



A Study on the Use of Cognitive Reading Strategies by ELT Students

Yesim Ozek
Yeditepe University, Turkey

Muharrem Civelek
Dicle University, Turkey

Bio Data

Yesim Ozek works as a lecturer in English Language Education Department at Yeditepe University. She obtained her MSc in TESOL from Stirling University in 1996 and her PhD in Education from Exeter University in 2000. She has presented papers extensively about foreign language motivation at a number of international conferences. She is currently conducting some research and projects in teacher training and professional development of language teachers.

Muharrem Civelek is an instructor in the ELT Department at Dicle University. He obtained his MSc from Dicle University in 2002. He has carried out research related to cognitive reading strategies and presented on this in a number of international conferences. He is currently working on research to determine students' cognitive reading strategy use at university level.

Abstract

This study aims to find out which reading strategies are generally employed by ELT students while reading a text, and which reading strategies are needed to be developed to understand the text better, and therefore, to continue academic studies successfully. The population of this study was composed of the 1st and 4th year students in ELT Department at Dicle University. Two different methods were used to collect data. In the first part, a self-report questionnaire consisting of 25 items was administered to 185 students. In the second part, Think-Aloud Protocol was conducted with 23 subjects. Reading strategies were evaluated under three headings: *pre-reading*, *while-reading*, and *post-reading* in both parts. The results of TAPs analysis revealed that the students used only one strategy namely, “*relating the title to the text content*” in the pre-reading phase. As for the while-reading phase, the most effectively employed strategies were: *using the dictionary parsimoniously*, *guessing the meaning of a word from the context*, *skipping some unknown words*, *thinking-aloud during reading*, and *assimilating the text with the background knowledge*. However, none of the post-reading strategies were found to be used by the participants. The data collected from the questionnaire was analysed statistically. The results of the analysis indicated that there were some significant differences on the effective use of cognitive reading strategies with regard to students' gender, age, and proficiency in reading, school source, and duration in learning English.

Introduction

In the present study, we investigated the reading strategies which ELT students generally used while they read a text, and which strategies they needed to develop to understand a text better and to continue their academic studies successfully.

The study aimed to find the answers to the following questions:

1. Which cognitive reading strategies are used by the university students in their academic studies?
2. What sort of cognitive reading strategies should be developed by these students in order to continue their academic studies successfully and to get the most out of a text they read?

Since the English-medium universities benefit from academic materials written in English, English proficiency becomes an extremely important requirement for the students. The students are expected to understand what they read regardless of the subject matter they study. Therefore, reading skills are of significant importance in such environments. However, according to Brumfit (1980, p. 3) reading is seen as an extremely complex activity involving a combination of perceptual, linguistic and cognitive abilities. As Carrell (1998, p.1) claims “second language learners cannot perform at proficiency levels they must so as to succeed without solid proficiency.” Goodman (1998, p.2), on the other hand, defines proficient readers as “efficient and effective” because he believes that they can construct a meaning by means of assimilation, accommodation, and they do not make much effort to achieve effectiveness. He further describes reading as a psycholinguistic guessing game in which the reader reconstructs a message that has been coded by a writer as a graphic display.

Metacognitive Strategies in Reading

Reading strategies are divided into two major categories: metacognitive and cognitive reading strategies. The strategies that function to monitor or regulate cognitive strategies are called metacognitive strategies. It involves thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed (Skehan, 1993, p.87). According to Brown (1994, p.115), metacognitive strategies include “checking the outcome of any attempt to solve a problem, planning one’s text move, monitoring the effectiveness of

any attempted action, testing, revising, and evaluating one's strategies for learning." In other words, metacognitive strategies are used to plan, monitor and regulate the reading as it occurs.

Cognitive Strategies in Reading

Williams and Burden state that cognitive strategies are seen as mental processes directly concerned with the processing of information in order to learn, that is for obtaining, storage, retrieval or use of information (1997, p.148). They are more limited to specific learning tasks and involve more direct manipulation of the learning material itself (Brown, 1994, p.115). In general, studies in both L1 and L2 reading research provide a binary division of cognitive strategies as bottom-up and top-down. Goodman refers to the bottom up model as the "common sense notion" (1986, p.11). In this approach, reading is meant to be a process of decoding; identifying letter, words, phrases, and then sentences in order to get the meaning. On the other hand, top-down model advocates "the selection of the fewest and most productive elements from a text so as to make sense of it" (Lynch & Hudson,1991, p. 218) and views the reading process as an active "psychological guessing game" (Carrell, 1998, p.2). Top-down rejects the notion that identification of letters to form words, and the derivation of meaning from these words is efficient reading. On the contrary, it assumes that efficient reading requires the readers to make predictions and hypothesis about the text content by relating the new information to their prior knowledge and by using as few language clues as possible. It is further assumed that the readers can check whether the hypothesis are correct or not by sampling the text.

