which works well for a group of particular students, may not be effective for others due to different reasons such as experiences in reading or proficiency level. In this regard, the participation of only 12 volunteers in the think-aloud protocols may not reflect the individual preferences of 62 participants and might be effective on the inconsistencies between the results of the two data tools.

The individual differences are also revealed both in evaluative feedback forms and in the interviews. For instance, some participants indicate positive attitudes for planning strategies in the evaluative feedback forms such as; "*Planning strategies are quite practical", "Planning strategies such as determining text type and setting goals are effective", "Determining text type is useful", "Planning strategies have positive effect on me because i know how to proceed the text"* or "*Planning strategies are useful strategies to set goals, to understand the text being read and to have control on the subject"*. However, some participants state negative attitude such as "*Determining text type is useless*". The existence of individual differences in using strategies is also supported by the interviews as in the following excerpts from the interviews of two different participants:

> **Participant 1**: I think strategic reading is very helpful and beneficial for better comprehension. Nonetheless, I personally do not think determining text length or text type makes any positive contribution to my comprehension. They also do not have any effect on my motivation because I think vocabulary knowledge is the most important part in comprehension.

> **Participant 4:** I think one of the most beneficial strategy groups is planning strategies. Before this implementation, I never examine the text type, text length or its layout. Now I try to use all these strategies before I start reading because by the help of these strategies I have an opinion of what I will read and this helps me comprehend the text better.

As stated in their interview sequences above, the participants develop different opinions about the same strategy group. Hence, it can be stated that individual differences have impact on learners' strategy choice and use during reading. In addition, Participant 1's statement clearly indicates that there are other reasons; such as difficult technical vocabulary, that effect the comprehension of the texts especially the technical texts. This view is one of the most frequently stated ones by ESP learners in the studies (Dhieb-Henia, 2003). Therefore, some participants may think that some strategies do not serve their goals and are not useful for them.

Another reason for the inconsistencies may result from the participants' opinions about the difficulty level of employing some certain strategies during reading. In this regard, some participants might not find some strategies easy to employ. The opinions of the participants in the evaluative feedback forms also support this reason. For instance, 14 out of 62 participants state that one of the constructing strategies requiring *stopping once in a while and asking oneself questions to see how well the text is understood* is a difficult strategy for them to employ during reading. As a result, it can be stated that the reading strategies to be employed during reading are determined not only by text requirements and but also the readers' individual preferences and skills.

Overall, the analysis results of both data tools indicate that there is an increase in the strategy use of Turkish ESP learners after SBRI. The mean values, percentage scores

and frequencies have displayed higher results in posttest and the second TAPs analysis. The increase may be the result of the raise in the awareness of the participants' on reading strategies and their own strategic behaviours after SBRI applied for 8 weeks in each department. As stated in the literature, this result may support the studies (Chamot and O'Malley, 1994; Janzen and Stoller, 1998) indicating that strategies are teachable.

The evaluative feedback forms and semi-structured interviews also reveal the positive effects of SBRI. In evaluative feedback forms and semi-structured interviews, it is observed that the implementation has created positive effects on the large majority of the participants. For instance, 56 out of 62 participants state in their feedback forms that they have higher motivation for learning English after the implementation. Interviews also support this outcome as exemplified in the following excerpts:

> **Participant 8:** I personally like learning English but I know some of my classmates hate it. Before this implementation, they did not use to show any interest for English classes and during the class hours, they preferred to get busy with other things. Sometimes they did not even attend the classes at all. However, during the implementation they have become very interested in English because we all think this kind of study is much more enjoyable than the traditional way. We all wish we had this teaching since the beginning of the university.
>
> **Participant 5:** I used to think that learning English was difficult and I did not have any interest to learn it, to be honest. Now I am thinking of applying for a private course to catch up with the subjects I have missed in English so far because after this implementation I have realized that I can learn this language and I feel more interested in learning it.

As reported in the interview sequences above, SBRI has created positive impacts on the participants' motivation for English classes since it provides more enjoyable lessons when compared with the traditional methods. In addition, it helps the participants to develop a positive self-concept as a learner of English and a positive attitude towards learning English.

The participants also state that they believe learning the reading strategies is very effective for their reading performance. For instance, in evaluative feedback forms, 22 out of 62 participants have written that learning reading strategies improve their proficiency in reading. 53 out of 62 participants also indicate that using strategies in reading process is quite useful for them. Interviews also support this outcome as in the following excerpt.

> **Participant 10:** I believe that if we can use these strategies, we will have long lasting learning because I think strategies are necessary for an active reading and they provide efficient learning for the students.

As reported in the interview sequence above, the participants believe that learning and applying reading strategies can help them become better comprehenders and improve their reading. In addition, the participants view the strategies as effective tools which provide better learning.

III.3. Results and Discussion of Paired Samples T Test and Wilcoxon Signed Ranks Analysis

In order to find out whether there is a significant difference between the participants' strategy use after SBRI, Paired Samples T Test analysis is conducted for the pretest and posttest total scores since the distribution of the normality is normal. The

analysis results indicate a significant difference in participants' reading strategy use after SBRI, t (61) = -6.33, p< .01. While the mean value (Mv) of the participants' pretest scores is 99.03 before SBRI, it increases to 110.30 after SBRI. This finding may indicate that SBRI has a significant impact on the participants' strategy use. The analysis results are illustrated in Table 7.

Table 7

Paired Samples T Test Analysis Results of the Pretest and the Posttest Total Scores

	N	Mv	S	sd	t	p
Pretest	62	99.03	13.22	61	-6.33	.000
Posttest	62	110.30	10.54			

In order to find out whether there is a significant difference in the participants' strategy use in terms of each strategy group, Paired Samples T Test and Wilcoxon Signed Ranks Analsis are conducted depending on the normality tests of each strategy group. In this regard, Paired Samples T Test is conducted only for constructing strategy group since the distribution is normal. Wilcoxon Signed Ranks Analysis is conducted for visualization, planning, self-regulation, assisting, and management strategy groups since the normality tests indicate that the distributions of these strategy groups are not normal.

The analysis results of Constructing Strategy Group indicate a significant difference in participants' use of constructing strategies after SBRI, t (61) = -4.78, p< .01. While the mean value of the participants' pretest scores for Constructing strategies is 17.01 before SBRI, it increases to 18.87 after SBRI. This finding indicates that SBRI also has a positive effect on the participants' use of constructing strategies. The analysis results are illustrated in Table 8.