The top-down model is influenced by schema theory, which emphasizes the importance of the reader's background knowledge in the reading process (Carrell, 1998, p. 4). According to this theory, so as to comprehend a text, readers make use of both the text and their background knowledge. Therefore, interaction of the background knowledge and the text is essential for efficient reading. Aebersold and Field (Salataci, 1998, p.62), also state that while reading, a variety of processes repeatedly occurs in readers' minds. Readers, with the help of top-down and bottom-up strategies, use pre-reading information to make some predictions about the text. Processing information is started at the sentence level. That is to say, they focus on identification of the meaning and grammatical category of a word, sentence syntax, and text details, etc. While processing information provided them by each sentence, readers check to see how this information fits, again employing bottom-up and top-down strategies such as background knowledge, prediction, getting the gist of a text, skimming, scanning, etc.

METHOD

Participants

In total 185 students, including 88 first- and 97 fourth-year students, comprised the participants in the ELT Department in Ziya Gokalp Education Faculty at Dicle University. However, only 23 of the students volunteered to join the think-aloud component of the research.

Demographic Features of the Participants

	Male	Female			
Gender	77	108			
1 st Class	31	57			
4 th Class	46	51			
	16-19	20-23	24+		
Age	52	101	32		
1 st Class	52	35	1		
4 th Class	-	66	31		
	Excellent	Good	Poor		
Reading proficiency	18	144	23		
1 st Class	6	68	14		
4 th Class	12	76	9		
	Yes	No			
Taking course on reading	13	172			
1 st Class	1	87			
4 th Class	12	85			
	*1 st school	*2 nd school	*3 rd school	4 th school	Others
School source	51	34	42	41	17
1 st Class	32	16	26	10	4
4 th Class	19	18	16	31	13

* In these schools, the curriculum provides students with intensive English language program.

Main Study

Data collection procedures used in this study were:

- I. The Questionnaire: It consisted of two parts. The first part aimed to gather background information, whereas the second part was designed to investigate the participants' cognitive reading strategy use while reading a text. In the second part, 25 Likert-type items (Bezci, 1998) were used under the headings of pre-reading, while-reading and post-reading phase.
- II. Think-aloud protocols (TAPs): In the think-aloud sessions, participants were asked to think-aloud in front of a tape recorder as they read an authentic text. The text was chosen after deliberately and carefully considering the participants' curiosity and language competence. The text with a few difficult grammatical and vocabulary items was thought to

be appropriate for this test. As Someren (1994, p. 36) notes, think-aloud works better when a task is difficult so that students cannot solve all of it in an automated manner.

SPSS for Windows was used to analyze data. The questionnaire results were analyzed quantitatively. Frequencies and percentages were calculated for the questionnaire items. On the other hand, TAPs were analyzed qualitatively. First of all, the cognitive reading strategies used by the participants were identified. Then, the protocols were coded according to the strategy classification coding scheme. Frequency and percentage calculations for both the questionnaires and the TAPs helped the researcher to compare the self-reported data (questionnaires) with the actual reading process (TAPs) in terms of cognitive reading strategy use.

RESULTS

III. Table 1 Cognitive Strategy Use of the Students for the *Pre-reading Phase* N (=184)

Always true of me		Usually true of me		Sometimes true of me		Rarely true of me		Never true of me	
1 st Year	4 th Year								
F %	F %	F %	F %	F %	F %	F %	F %	F %	F %

Que. Strategy

1.	Reading the title and imagining what the text might be about	34	39.1	42	43.3	26	29.9	35	
36.1	19	21.8	18	18.6	7	8.0	2	2.1	1
									1.1
									0
									0
2.	Looking at illustration/pictures and trying to guess how they are related to the text	46	52.9	39	40.2	14	16.1	30	
30.9	19	21.8	18	18.6	8	9.2	8	8.2	0
									0
									2
									2.1
3.	Skimming the text quickly to get the gist	26	29.9	25	25.8	15	17.2	22	
22.7	18	20.7	23	23.7	22	25.3	18	18.6	6
									6.9
									9
									9.3
4.	Reading the first line of every paragraph to understand what the text is about	13	14.9	20	20.6	14	16.1	17	
17.5	17	19.5	24	24.7	22	25.3	17	17.5	21
									24.1
									19
									19.6
5.	Thinking about previous knowledge on the topic of the text	17	19.5	19	19.6	34	39.1	46	
47.4	0	23.0	26	26.8	12	13.8	6	6.2	4
									4.6
									0
									0

Note: F= Frequency / %= Percentage

Pre- reading strategies

The questionnaire items in this part were related to activating background knowledge and understanding what the text is mainly about. The results of the pre-reading strategies sections are displayed in Table 1. As shown in the table, both relating the title and illustration/pictures to the text content are the strategies employed by more than half of the participants “always” and “usually”, for the 1st year subjects 69% and 69% and for the 4th year ones 79.4% and 71.1%. As for skimming the text, “always” and “usually” responses taken together make 47.1% for the 1st year and 48.5% for the 4th year participants. In terms of reading the first line of each paragraph, the percentage for “always” and “usually” responses is 31 for the 1st year and 38.1 for the 4th year subjects. As indicated in the table, 58.6% of the 1st year and 67% of the 4th year participants think about their own knowledge on topic at always and usually level.