Table 8

Paired Samples T Test Analysis Results of Constructing Strategy Group

	N	Mv	S	sd	t	p
Pretest	62	17.01	3.67	61	-4.78	.000
Posttest	62	18.87	2.61			

In order to find out whether there is a significant difference in the participants' visualization strategy use, Wilcoxon Signed Ranks analysis is conducted as stated. The analysis results display significance in terms of visualization strategy use of the participants after SBRI ($z= 4.04$, $p< .05$). When the mean values and sum of ranks are considered, the difference observed is in favor of posttest scores. In this regard, the mean of rank in favor of posttest is 32.26. On the other hand, the mean of rank in favor of pretest is 19.09. The results are shown in Table 9.

Table 9

Wilcoxon Signed Ranks Analysis Results of Visualization Strategy Group

Posttest/Pretest	N	Mean Rank	Sum of ranks	z	p
Negative Ranks	16[a]	19.09	305.50	4.04*	.000
Positive ranks	40[b]	32.26	1290.50		
Ties	6[c]				

* Based on negative ranks

a. posttest < pretest
b. posttest > pretest
c. posttest = pretest

In order to find out whether there is a significant difference in the participants' planning strategy use, Wilcoxon Signed Ranks analysis is conducted. The analysis results also display significance for this strategy group ($z= 4.89$, $p< .05$). When the mean values and sum of ranks are considered, the difference observed is in favor of posttest scores. In

this regard, the mean of rank in favor of posttest is 31.06 but the mean of rank in favor of pretest is 18.05. The results are shown in Table 10.

Table 10

Wilcoxon Signed Ranks Analysis Results of Planning Strategy Group

Posttest/Pretest	N	mean rank	Sum of ranks	z	p
Negative Ranks	11a	18.05	198.50	4.89*	.000
Positive ranks	45b	31.06	1397.50		
Ties	6c				

* Based on negative ranks

a. posttest < pretest
b. posttest > pretest
c. posttest = pretest

In order to find out whether there is a significant difference in the participants' self-regulation strategy use, Wilcoxon Signed Ranks analysis is conducted. The analysis results display significance in terms of self-regulation strategy use of the participants ($z= 4.68$, $p< .05$). When the mean values and sum of ranks are considered, the difference observed is in favor of posttest scores. In this regard, the mean of rank in favor of posttest is 33.90. On the other hand, the mean of rank in favor of pretest is 16.90. The results are shown in Table 11.

Table 11

Wilcoxon Signed Ranks Analysis Results of Self-regulation Strategy Group

Posttest/Pretest	N	mean rank	Sum of ranks	z	p
Negative Ranks	15a	16.90	253.50	4.68	.000
Positive ranks	43b	33.90	1457.50		
Ties	4c				

* Based on negative ranks

a. posttest < pretest
b. posttest > pretest
c. posttest = pretest

The significance revealed for planning, constructing, visualization and self-regulation strategies may be the effect of SBRI. This positive effect can also be supported with the participants' opinions in their feedback forms. For instance, in the feedback forms, 48 out of 62 participants indicate that they observe a positive change in their comprehension of English texts after they start to practise reading strategies. The participants also state this positive change in their reading comprehension as in the following excerpts from the interviews:

> **Participant 7:** I did not use to read a text when I saw a few unknown words in the first sentence of it. But now i read the first sentence and then the second even if I don't understand because I know in the 3rd or 4th sentence I will see something I understand. In this way, i will have a general opinion about what the text says. Studying strategies has taught me to examine a text as a whole instead of trying to understand it word by word. Now at least I have a general opinion for every text I read.
>
> **Participant 3:** I used to get around 50 points from my English tests because I could only do the grammar parts and this was not enough. I always had problem with vocabulary and reading comprehension parts in the test. But since I started to use reading strategies especially previewing, skimming and scanning, I have higher scores from my tests. I last got 87 points. I wish this strategic reading had been taught a way earlier.

As stated in the interview sequences above, SBRI has provided a positive impact on improving the participants' reading comprehension. The participants have started using the strategies they did not use before. In this regard, it can be stated that SBRI have improved the participants' strategy use.

In order to find out whether there is a significant difference in the participants' assisting and management strategy use, Wilcoxon Signed Ranks analysis is conducted. Although the descriptive statistics analysis of the posttest and frequency analysis of the second TAPs display an increase in the use of these two strategy groups, the Wilcoxon Signed Ranks analysis result do not display any significance in the use assisting strategy group ($z= 1.17$, $p > .05$) and management strategy group ($z= 1.90$, $p> .05$) after SBRI. The results are shown in Table 12 and Table 13.

Table 12

Wilcoxon Signed Ranks Analysis Results of Assisting Strategy Group

Posttest/Pretest	N	mean rank	Sum of ranks	z	p
Negative Ranks	21a	22.62	475.00	1.17*	.239
Positive ranks	27b	25.96	701.00		
Ties	14c				

* Based on negative ranks

a. posttest < pretest
b. posttest > pretest
c. posttest = pretest

Table 13

Wilcoxon Signed Ranks Analysis Results of Management Strategy Group

Posttest/Pretest	N	mean rank	Sum of ranks	z	p
Negative Ranks	20a	25.08	501.50	1.90*	.057
Positive ranks	33b	28.17	929.50		
Ties	9c				

* Based on negative ranks

a. posttest < pretest
b. posttest > pretest
c. posttest = pretest

These results may be the cause of emphasizing only the selected strategy groups during SBRI. In this regard, management and assisting strategy groups are not

among the emphasized strategy groups since they are revealed as the first and the second most frequently used reading strategies according to the pretest and the first TAPs results. In this sense, these two strategy groups are not included in SBRI. Hence, this may cause a lack in the consciousness-raising in the participants' use of these two strategy groups. In addition, the results indicating significance for emphasized strategy groups and insignificance for unemphasized ones can highlight the teachability of strategies through strategy training

To sum up, it can be stated that the implementation of reading strategies into ESP curriculum, teaching and training the strategies provides positive impacts in many aspects. Firstly, the participants' awareness of strategy use has increased and they have started to use the strategies they did not before the implementation. Secondly, they have started to use various strategies more frequently after the implemention. Finally, the implementation has created positive changes in the participants' attitudes towards learning English and reading in English. In this regard, it has also created positive self-concepts, raised the participants' motivation and their interest for ESP classes.

CONCLUSION

This study aimed to investigate the reading strategy use of Turkish ESP learners before and after a strategy-based reading implementation in a technical education context in Tarsus Technical Education Faculty, Mersin University. In addition, the study also investigated whether a significant difference occurred in the strategy use of the learners after the implementation.