While-reading strategies

Table 2 shows the data on the use of cognitive reading strategies during the while-reading phase. The responses given to Question 6 and 7, which are both related to the dictionary use, indicate that 54.6% of the 1st year subjects chose “always” and “usually” and 60.8% of the 4th year subjects “usually” and “sometimes” read without looking up every unknown word in the dictionary (Que.6), and if the word seems important, then, 65.5 of the 1st year and 71% of the 4th year participants “always” and “usually” use a dictionary. As for contextual guessing, 73.5% of the 1st year and 64.9% of the 4th year students “always” and “usually” use the context to guess the meaning of a word. On the other hand, responses given to guessing the meaning of a word from a grammatical category show that 43.6% of the 1st year and 52.6% of the 4th year participants use this strategy at “always” and “usually” level. For the tenth question, the responses of the 1st year subjects are 48.9% and the 4th year ones are 62.8% at the “always” and “usually” level.

As for Question 11, the 1st year subjects state that they “always” (26.7%) and “usually” (36.0) skip some unknown words whereas the 4th year ones say that they “usually” (43.2%) and “sometimes” (40.0%) use this strategy. In responses given to rereading a sentence 87.5% of the 1st year and 87.6% of the 4th year participants “always” and “usually” use it. For the thirteenth question, the 1st year participants (83.9%) and the 4th year ones (74.2) “always” and “usually” consider other sentences in the paragraph to figure out the meaning of a sentence. 70.5 of the 1st year students and 78.4 of the 4th year ones “always” and “usually” read the sentences without translating word-for-word.

IV. Table 2 Cognitive Strategy Use of the Students for the While-reading Phase N (=185)

Always true of me		Usually true of me		Sometimes true of me		Rarely true of me		Never true of me	
1 st Year	4 th Year								
F %	F %	F %	F %	F %	F %	F %	F %	F %	F %

Que.

Strategy

6.	Reading without looking up every unknown word in the dictionary	21	23.9	14	14.4	27	30.7	19	19.6	25	28.440	41.2	10	11.4	12	12.45	5.7	12	
7.	Using a dictionary for the important words	45	51.1	50	51.5	14	14.4	26	29.5	2	2.1	14	15.9	1	1.0	3	3.4	0	0
8.	Guessing the meaning of a word from the context	2.1	1	1.1	0	0													
9.	Guessing the meaning of a word from the grammatical category	11	12.6	15	15.5	27	31.0	36	37.1	32	36.8	28	28.9	13	14.9	14			
10.	Remembering a new word by thinking of a situation in which the word might be used	4.1	5	5.7	1	1.													
11.	Skipping some of the unknown words	23	26.7	13	13.7	31	36.0	41	43.2	25	29.1	38	40.0	5	5.8	3	3.2	2	2.3
12.	Rereading a sentence	1	1.1	1	1.														

Note: F= Frequency / %= Percentage

V. Table 2 (Continued)

Always true of me		Usually true of me		Sometimes true of me		Rarely true of me		Never true of me	
1 st Year	4 th Year								
F %	F %	F %	F %	F %	F %	F %	F %	F %	F %

Que.

Strategy

13.	Considering the other sentences in the paragraph to figure out the meaning of a sentence	36	41.4	30	30.9	37	42.5	42	43.3	11	12.6	16	16.5	2	2.3	6	6.2	1	1.1	3
	3.1																			
14.	Reading without translating word-for-word		41		46.6	41	42.3	21	23.9	35	36.1	13	14.8		12	12.4	7	8.0	4	
	4.1 6 6.8 2 2.																			
15.	Having a picture of the events in the text in mind	39	44.3	37	38.1	28	31.8	35	36.1	13	14.8	17	17.5	8	9.1	8				
16.	Thinking aloud during the reading	8	9.5	7	7.3	16	19.0	10	10.4	21	25.0	25	26.0	24	28.6	31				
	32.3 15 17.9 23 24.																			
17.	Paying attention to words or phrases that show how the text is organized	21	24.1	9	9.3	21	24.1	41	42.3	30	34.5	29	29.9	14	16.1	14				
	14.4 1 1.1 4 4.1																			
18.	Taking notes on the important points of the text		25		28.4	33	34.0	25	28.4	24	24.7	18	20.5	22	22.7	17	19.3	13		
	13.4 3 3.4 5 5.																			
19.	Making guesses about what will come next based on the information already given in the text.		19		21.8	19	19.6	33	37.9	36	37.1	29	33.3	31	32.0	5	5.7	9		
	9.3 1 1.1 2 2.1																			

20.	Relating the text to background knowledge about the topic to remember important information	21	24.1	26	26.8	35	40.2	39	40.2	23	26.4	27	27.8	6	6.9	4
	4.1 2 2.3 1 1.0															

Note: F= Frequency / %= Percentage

Besides, 76.1% of the 1st year and 74.2% of the 4th year participants “always” and “usually” have a picture of the events in the text in mind. On the other hand, 46.5% of the 1st year and 56.3% of the 4th year ones “rarely” and “never” think aloud during reading. 51 (58.6%) of the 1st year subjects and 70(72.2%) of the 4th year ones state that they “usually” and “sometimes” pay attention to the words or phrases that show how the text is organized. 56.8% of the 1st year and 58.7% of the 4th year participants take notes on the important points of the text at “always” and “usually” level. 62 of the 1st year participants (71.2%) and 67 of the 4th year ones (69.1%) “usually” and “sometimes” make guesses about what will come next based on the information already given in the text. For relating the text to background knowledge about the topic to remember important information 66.4% of the 1st year and 68% of the 4th year subjects state that they “usually” and “sometimes” use this strategy.

Post-reading strategies

This part of the questionnaire was designed to understand what cognitive reading strategies the students were using during the post-reading phase, and the results of this part are shown in Table 3. 59.8% of the 1st year and 58.7% of the 4th year subjects “usually” and “sometimes” classify the words according to their meaning whereas 59.3% of the 1st year and 68% of the 4th year subjects “sometimes” and “rarely” classify the words according to their grammatical categories. 58 (66.7%) of the 1st year and 68 (70.1%) of the 4th year participants “always” and “usually” summarize the main ideas. 76.8% of the 1st year and 71.1% of the 4th year subjects “always” and “usually” re-read the text to remedy comprehension failures. As for the final strategy, 65.5% of the 1st year and 67% of the 4th year participants “always” and “usually” reread the text to remember important points.

VI. Table 3

Cognitive Strategy Use of the Students for the Post-Reading Phase N (=184)

Always true of me		Usually true of me		Sometimes true of me		Rarely true of me		Never true of me	
1 st Year	4 th Year								
F %	F %	F %	F %	F %	F %	F %	F %	F %	F %

Que.	Strategy	1 st Year	4 th Year												
21.	Classifying the words according to their meanings 5.2	18	20.7	16	16.5	28	32.2	27	27.8	24	27.6	30	30.9	12	13.8
22.	Classifying the words according to their grammatical categories 20.6	12	14.0	12	12.										
23.	Summarizing the main ideas 2 2.3 2 2.1	28	32.2	27	27.8	30	34.5	41	42.3	16	18.4	23	23.7	11	12.6
24.	Rereading the text to remedy comprehension failures 5.2 2 2.3 3 3.1		44		51.2	27	27.8	22	25.6	42	43.3	15	17.4	20	20.6
25.	Rereading the text to remember the important points 9.3 4 4.6 4 4.1		32		36.8	25	25.8	25	28.7	40	41.2	21	24.1	19	19.6

Note: F= Frequency / %= Percentage

The results of the Think-Aloud Protocols (TAPs)

Analysis of the TAPs provides insights on the cognitive strategy use of the participants during the actual reading process. Because of the fact that frequency of the strategy changes for different strategies, frequencies and percentages are determined for each strategy type used by the participants during the actual reading process. The frequencies and percentages for each strategy are presented in the following table.

As seen in Table 4, the 1st year participants are observed to employ only three strategies identified in this category. Reading an interesting text, paying attention to the difficulty level of the text, reading the first line of each paragraph, and considering the background knowledge are not used by any of the 1st year participants. As for the 4th year students, they also do not use the same strategies except for considering the background knowledge. The 1st year students are observed to employ a little more strategic approach before starting to read the text than the 4th year students (19% > 18%).

As for the *while-reading strategies*, the most preferred are not using a dictionary, guessing the meaning of a word from the context, skipping words, translating, and thinking-aloud by both class students. The second most commonly used strategy for the 4th year students is rereading a sentence and, for the 1st year students assimilating the text with background knowledge. None of the 1st year students has been observed to employ the *post-reading strategies*, i.e. classifying words according to their meanings, classifying the words according to their grammatical category, summarizing the main ideas, re-reading a text to remedy comprehension failures, and rereading the text to remember important information. As for the 4th year students, in parallel with the 1st year ones, none of the *post-reading strategies*, except for classifying words according to their meanings, are used.

Table 4. The Quality of Reading Strategies Used by Participants During TAPs

Strategies	1 st Year (N=10)		4 th Year (N=13)	
	N	%	N	%
1. Pre-Reading				
a. Using title	5	50	8	62
b. Using illustrations/pictures *	2	20	4	30
c. Reading over the text *	5	50	3	23
d. Reading the first line of each paragraph *	0	0	0	0
e. Considering background knowledge *	0	0	1	8
2. While Reading				
a. Not using dictionary for every unknown word	10	100	13	100
b. Consulting dictionary for the important words *	0	0	0	0
c. Guessing the meaning of a word from the context	9	90	13	100
d. Guessing the meaning of a word from the grammatical category *	2	20	3	23
e. Thinking of situation to remember a word *	0	0	0	0
f. Skipping words	10	100	13	100
g. Re-reading a sentence *	4	40	10	77
h. Considering other sentences to understand the meaning of a sentence *	2	20	0	0
i. Not translating word for word	10	100	13	100
j. Visualizing events *	1	10	3	23
k. Thinking- aloud	10	100	10	100
l. Recognizing organization *	1	10	1	8
m. Taking notes *	0	0	0	0
n. Assimilating the text with the passage events *	0	0	3	23
o. Assimilating the text with background information *	5	50	5	38
3. Post- Reading				
a. Classifying words according to their meanings *	0	0	1	8
b. Classifying the words according to their grammatical category *	0	0	0	0
c. Summarizing the main ideas *	0	0	0	0
e. Re-reading the text to remedy comprehension failures*	0	0	0	0
f. Re-reading the text to remember important information *	0	0	0	0

Analysis and Discussion

When the results of the questionnaires and the Think-Aloud Protocols (TAPs) were compared according to the 1st and the 4th year students, the results indicated that there were both similarities and differences among the students about the cognitive strategy use.