Descriptive statistics analysis of the pretest and the first TAPs indicated that Turkish ESP learners used assisting strategies the most frequently and self-regulation strategies the least frequently before the implementation (see section III.1). The second most frequently used reading strategies were revealed as management strategies before the implementation. Moderately used reading strategies were constructing, visualization and planning strategies (see section III.1).

After the implementation, an increase in the participants' strategy use for all strategy groups was revealed according to the posttest and second TAPs results (see section III.2). Moreover, a change in the rank ordering of some strategy groups was observed. For instance, the least frequently used strategy group was revealed as constructing strategies after the implementation. In addition, second most frequently used reading strategies were revealed as planning strategies. Hence, moderately used strategy groups were revealed as self-regulation, visualization and management strategies. However, the most frequently used strategy was remained as assisting strategies (see section III.2).

The increase in the percentage scores between pretest and posttest could not be regarded as significant by simply examining these scores; so, Wilcoxon Signed Ranks and Paired Sample T Test analyses were conducted depending on the normality tests. The

difference in the participants' strategy use after the implementation was found out to be significant (see section III.3). When the strategy groups were analyzed, the results indicated that the difference in constructing, planning, visualization and self-regulation strategy groups were significant. However, the results did not display any significance for assisting and management strategies, which were the two strategy groups that were not integrated into the implementation (see section III.3).

Overall, the increase in the participants' use of reading strategies indicated that strategy training had positive impacts on Turkish ESP learners' strategy use as in the studies conducted in the field of ESP (Dhieb-Henna, 2003; Martinez, 2008; Shen, 2008). In addition, as stated in the literature, this result may support the studies (Chamot and O'Malley, 1994; Janzen and Stoller, 1998) advocating that strategies are teachable. However, when the inconsistencies displayed between the participants' reported use and their actual use of reading strategies are considered, it should be stated that internalizing the reading strategies through practice and evaluation and developing strategic readers require a long time commitment for teachers (Pressley, Goodchild, Fleet, Zajchowski and Evans as cited in Sinatra et al., 2001; Pressley, 2002).

The results also indicated a difference between the strategy use of successful and less successful readers in terms of frequency and variety of strategy use (see section III.1 and III.2). As Grabe and Stoller (2002: 195) have indicated, "strategic readers make use of a wide repertoire of strategies in combination rather than in isolated applications." In this regard, it was observed that successful readers used various reading strategies when compared to less successful ones. In addition, they use the strategies more frequently when compared with the less successful ones.

Another result revealed by feedback forms and interviews was the positive change in the participants' attitude towards reading and learning English (see section III.2 and III.3). It was also observed that the implementation raised the participants' motivation and created a positive self-concept to some extent. Consequently, it can be stated that the results of the study show that integrating reading strategies into the ESP reading classes has several positive impacts on learners in terms of their strategy strategy use and attitudes towards language learning and reading.

Pedagogical Implication

As the findings of this study suggest, implementing a strategy based reading programme and raising awareness of ESP learners about reading strategies provide them with several outcomes such as developing a positive self-concept in learning a foreign language and reading in a foreign language, increased motivation and better use of strategies. In this regard, the instructors of ESP may consider these findings.

Before integrating strategic reading into ESP curriculum, highly structured scales and verbal reports such as think aloud protocols and interviews can be used in eliciting strategy repertoires of the learners. Determining the learners' strategy repertoires beforehand may provide the instructors with the weaknesses and the strengths of their learners. Based on learners' needs, an implementation can be designed for ESP classes. The implementation designed for this study has shown that materials in textbooks can be adapted for a strategic reading in an ESP context. The instructors may also use technical texts for different departments considering the learners' majors in order to raise interest in the class.

During the strategy training in ESP reading classes, the instructors should consider some important aspects. Firstly, they should not only raise the awareness of their learners on strategic reading and on benefits of strategic reading but also provide scaffolding for their learners to facilitate when, where and how to apply the strategies being taught. Secondly, the instructors should encourage their learners' to use various reading strategies more frequently during an ongoing reading process. Finally, they should be aware of the fact that creating strategic readers requires a long-term study; thus, the learners should be given adequate time within the process in order to internalize the strategic behaviours.

Limitations of the study

In investigating Turkish ESP learners' reading strategy repertoires and whether a strategy-based reading implementation has any impact on those repertoires, this study has three major limitations.

One of the limitations is that a complete elicitation of learners' reading strategies is a challenging process. The reason of this challenge results from two factors. Firstly, some strategies are easy to observe since they are behavioral; however, some may not be identified directly since they are mental (Cohen, 1998). Secondly, although both qualitative and quantitative data have been gathered via a scale with high validity and reliability, semi-structured interviews, and think aloud protocols, the participants may not have the opportunity to reflect or to report their actual strategy use and real strategic performances. For instance, verbal reports such as think aloud protocols have their own limitations. As Oxford (1996) states, such reports put the participants under pressure; thus, they may not provide an exact reflection of their mental processes. Moreover, the

participants are aware of the study conducted; so, this may affect their responses during the process.

The second limitation of the study is that the change, if any, in the participants' comprehension level has not been assessed. In order to achieve this goal, an assessment test should be developed for technical reading and it should be applied to the participants both before and after the implementation because some studies (Anderson, 1991; Carrell et al., 1998) have revealed that there is no direct correlation between the strategy use and comprehension ability because the relationship is not simple and straightforward. The success in using certain reading strategies or the failure in using them may not always result in successful or unsuccessful reading comprehension. In this regard, since the ultimate aim of teaching reading strategies to learners is to create better comprehenders, their reading comprehension levels should be assessed with appropriate assessment and evaluation instruments to measure whether the ultimate aim has been realized.

Lastly, the third limitation of the study is the number of the participants. This study has been conducted among 62 Turkish ESP learners in a technical educational context. However, 62 participants cannot be taken as evidence to make claims and generalization for all Turkish ESP learners' reading strategy use. Hence, the number of the participants might be increased.

Suggestions for Further Research

The present study is assumed to be of importance to make necessary highlights to the future studies. Future studies might focus on reading strategies and their implementation in other ESP settings since such implementations can facilitate learning and teaching process. In addition, they can increase students' and teachers' awareness

about the cognitive processes of reading, motivate learners, and create a positive self-concept and positive attitude towards learning. The present study is limited to measure the reading strategy use and its implementation into the curriculum only in technical education context at university level. In this sense, similar studies can be conducted with the learners of ESP in other ESP contexts such as engineering and technology departments.

Future studies can also focus on assessing the comprehension level of the learners after such implementations via appropriate assessment tools developed specifically for the related ESP reading courses. Finally, as in similar studies conducted in EGP settings, the differences in learners' strategy use in terms of their proficiency level and sex can also be investigated in ESP settings.