Pre-reading strategies

One strategy of this type is using the title to anticipate the text content. Similarly, relating the pictures/illustrations to the text content allows the readers to have an idea about what the text is about (Bezci, 1998, p.19). Despite the fact that both years students stated that they have perceived the importance of these strategies on the questionnaires, it was only realized for using the title, not for using the pictures/illustrations during the TAPs. Another strategy which helps the readers to understand what the text is about and to activate their schemata is skimming the text to get the gist (Anderson, 1991, p.462; Barnett, 1988, p.153). It was seen that, on the questionnaire, participants from both years stated that they used it, whereas the 4th year ones inefficiently employed it during the TAPs. As for reading the first line of each paragraph, an alternative way of skimming, it was not used by any subjects in both classes during the TAPs, which showed consistency with the questionnaire results. Besides, thinking about the previous knowledge on the topic of the text was claimed to be used by the participants but, in practice, it was not used by any of the 1st year and only one of the 4th year subjects. It might be said that while they stated that they always or usually used these pre-reading strategies, the realization percentage of these strategies were either too low or zero for the inefficiently used ones. The reason for the participants' using some of these strategies ineffectively might be that they do not want to spend their time on them but they directly start to read the text instead. However, the cognitive strategies which enable readers to activate their schemata before reading a text are considered to be critical. Therefore, it is essential that the readers relate their background knowledge to the text and form some expectations about the topic in order for full comprehension to take place (Anderson, 1991, p.462).

On the other hand, when the independent variables were examined, according to the questionnaire results, it was seen that there were some significant differences among them. In the pre-reading phase, as for gender, it was observed that female students were better than the male ones in terms of using the strategies of skimming (4.2>3.9), reading the 1st line of each paragraph (4.2>3.7), and using the title (3.5>3.1). It was also seen that there were significant differences between the 16-19 year old participants and 24+ year old ones on using the title

(3.6>2.9) and reading the first line of each paragraph (4.2>3.6). For the latter, the same difference was also determined between the 20-23 year old subjects and 24+ ones (4.1>3.6). As regards to school source - according to the number of the students - in reading the first line of each paragraph the 1st school graduates were better than the 3rd school ones (4.3>3.7). As to proficiency in reading, another significant difference was seen between the ones who claimed their proficiency as excellent and the ones who evaluated themselves as good or poor (4.8> 4.4& 4.2). The same superiority was also found in using pictures/illustrations (4.1>3.3) and in skimming (4.4>3.8) in favor of excellent subjects against the poor ones.

The pre-reading readings which should be developed are the ones that used inefficiently during the TAPs, that is to say, using the illustration/pictures, reading over the text, reading the first line of each paragraph and considering background knowledge.

While-reading strategies

As for while-reading phase, in addition to the strategies of reading without looking up every unknown word in the dictionary, consulting the dictionary for important words, guessing the meaning of a word from the context, skipping some unknown words, reading without translating word-for-word, thinking-aloud during reading, which were both seen in the questionnaire results and used efficiently during the TAPs by both year subjects, the 1st year ones also employed the strategy of assimilating the text with the background knowledge and the 4th year ones employed the strategies of rereading a sentence efficiently. Actually, a balanced use of dictionary is recommended because important words should be looked up and the rest that does not seem to hinder comprehension should be skipped (Anderson, 1991, p. 463). However, none of the subjects used dictionary during the TAPs, which is very interesting. The reason might be that they tried to employ another cognitive strategy that was to guess the meaning of a word from the context since good language learners always look for the other possible strategies which lead them to solve the problem. Despite the fact that both years subjects claimed that they used the other strategies such as guessing the meaning of a word from the grammatical category, thinking of a situation to remember a word, considering other sentences to understand the meaning of a sentence, visualizing events, recognizing organization, taking notes and assimilating the text with the passage events, those strategies were not effectively used during the TAPs. The reason might be that the subjects either do not know how to employ them or they are unwilling to use them since the strategy use requires closer attention and much time. On the contrary, both classes' participants stated that they did not think aloud during reading in the questionnaire but during TAPs all of them had to employ this strategy since their thinking-aloud was the only way to allow the researcher to find out the strategies used by the participants.