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LIST OF APPENDICES

APPENDIX A: Okuma Becerisi Stratejileri Kullanım Ölçeği (OBSKÖ)

İsim:
Bölüm:
Cinsiyet:

Sayın Katılımcı,

Bu çalışma Özel Amaçlı İngilizce öğrenen Türk öğrencilerinin okuma stratejilerini ölçmek amacı ile yapılmaktadır. Aşağıda bulunan ifadeleri dikkatlice okuyup kişisel deneyimlerinize bağlı olarak "Asla bana uymaz" dan "Kesinlikle bana uyar" arasında size en uygun seçeneği işaretleyiniz. Lütfen, her bir ifade için tek bir işaret koyup hiçbir ifadeyi atlamadan yapınız. Katılımınız için teşekkür ederim.

Sibel SERT

İFADELER	**Asla bana uymaz**	**Genellikle bana uymaz**	**Bana biraz uyar**	**Genellikle bana uyar**	**Kesinlikle bana uyar**
1. Okuduklarımı hayalimde canlandırarak anlamaya çalışırım.					
2. Tüm metni okumadan önce, genel bir fikir edinmek için metni hızlı bir şekilde okurum.					
3. Okuma ortamımı düzenlemeye özen göstermem.					
4. Okurken koptuğum anda, koptuğum noktaya geri dönerim.					
5. Hatırlamama yardımcı olması açısından, gerekli bilgiyi metin içerisinde daire içine alırım veya o bilginin altını çizerim.					
6. Okuma hızımı okuduğum metnin türüne göre ayarlarım.					
7. Okuduklarımı hatırlamama yardımcı olması bakımından, okuduklarımı betimlemeye ve hayalimde canlandırmaya çalışırım.					
8. Metni okumadan önce, ne hakkında olduğunu görmek için önizleme yaparım.					
9. Okuduğum metni daha iyi anlayabilmek için farklı açılardan bakmaya gerek duymam.					
10. Konsantrasyonumu kaybettiğimde okuduğum konuya geri dönmeye çalışırım.					
11. Okuduğum metni anlamama yardımcı olması açısından metni okurken notlar alırım.					
12. Okuma hızımı okuduğum metne bağlı olarak ayarlarım.					

İFADELER	Asla bana uymaz	Genellikle bana uymaz	Bana biraz uyar	Genellikle bana uyar	Kesinlikle bana uyar
13. Öğrendiğim yeni kelimeleri bir durumun içinde resmederek öğrenirim.					
14. Okumaya başlamadan önce hedeflerimi belirlerim.					
15. Okurken önemli bilgilerin altını çizmekle uğraşmam.					
16. Okuduğum metin zorlaştığı zaman, metni daha iyi anlayabilmek açısından metni tekrar okurum.					
17. Tüm metnin ana düşüncesini anlamaya çalışırken, metni baştan sona okumaya ve zor kelimelerin ve sözcük gruplarının altını çizmeye çalışırım.					
18. Okuduğum metni anlamadığım zaman, okuma şeklimi değiştiririm.					
19. Metinde sunulan bilgiyi zihnimde var olan bilgiyle karşılaştırarak okurum					
20. Okuyacağım metni inceleyip, göz gezdirdikten sonra ne tür metin okuyacağımı belirlemeye çalışırım.					
21. Okuduğum konu ile önceki bilgilerim arasında bağlantı kurma ile uğraşmam.					
22. Okuduğumu anlamadığım zaman, metni tekrar okur ve anlamaya çalışırım.					
23. Metnin içerisindeki karmaşık yapıdaki cümleleri anlayabilmek için metni cümleciklere/parçalara ayırırım.					
24. Okurken ara sıra durur ve kendime metinle ilgili sorular sorarak metni ne derece anladığımı kontrol ederim.					
25. Uzunluk ve düzen gibi özelliklere dikkat ederek metne göz gezdiririm.					
26. Okuduğum parçanın ana hatlarını zihnimde tasarlamakla uğraşmam.					
27. Okurken, önemli olanla olmayan bilgiyi birbirinden ayırabilirim.					
28. Okuduğum metni zihnimde var olan belli amaçlar çerçevesinde okurum.					

APPENDIX B: The Text Used in the Training Session of Think-aloud Protocols

CRASH TEST DUMMIES

Two different crash test dummies are used in standard European vehicle crash tests. The first dummy is used for front impact crashes. The second one is a side impact crash dummy. The dummies, which are made of steel, aluminium, and rubber, contain many sensors.

Three types of sensing equipment are used: acceleration sensors, load sensors and motion sensors. The dummy heads contain three accelerometers (single direction acceleration sensors) which are set at right angles (forward- backward, up-down, and left-right). The dummy necks contain load sensors to detect the bending forces, shear forces and tension forces, which put pressure on the neck in a crash. The dummy legs contain load sensors, which measure the bending, shear, compression, and tension forces on the leg.

In addition, a front impact crash test dummy has steel ribs fitted with motion sensors, which record front rib movement. A side impact dummy has motion sensors which record side chest deflection (or inward movement), and load sensors to measure compression forces on the chest.

APPENDIX C: The Texts Used in the Think-aloud Protocols

Text 1: Meet The Famous Robots: ASIMO and The Robosaurus

Asimo and the Robosaurus are the two famous robots known worldwide. Asimo is a humanoid robot developed by Honda Motor Co. He is 120 cms tall and he weighs 43 kgs. You can control him with a computer or give him voice instructions. ASIMO is a service robot. He is designed to help people. He can walk and climb stairs, so he can carry food upstairs to a sick person and do other jobs around home.

Here are ten things ASIMO can do.

1. walk forwards and backwards
2. bend and straighten his joints
3. adjust the size of the steps he takes
4. climb up and down stairs
5. turn left, right and around
6. raise and lower his arms 105 degrees
7. operate light switches
8. open and close doors
9. carry loads
10. push carts

The robosaurus is a 12-metre-high entertainment robot. It is the world's largest entertainment robot. It's designed to lift, crush, and burn cars. It weighs 26 tonnes and it's controlled by a human pilot who sits inside its head. 60 m flames come out of its nose, and its mouth opens and closes with a pressure of 140 kg/cm2. It can lift cars 15 m in the air and bite them in half with its 30 cm teeth.

After shows, the robot becomes a trailer and it can travel by road to the next city. It can fold up to just 14.5 metres long, 4 metres high and 2.5 metres wide.

Text 2: The Channel Tunnel: The Greatest Engineering Project Ever

The Channel Tunnel is not just one tunnel; it consists of three tunnels, each thirty miles (about 50 km) long. It is the second longest tunnel in the world. The longest is the Seikan tunnel in Japan, but the Channel Tunnel has a longer under-sea section. Fifteen thousand workers built it (ten died in accidents) and 1200 companies supplied equipment. It cost ten billion pounds to build.

One team began drilling in France and the other in England. However, there was a main issue in building the tunnel. The problem was ensuring that the tunnel met at exactly the same place under the sea in the middle of the Channel. That was the biggest problem for the builders. The drilling machines used were the heaviest ever made, each weighing up

to 575 tons. In the opinion of Roget Dobson, Director General of the Institute of Civil Engineers, “the Channel Tunnel is the greatest engineering project ever.”

The tunnel itself is an average of 45 m below the sea-bed and has 220 km of railway track. It has the most sophisticated railway control system in the world, and will be the busiest railway track in Europe, with one train every three minutes.

APPENDIX D: Evaluative Feedback Forms

A. During SBRI

NAME /SURNAME:
DEPARTMENT:

1-Çalışılan strateji gruplarına ve içerdiği stratejilere işaret (√) koyunuz.

Planning Strategies (PLANLAMA)	Constructing Strategies (OLUŞTURMA)	Visualization Strategies (GÖRSELLEŞTİRME)	Self-Regulation Strategies (ÖZ-Düzenleme)
1-Reading the whole passage quickly to get the general idea before reading it thoroughly____ *(tüm metni okumadan once genel bir fikir edinmek için hızlıca okumak)* 2-Previewing the text to see what it is about before reading it.____ *(okumadan önce metnin ne hakkında olduğunu görmek için önizleme yapmak)* 3-Setting goals before starting to read.____ *(okumadan önce hedefler belirlemek)* 4-Determining the text type after examining and skimming it through.___ (*metni inceleyip göz gezdirdikten sonar metin türünü belirlemek)* 5-Skimming through the text by taking the length and the layout into consideration.___ *(metnin uzunluğunu ve düzenini dikkate alarak metne göz gezdirmek)* 6-Reading the text with specific purposes in my mind.___ *(metni zihinde varolan hedefler doğrultusunda okumak*)	1-Learning the new vocabulary by picturing them in mind in a situation which they occur _____ (*yeni kelimeleri bir durum içinde resmederek öğrenmek*) 2-Stopping to ask questions about the text to determine how much it is understood.___ *(okurken arasıra durup kendime metinle ilgili sorular sorarak ne derece anlaşıldığını kontol etmek)* 3-Telling what has been read in one's own words and picturing them in mind to remember.____ (*okunulanları hatırlamak amacıyla, okunanları kendi kelimelerimle söyleyip/betimleyip onları zihinde canlandırmak*) 4-Reading by comparing the information presented in the text with the information already exist in mind. ____ *(metinde varolan bilgiyi zihinde varolan bilgiyle karşılaştırarak okumak*)	1. Circling or underlining the necessary information in the text to remember it.____ *(hatırlamak için, gerekli bilgiyi daire içine almak ya da altını çizmek*) 2. Taking notes for comprehension while reading the text. ____ (*metni okurken anlamak için not almak)* 3- Reading the text from the beginning to the end and underlining the difficult words/phrases while trying to understand the main idea__ (*ana fikri anlamay çalışırken metni baştan sona okuyup zor kelime(kelime gruplarının altını çizmek)* 4-Dividing the text into phrases/pieces to comprehend the complicated sentences in the text __ (*Metindeki karmaşık yapıdaki cümleleri anlamak için metni cümleciklere/parçalara ayırırım)*	1. Adjusting the speed of reading according to the text ___ (*okuma hızını metne göre ayarlamak)* 2. Changing the reading style when the text is not understood. _____ *(metin anlaşılmayınca okuma stilini değiştirmek)* 3.Adjusting the speed of reading according to the text type ___ (*okuma hızını metnin türüne gore ayarlamak*)

2-Yukarıda işaretlediğiniz her strateji için ne yaptığımızı kısaca anlatın. (Briefly explain what you have practiced for each strategy you ticked above)

3-Çalıştığınız stratejilerle ilgili fikirlerinizi yazınız (Hangilerini faydalı buldunuz? Neden? ; Hangilerini ugulamakta zorlandınız, Neden? Hangilerini kullanırsanız okumanızın gelişeceğini düşünüyorsunuz, Neden? …vb.) (Write you opinions about the strategies you have studies, which of them do you think are beneficial? Why? Which of them do you have difiiculties in applying, why? Which of them do you think will help you improve your reading? Why?)

B. After SBRI

Bahar dönemi İngilizce derslerinde yapılmış olan ve 8 hafta süren strateji tabanlı okuma uygulaması hakkındaki görüşlerinizi aşağıdaki sorular doğrultusunda belirtiniz. Eklemek istediğiniz diğer görüşlerinizi *DİĞER* bölümüne yazınız**.** *(Please write your opinions about the 8-week implementation, which was conducted in spring semester, regarding the questions below. If you have any additional opinions, please write them in "other" section.)*

İngilizce metinleri okuma beceriniz açısından uygulamayı faydalı buldunuz mu? *(Do you think the implementation is beneficial for your skill of reading English texts?)*
Sizce en çok hangi strateji/stratejiler ingilizce bir metni okumanızda size en önemli faydayı sağladı? *(Which strategy / strategies is/are the most beneficial for you in reading an English text?*
Ugulamakta zorlandığınız ya da gereksiz gördüğünüz strateji/stratejiler var mı? *(Are there any strategies you find difficult to apply or you think that it is/they are useless?)*
8 haftalık uygulama sonunda İngilizce okuma anlama açısından kendinizde bir fark görüyor musunuz*? (Do you see any difference in you in terms of reading comprehension of English texts after the 8 week implementation?)*
Uygulama esnasında İngilizce derslerinin işlenmesi ile uygulama öncesindeki klasik yöntemle işlenen İngilizce dersleri arasında sizce fark var mı? Varsa ne gibi farklılıklar bunlar, lütfen yazınız *(Do you think there is a difference between the English classes during the implementation and the English classes before the implementation? If yes, what kind of differences are there? Please write).*
Diğer *(Other):*

APPENDIX E: Semi-structured Interview Questions

1. Sekiz haftalık strateji tabanlı okuma uygulaması hakkında ne düşünüyorsunuz?

2. Hangi Strateji/stratejileri kendiniz için en faydalı bulmaktasınız?

3. Uygulamakta zorlandığınız strateji/stratejiler var mı?

4. Sizce böyle bir uygulama müfredata bütünleşmiş ve onun bir parçası olmalı mı?

5. Uygulama öncesini ve uygulama sonrasını kıyasladığınızda İngilizce öğrenimi bakımından bir ediniminiz olduğunu düşünüyor musunuz? Eğer düşünüyorsanız ne olduğunu açıklar mısınız?