As for the gender in this phase, the female subjects had superiority against the male ones in terms of rereading a sentence (4.5>4.2), visualizing events (4.1>3.9), and taking notes (3.8>3.3). However, the male participants preferred to read sentences without translating word-for-word less than the female ones (4.2>3.9). For the age variable, a significant difference existed in between the youngest subjects and the other two groups in not using dictionary for every unknown word (3.7>3.3&2.9). They also guessed more successfully about assimilating the text with the passage events than the 24+ ones (3.9>3.4). According to duration in learning English, the subjects who have studied English for 8+ years were found to be more successful than the other two age groups in using dictionaries less (3.1< 3.6&3.5)

and remembering a new word by thinking of a situation in which the word might be used (3.8>3.1&3.5). As regarding the school source, the 1st school graduates were better than the 3rd school graduates in rereading a sentence (4.7>4.2). In terms of proficiency in reading English, the excellent subjects were more successful than the other two groups in guessing the meaning of a word from the grammatical category (4.2>3.4), thinking of a situation to remember a word in which it might be used (4.2>3.7&3.1), skipping words (4.2>3.7&3.7), not translating word-for-word (4.7>4.0&3.8), visualizing events (4.6>4.0&3.8), guessing assimilating the text with the passage events (4.4>3.8&3.6). There was a significant difference in between the good and the poor subjects in guessing the meaning of a word from the context (4.0>3.6). As for taking courses in reading, the differences were seen in consulting a dictionary for important words (4.6>4.3), thinking of a situation to remember a word in which it might be used (4.1>3.8) and assimilating the with the background information (4.3>3.8) in favor of the course takers. However, they were less efficient in thinking aloud (2.1<2.6).

The subjects are in need of developing some of the while-reading strategies which are guessing the meaning of a word from the grammatical category, thinking of a situation to remember a word, re-reading a sentence, considering other sentences to understand the meaning of a sentence, visualizing events, recognizing organization, taking notes, assimilating the text with the passage events and assimilating the text with the background information.

Post-Reading Strategies

Despite the fact that both years subjects stated on the questionnaire that they employed the strategies of classifying words according to their meanings, summarizing the main ideas, re-reading the text to remedy comprehension failures and to remember important information at always and usually level, during the TAPs none of them was used by the participants. For classifying the words according to their grammatical category, both years' students claimed that they used it at sometimes and rarely level, which showed a positive consistency during TAPs, and none of the subjects employed it. In fact, using the post-reading strategies is considered to be essential. Particularly, classifying words according to their meanings or grammatical categories after reading a text are considered to be important strategies especially for delayed retention (Carrell, 1998, p.3).

As for the independent variables in the post-reading phase, the female subjects were seen better than the male ones in terms of classifying words according to their meanings (3.5>3.2), classifying words according to their grammatical category (2.9>2.6), and re-reading the text to remedy comprehension failures (4.2>3.7). As for age, the youngest group (16-19) stated that they re-read the text to remedy comprehension failures (4.2>3.7) and re-read the text to remember important information (3.8>3.3) more than 24+ year old ones. Another difference was between 20-23 year old and 24+ year old ones in the use of the latter strategy (4.0>3.3). According to the school source, a difference existed between the first three schools' graduates and the other schools' graduates in re-reading the text to remember important information (3.9,4.0,3.8>2.6). Another difference was between the fourth school and the first school's graduates in classifying the words according to their grammatical category (3.2>2.4). As regards reading proficiency, the excellent subjects were better than the poor ones in summarizing the main ideas (4.2>3.6).

All of the strategies included in the post-reading phase should be developed, which are classifying words according to their meanings, classifying words according to their grammatical categories, summarizing the main ideas, re-reading the text to remedy comprehension failures and re-reading the text to remember important information.

The list of the employed strategies and the percentages given below throws some light on the first research question which is "What are the cognitive reading strategies that the students in the ELT Department at Dicle University use in their academic studies?"

Table 5 Effectively used Strategies

<u>Strategy</u>	<u>(1st Year- 4th Year)</u>
• Relating the title to the text content	(50% - 62%)
• Using the dictionary parsimoniously	(100% -100%)
• Guessing the meaning of a word from the context	(90% - 100%)
• Skipping some unknown words	(100% -100%)
• Reading without translating word-for-word	(100% -100%)
• Thinking aloud during reading	(100% -100%)

Besides these strategies, the 1st year subjects also employed the strategies of;

- Reading over the text (50%)
- Assimilating the text with background knowledge (50%)

As for the 4th year participants, the strategy of re-reading a sentence was used by 77% of the participants.

Cognitive strategies that the students need to develop

The findings gathered from the questionnaires and TAPs revealed that both the 1st and the 4th year subjects did not employ certain strategies effectively which would help them cope with the demands of their academic studies and which also give the answer to the second research question which is “What sort of cognitive reading strategies should be developed by the students in order to continue their academic studies successfully and to get out of a text they read?”