APPENDIX F: Coded Reading Strategy List Used for Frequency Analysis of Think Aloud Protocols

Reading Strategy Groups(RGS)	Item Statement Number Represented in OBSKÖ	Reading Strategies Used While Reading
Assisting Strategy Group	10	Trying to go back to what is being read when the concentration is lost.
	16	Rereading the text for better comprehension when it gets difficult
	22	Rereading the text and try to figure it out when it is not understood.
	27	Being able to decide between more important and less important information while reading
Management Strategy Group	3	Paying attention to tidy up the reading environment
	9	Examining the text from different angles for better comprehension
	15	Dealing with underlining the important information
	21	Linking what is being read to prior knowledge
	26	Making an outline of what is being read
Visualization Strategy Group	I5	Circling or underlining the necessary information in the text to remember it.
	11	Taking notes for comprehension while reading the text.
	17	Reading the text from the beginning to the end and underlining the difficult words/phrases while trying to understand the main idea.
	23	Dividing the text into phrases/pieces to comprehend the complicated sentences in the text
Planning Strategy Group	I2	Reading the whole passage quickly to get the general idea before reading it thoroughly.
	4	Going back to the point when get lost while reading.
	8	Previewing the text to see what it is about before reading it.
	14	Setting goals before starting to read.
	20	Determining the text type after examining and skimming it through.
	25	Skimming through the text by taking the length and the layout into consideration.
	28	Reading the text with specific purposes in my mind.
Constructing Strategy Group	1	Trying to understand what is being read by forming pictures in my mind.
	7	Telling what has been read in one's own words and picturing them in mind to remember.
	13	Learning new words by picturing them in mind in a situation, which they occur.
	19	Reading by comparing the information presented in the text with the information already exists in mind.
	24	Stopping once in a while and ask oneself questions to see how well the text is understood.
Self-regulation Strategy Group	6	Adjusting the speed of reading according to the text type
	12	Adjusting the speed of reading according to the text being read.
	18	Changing reading style when the text is not understood.

APPENDIX G: An Extract from the first Think Aloud Protocol Analysis

Participant's Success Classification : Successful Reader (SR)  **Less Successful Reader (LSR)** 

Text Sentence	Participant's Statements while thinking aloud	CS	RSG	F
Asimo and the Robosaurus are the two famous robots known worldwide. Asimo is a humanoid robot developed by Honda Motor Co.	Burada iki robottan bahsediyor sanırım, *resimlerde de görüldüğü gibi.* **(RON= Birinci cümleyi iki kez okur)** Famous ünlü demekti. *Bunlar ünlü müymüş?* Gerçi *ben bu ASIMO'yu TV'de görmüştüm ama şu diğerini görmedim.* Neyse…Asimo sanırım Honda Motor tarafından yapılmış. "develop"'un anlamını bilmiyorum ama herhalde yapmak gibi birşey. Humanoid ne demek onu da bilmiyorum ama human insan demek onla bağlantısı olabilir. Yani insan gibi, eli kolu filan varya. Belki o anlamdadır tam bilemedim.	S8 S16/ S22 S24 S19 S21	PS AS CS CS MS	1 1 1 1 1
He is 120 cms tall and he weighs 43 kgs. You can control him with a computer or give him voice instructions.	Burda boyundan kilosundan bahsediyor. 120 cm uzunluğundaymış ve 43 kilo ağırlığındaymış. Bilgisayar ile kontrol edilip kullanılabildiğinden ve ses sistemiyle çalıştığından bahsediyor			
ASIMO is a service robot. He is designed to help people.	Asimo'nun ayrıca bir servis yapababildiği, bu bir servis robotu diyor. Onun dizaynı. **(RON= cümleyi bir kez daha okur**) insanlar yardımıyla dizayn edildiğinden bahsediyor sanırım burda.	S16/ S22	AS	1
He can walk and climb stairs, so he can carry food upstairs to a sick person and do other jobs around home.	**(RON= Cümleyi üç kez okur**) yürüyebiliyor hareket edebiliyor ve aşağı yukarı hareket edebiliyor.. **(RON= cümleyi iki kez daha okur)** gerisini anlamadım	S16/ S22	AS	4
Here are ten things ASIMO can do.	Burda asimonun yapabildiği 10 şeyden bahsediyor			
1.walk forwards and backwards 2. bend and straighten his joints	İleri geri hareket edebilir Bükülebilir ve esneyebilir			
3. adjust the size of the steps he takes 4. climb up and down stairs	Adjust neydi hatırlamıyorum. Step adımdı. Şu *adjust'ı bilsem çözerim de*..hatırlamıyorum şimdi. Merdivenlerden inip çıkabiliyormuş.	S9	MS	1
5. turn left, right and around 6. raise and lower his arms 105 degrees	Yürüyüş yapabilir sağa sola Raise lower **(RON= cümleyi bir kez daha okur), (RON= Cümleyi parçalara ayırıyor), (RON=rais'i işaret ediyor)** yükselmek, Yükselip alçalabilirmiş sanırım. 105, *burda ne diyor ?, bu 105 ne anlama geliyor acaba?* (anlamayınca geçiyor)	S16/ S22 S23	AS VS	1 2
7. operate light switches 8. open and close doors	Switch *(***RON= cümleyi bir kez daha okur)** şu açma kapama düğmesi..sanırım açma kapama düğmesi var bunun	S16/ S22	AS	1
9. carry loads 10. push carts	*Herhangi bir bilgi yüklenebilir mi diyor?* (**RON=load kelimesini işaret ediyor),** *ben bu load kelimesini bilgisayar oyunlarında çok görüyorum orda yüklemek demek , loading falan der*. Sanrıım buna bilgi yüklenebiliyormuş..carry'i bilmiyorum. sanırım kart sistemini kullanıyor	S19 S21	CS MS	1

Note CS: Coded Strategy, RSG: Reading Strategy Group, F: Frequency, AS: Assisting Strategy, MS: Management Strategy, CS: Constructing Strategy, VS: Visualization Strategy, PS: Planning Strategy, RON: Researcher Observation Note

APPENDIX H: Source List of the Texts used in SBRI

Text	*Text Book and Publishing*
Homeworking	English 365 Professional English for Work and Life Cambridge,
Wind turbines	Real Writing 2, Cambridge
Types of Computer	Basic English for Computing, Oxford
Parts of a computer	Basic English for Computing, Oxford
Printers	Basic English for Computing, Oxford
The car that drives itself	New Headway, Academic skills 2, Oxford
Engineering	Oxford English for Electrical and Mechanical Engineering, Oxford
Laptop computers	New Headway Academic Skills level 2, Oxford
Mobile phones	New Headway Academic Skills level 2, Oxford
GPS: Lost? Never Again	New Headway, Academic skills 1, Oxford
Found	Double take reading and writing, Oxford
Computer: heaven or hell?	English 365 Professional English for Work and Life, Cambridge
Electronics in the home	Oxford English for Electronics, Oxford
Robot skin	Oxford English for Careers: Technology, Oxford
Everyday uses of computer	Basic English for Computing, Oxford
Mechanisms	Oxford English for Electrical and Mechanical Engineering, Oxford
Electric Circuits	Oxford English for Electronics, Oxford
Computer Mouse	Basic English for Computing, Oxford
How electricity is generated	Project Video 3, Oxford
Fault finding	Oxford English for Electronics, Oxford
Input devices	Basic English for Computing, Oxford
How to read a monitor ad	Basic English for Computing, Oxford
Tracking of Hank Shaw	Tech Talk intermediate, Oxford
Bill Gates	Enterprise 2, Express
Alexander Graham Bell and Telephone	Oxford English for Electronics, Oxford
Storage devices	Basic English for Computing, Oxford

APPENDIX I: A Sample of an Adapted Text

Pre-Reading Activities

1. Look at the pictures in the power point presentation called "what do pictures tell?" . Then, discuss about them and try to find out what the text is about.
2. Check out the title of the text and discuss if you guessed correct or not
3. Look at the three pictures below and then watch the videos. Which one do you think is a robot? Tick the one/ones .

2. Set your goals/aims before you read.

Aim 1:
Aim 2:
Aim 3:
Aim 4:

3. Check out the necessary vocabulary via pictures and sample sentences in the Powerpoint presentation called "Let's Learn the Vocabulary".

4-For robots to function less like machines and more like humans,they need to be covered in artificial or synthetic skin. WhÍch features of human skin do you think does a robot skin need to copy?

Choose from a-d.

a sensitive to touch

b sensitive to heat

c stretchable

d all of these

5- Now skim the text to check your answer to the fourth question.

While-Reading Activities

1. Skim the text to find the main idea of the text.

Main Idea:

ROBOT SKIN

Robots are very good at doing the same task in the same place over and over again. In factories and nuclear power stations, more than a million robots behave in this way every day. For robots to work with people, for example caring for the old, they need to be much more like humans. They need to be able to move like humans and adapt to new places. They also need to be more sensitive to touch and temperature. In humans, it is skin, which provides important information on pressure and heat.

Engineers at the University of Tokyo have developed an artificial skin for robots, which is sensitive to pressure, and temperature thanks to a large number of sensors. In addition, because it uses a mesh or net structure it can be stretched by up to 25% and still retain its sensitivity. This means it can be used to cover moving parts like joints.

This E-skin opens the way for much more sensitive robots. For example, walking robots could use feedback from their feet to adjust to different surfaces. Robots in future may be able to grasp different tools and use them as humans do. Domestic robots could pick up and bathe a baby without hurting it. They would also be less likely to damage themselves. A lot remains to be done. E-skin will provide much more information than the robot requires at any one time. Human brains can select only the important information. Before robots can act like humans, they need to have brains like humans.

2. Read the text in detail and stop at each smiley to answer the following questions. Take your notes while answering.

1- Typically, which industries make use of robots?

2-What do robots need in order to work with people?

3-How does E-skin stretch? Why is stretchability important?

4-How could walking robots use information from E-skin in their feet?

5-How could E-skin help robots not to damage themselves?

6-What two features of E-skin would be important in bathing a baby?

C- Post reading Activities

1. Decide if the following Statements are True / False

a. The mechanical devices in an assembly line can also be called robot. ____

b. E-skin can provide robots only to adjust themselves to the surface they walk on. ____

c. Human skin is able to provide information for humans about the heat. ____

2. Fill in the blanks with correct words from the text

a. My sister's broken arm will probably ……. surgery.

b. The project is designed to …… young people with scholarship for their university education.

c. It took a few seconds for my eyes to……to the darkness.

d. To ensure greater response, the engineers used electronic …….. to monitor each wheel.

3. Write 3 summarizing sentences for each paragraph

Paragraph 1:

Paragraph 2:

Paragraph 3:

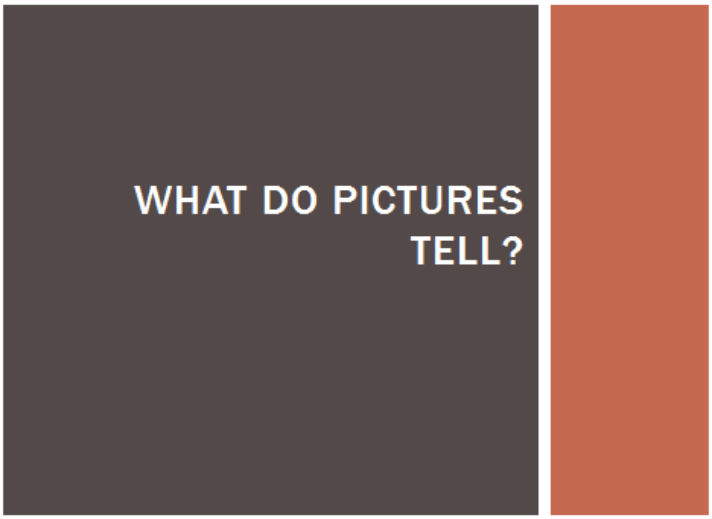
3. Look at the PowerPoint presentation called “Strategy Assistant” and discuss about which strategies you used to comprehend the text better.

4. Please fill in the feedback papers to tick the strategies studied, to state sample activities representing each strategy and to write your personal opinion about the strategies of this week.