Table 6 Strategies that are not used effectively

<u>Strategy</u>	<u>(1st Year - 4th Year)</u>
1. Pre-Reading	
* Relating the pictures / illustrations to the text content	(20% - 30%)
* Reading the first line of each paragraph	(0% - 0%)
* Considering background knowledge	(0% - 8%)
2. While-Reading	
* Consulting the dictionary for the important words	(0% - 0%)
* Guessing the meaning of a word from the grammatical category	(20% - 23%)
* Thinking of a situation to remember a word	(0% - 0%)
* Considering other sentences to understand the meaning of a sentence	(20% - 0%)
* Visualizing events	(10% - 23%)
* Recognizing organization	(10% - 8%)
* Taking notes	(0% - 0%)
* Assimilating the text with the passage events	(0% - 23%)

3. Post-Reading

- * Classifying words according to their meanings (0% - 8%)
- * Classifying words according to their grammatical category (0% - 0%)
- * Summarizing the main ideas (0% - 0%)
- * Re-reading the text to remedy comprehension failures (0% - 0%)
- * Re-reading the text to remember important information (0% - 0%)

In addition, the 1st year students should also develop the strategy of re-reading a sentence (40%). The 4th year students also lacked the use of following strategies:

- * Reading over the text (23%)
- * Assimilating the text with background information (38%)

Conclusion and Implications

This study aimed to determine the cognitive reading strategies that the 1st and the 4th year students in the ELT Department at Dicle University use and need to develop so as to continue their academic studies successfully. In identifying the cognitive strategy needs, current strategy use of both classes' students were questioned. Through the questionnaires and TAPs the data were collected.

Two sample groups participated in the study: in total 185 first and fourth year students. As for the first step the participants were given the questionnaires which included 25 Likert-type items. The purpose was to obtain self-reported data on the cognitive use in reading. The next step was to carry out the TAPs. Ten first- and 13 fourth-year subjects took part in this session. The aim of using TAPs was to determine the cognitive strategies employed during the actual reading process and to compare the data collected through the questionnaires.

Comparing the results of the questionnaires and the TAPs both similar and contradictory results were seen about the cognitive strategy use of the students. The parallel results showed that the 1st and the 4th year subjects employed the strategies of relating the title to the text content, reading without translating verbatim and they did not classify the words according to their meanings.

On the other hand, the results of the 1st year subjects revealed that there was a consistency between the opinions and the behavior on some strategies such as guessing the meaning of a word from the context, assimilating the text with background information, and reading the first line of each paragraph. As for the 4th year participants, this consistency was only seen on the strategy of re-reading a sentence. It was also observed that TAP results which were parallel with the self-reported data were more consistent for the 1st year students than the 4th year ones.

However, there was a positive contradiction on the use of some strategies of both year students such as using the dictionary parsimoniously, skipping some unknown words and thinking aloud during reading. For the last one the reason could be that the subjects were asked to verbalize their thoughts. In addition, the 1st year students employed the strategy of reading over the text while the 4th year subjects guess the meaning of a word from the context. It can be said that since the 1st year subjects were in their junior year in the department, they might be in need of getting more information on the topic whereas the 4th year students were more experienced and they could predict the meaning of a word from the context since they did too much reading up to that time. As for the negative contradictions, both sets of students had some in common with each other.

Despite the fact that the majority of the students (almost 70 %) stated that they related the illustrations/pictures to the text content, during the TAPs the percentage was very low. The reason might be that since both year students employed the strategy of relating the title to the text content, they might find it enough or they might hesitate to tell their predictions about the pictures/illustrations because they did not understand what was in them. The majority of the students also stated that they guessed the meaning of a word from the grammatical context, considered other sentences to understand the meaning of a sentence, visualized events, summarized the main ideas, re-read the text to remedy comprehension failures, and re-read the text to remember important information but the realization percentage of these strategies was either too low or zero. The reason could be that since just one text was used for this study, it was possible for the students not to be in need of using these strategies because they knew the words and they understand the text completely.

Approximately half of both groups also claimed that they employed the strategies of recognizing organization and taking notes but they were not used efficiently. It was also seen that the students did not use the strategies of classifying words according to their meanings or grammatical categories after reading the text which are considered to be important strategies especially for delayed retention (Carrell et al., 1998, p.3) Another interesting finding was that half of the students stated that they always consulted a dictionary for the important words, but during the TAPs none of the subjects used the dictionary. The reason might be that they tried to employ another cognitive strategy which was to guess the meaning of a word from the context. In spite of the fact that nearly half of the 1st year students and more than half of the 4th year subjects claimed that they thought of a situation to remember a word on the self-reported data, during the TAPs nothing was observed related to this strategy. Although the majority of the 1st year students reported that they reread a sentence, there was a contradiction between the data and the realization. In addition, none of the 4th year students employed the strategy of reading the first line of each paragraph which showed consistency with the strategy of reading over the text.

According to the results of the self reported data and the TAPs, effectively used strategies by both classes' students were relating the title to the text content, using the dictionary parsimoniously, guessing the meaning of a word from the context, skipping some unknown words, reading without translating word-for-word, thinking-aloud during reading. Besides these strategies, the 1st year subjects also employed the strategies of reading over the text and assimilating the text with the background knowledge. As for the 4th year ones, they reread a sentence. These strategies also comprised the answer to the first research question which was "What are the cognitive reading strategies that the students in the ELT Department at Dicle University use in their academic studies?"

The findings gathered from the questionnaires and the TAPs revealed that both the 1st and the 4th year subjects did not employ certain strategies effectively. Carrell and Carson (1997, p.54) suggest that "EAP readers must develop the strategies and tactics necessary for coping with the demands of academic reading". Therefore, the students have to use some certain cognitive reading strategies which will help them to solve the problems when they read a text. Research on the effects of cognitive strategies on reading performance suggests that relating the title, illustrations/pictures and background knowledge to the text, skimming, using dictionary parsimoniously, guessing, remembering a word through situations, rereading, using

the first language as a base, visualizing events, being careful about how the text is organized, making notes and summaries of the important information, and classifying words are the strategies help readers to improve their reading ability significantly and therefore, these strategies should be neglected in the foreign or second language reading curriculum. As Carrell (Carrell et al., 1989, p.648) puts forward, “strategy research suggests that less competent learners are able to improve their reading skills through training in strategies”. Besides, effective reading strategies may help learners a great deal in improving their reading proficiency so that, as Grabe (1991, p.27) says, they can read more effectively for their academic studies regardless of the type of text they encounter. Therefore, in order to find out the answer to the second research question which was “What sort of cognitive reading strategies should be developed by the students in order to continue their academic studies successfully and to get the most out of a text they read?”, both classes’ subjects should develop the strategies of relating the pictures/illustrations to the text content, reading the first line of each paragraph, considering background knowledge, consulting the dictionary for the important words, guessing the meaning of a word from the grammatical category, thinking of a situation to remember a word, considering other sentences to understand the meaning of a sentence, visualizing events, recognizing organization, taking notes, assimilating the text with the passage events, classifying words according to their meanings and to their grammatical category, summarizing the main ideas, rereading the text to remedy comprehension failures and rereading the text to remember important information. Besides, the 1st year students should also develop the strategy of rereading a sentence and the 4th year students ought to develop the strategies of reading over the text and assimilating the text with the background information.

In helping readers develop effective reading strategies, the first step should be identifying what strategies the students are already using. The think-aloud method can be used as a diagnostic tool to analyze students’ strengths and weaknesses in reading since it reveals rich information about how readers carry out mental activity, which is unobservable (Block, 1986). TAPs provide rich information about how learners solve problems, what difficulties they encounter and to what extent and in what contexts they use certain strategies in a learning task (Someren et al., 1994, p.8).

In future research, it is recommended that the number of the participants and the texts which will be used during the TAP session be increased. Since this study reveals some inconsistent

results about the relationship between the self-reported data and the strategy use, the reasons of these differences can be investigated. The relation between the learner styles and the strategy use can be another investigating area since it is believed that differences in the learning styles of the students may affect their strategy use.

This study also provides the instructors with an opinion about the learners' reading strategies and gives them a chance to understand and to evaluate better their own knowledge of what and how to teach reading. Consequently, for further research, think-aloud protocols are suggested as a good methodology in spite of being time-consuming and difficult to analyze since they allow the objective observation of both ongoing behavior and the mental pictures of the participants.

References

- Bezci, E. O. (1998). An investigation of the cognitive strategy needs of the freshman students at Hacettepe University. Unpublished Masters Thesis, Ankara: Bilkent University.
- Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, 20, 463-494.
- Brown, H.D. (1994). *Principles of language learning and teaching*. New Jersey: Prentice Hall Regents.
- Brumfit, C.J. (1980). *Problems and principles in English teaching*. Oxford: Pergamon.
- Busch, M. (1993). Using Likert scales in L2 research. *TESOL Quarterly*, 27, 733-736.
- Carrell, P.L. (1998). Introduction. In P.L. Carrell, J. Devine & D.E. Heskey (Eds.), *Interactive approaches to second language reading* (pp. 1-5). Cambridge: Cambridge University Press.
- Ericsson, K.A. & H.A. Simon (1993). *Protocol analysis: Verbal reports as data*. Massachusetts: The MIT Press.
- Goodman, K. (1998). The reading process. In P.L. Carrell, J. Devine & D.E. Heskey (Eds.), *Interactive approaches to second language reading*. (pp. 11-21). Cambridge: Cambridge University Press.
- Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly*, 25, 375-406.
- Lynch, B. & T. Hudson (1988). EST reading. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language*. (pp. 216-232). Boston: Heinle & Heinle.

- Salataci, R. (2000). Reading strategies in Turkish and English: A case study of eight Turkish EFL learners. *Conference Proceedings*. (pp. 62-66). Ed. D. Koksal and I.H. Erten. Çanakkale: Onsekiz Mart University.
- Skehan, P. (1989). *Individual differences in second language learning*. GB: Routledge. Chapman and Hall.
- Someren, M.V., F. Barnard & J.A. Sandberg. (1994). *The think-aloud method. A practical guide to modeling cognitive processes*. London: Academic Press.
- Turner, J. (1993). Using Likert scales in L2 research. *TESOL Quarterly*, 27, 736-739.
- Wilhelm, J.D. (2001). *Think-aloud strategies for improving comprehension*. New York: Scholastic Prentice-Hall.
- Williams, M. & R.L. Burden (1997). *Psychology for language teachers: A social constructivist approach*. Cambridge: Cambridge University Press.