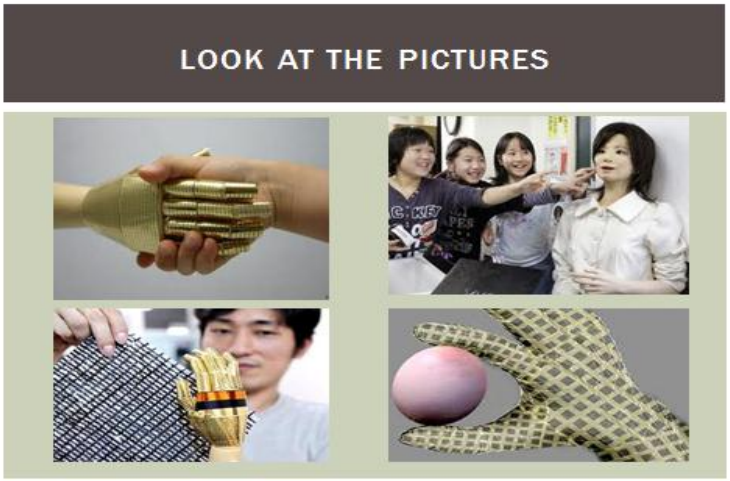
Sample Slides from PowerPoint Presentations

A. What do Pictures Tell?

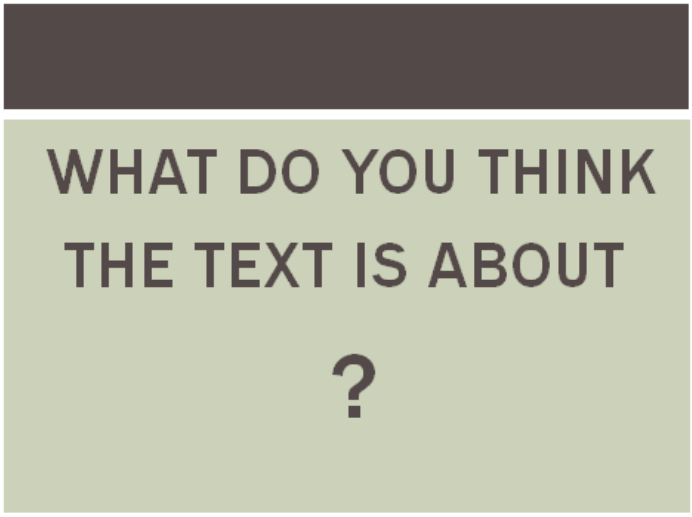
Slide 1



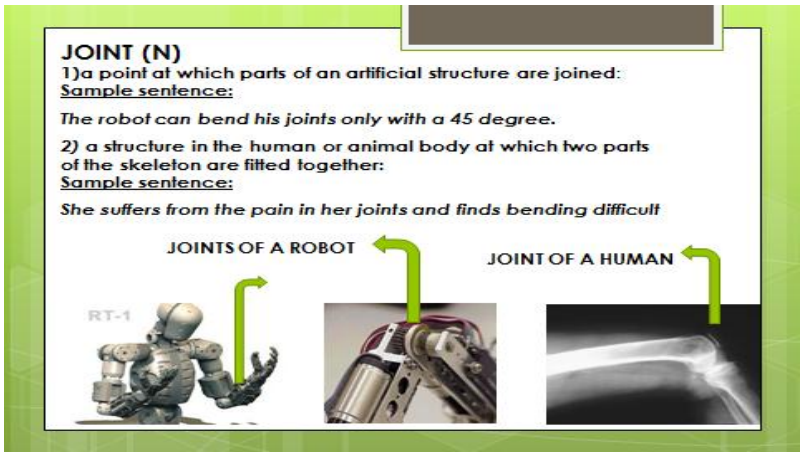
Slide 2



Slide 3

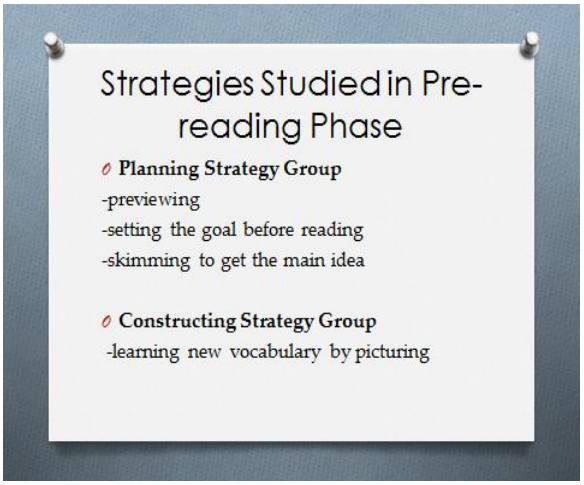


2. A Sample Slide from "Let's Learn the Vocabulary" PowerPoint presentation

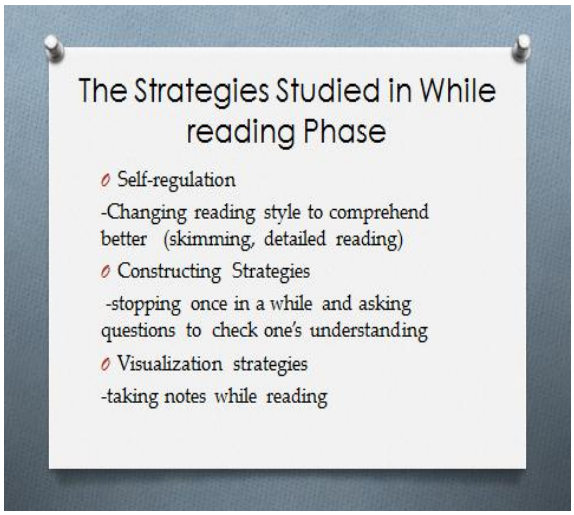


3. A Sample Slide from "Strategy Assistant" PowerPoint Presentation

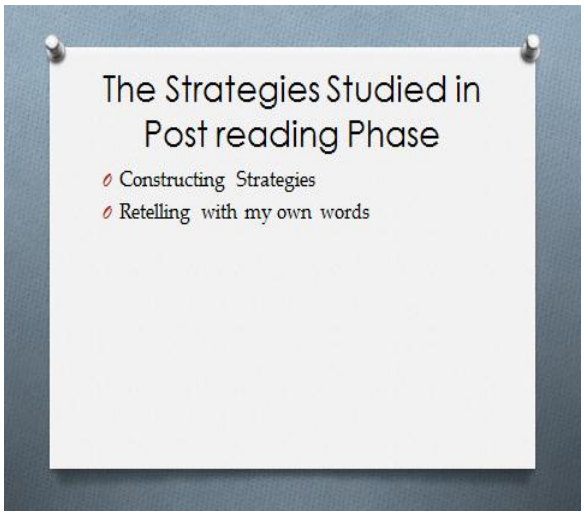
Slide 1 **Slide 2**



Slide 3



Slide 4



Slide 5