THE IMPACT OF LEARNING MULTIPLE FOREIGN LANGUAGES ON USING METACOGNITIVE READING STRATEGIES

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Abstract

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This study aims primarily to investigate the impact of learning multiple foreign languages on the use of metacognitive reading strategies (MRSs) by foreign language teaching (FLT) department students. A number of factors such as gender, hand preference, class, and programme with reference to their belief orientation were also involved in the study. A five-scale Likert type questionnaire, consisting of 22 MRSs and 12 belief orientation items, was administered to 205 participants in the department of FLT at Çanakkale Onsekiz Mart University in Turkey. Post Hoc test indicated significant differences among the participants in different programs, evidencing the contribution of learning a second foreign language to the use of MRSs. Participants of the Japanese Language Teaching Programme implied that learners' preference of MRSs would develop hand in hand with their difficulty with the target language.

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Introduction and Literature Review
Reading Process

Reading, being defined as an active cognitive system operating on printed material for comprehension (Chastain, 1988) was once considered the most important activity in language classes (Rivers, 1981). Goodman (1988, p. 11) mentioned two views on reading; the first accepting it as "matching sounds to letters", and the second stating it to be a mystery, that "nobody knows how reading works". He was probably affected by MacLeish (1968, p. 43) who proposed that "readers of all written languages are 'getting' sounds from the printed page". However, no longer remains a mystery thanks to recent research into the reading process. Although originally considered a passive process, then active, and recently interactive (Wallace, 2001); reading has not only been defined as not a single-factor process (Nassaji, 2003), but also as an active and fluent process (Anderson, 1999).

Chastain (1988) proposed that in the reading process, the reader's task is to activate background and linguistic knowledge to recreate the writer's intended meaning. To achieve meaning, then, readers should go beyond the printed material. In support of this idea, Harmer (2001) has similarly stated that a reader uses a variety of clues to understand what the writer is implying, by which means the reader is able to see beyond the literal meaning of the words. As Nuttall (1996, p. 21) proposes, even a single sentence may have at least four kinds of meaning; defining the meaning "a word can have on its own" as _conceptual_, "a sentence can have on its own"

as *propositional*, "a sentence can have only when in a context" as *contextual*, and "a sentence has only as part of the interaction between writer and reader" as *pragmatic*. Through the reading process, readers are expected to achieve either *literal* or *implied* meaning. Brown (2001) maintained that implied meaning is believed to be derived from processing pragmatic information.

Grabe (1991, pp. 379-383) identified six component elements in fluent reading, namely, 'automatic recognition skills', 'vocabulary and structural knowledge', 'formal discourse structure knowledge', 'content/world background knowledge', 'synthesis and evaluation skills/strategies', and 'metacognitive knowledge and skills monitoring'. Metacognition, knowledge about cognition and the self-regulation of cognition is recognised as a critical component of skilled reading. Grabe (2003) revealed effective approaches for reading and he determined that good readers need 'rapid and automatic word recognition skills', 'a large recognition of vocabulary', 'sound knowledge of syntactic structure and discourse organization', and 'metacognitive awareness of reading purposes and text comprehension'.

Reading Models
According to Wallace (2001), the role of the reader changed in the 1980s and 1990s. She pointed out that reading was accepted as a passive skill in early versions of bottom-up models where a reader goes through a mechanical pattern by creating a piece-by-piece mental translation of the information in the text (Anderson, 1999; Grabe and Stoller, 2002). In this model the interaction between the reader and the text includes little or no interference from the reader's own background knowledge. Following this, an active role for the reader was surmised, involving extracting meaning from reading texts in top-down models, whereby the reader is expected to bring her background knowledge to the text. Anderson has indicated that recently, reading has begun to be described as 'interactive' in interactive reading models which combine elements of both bottom-up and top-down models as the most comprehensive description of the reading process. Abbott (2006, p. 661) has concluded that "a balanced or interactive approach that emphasizes the importance of both bottom-up and top-down processing in the construction of meaning is appropriate for teaching reading comprehension".

Memory and Reading
The concept of memory is closely related to the process of reading. Grabe and Stoller (2002) outlined two relationships between memory and reading. Firstly, reading involves various processes carried out simultaneously. Readers not only recognise words very rapidly and keep them active in their working memories, but also analyse the structure of sentences. In this view, analysing skills are determined as assembling "the most logical clause-level meanings, building a main-idea model of text comprehension in our heads, monitoring comprehension and so on" (p. 18). That is why general comprehension is accepted as taking a long time to master. The second reason for this interactive process is the interaction of the reader's activated background knowledge with linguistic information from the text. The reader's background knowledge exists in her long-term memory; and the interpretation essentially requires both linguistic and background knowledge.

Grabe and Stoller (2002) integrated short term memory with the activated information "which involves the active use of cognitive processes such as recognising and storing word information, using syntactic information, connecting pronoun references, building overall text structure, integrating and restructuring information, assessing inferences and adapting reader goals" (p. 18). The capacity of the short-term memory is limited (Miller, 1956) and it processes information while the mind works on various tasks. In order to prevent the rapid fade of

information, it must be repeated over and over. In this case, automatic processes (McLaughlin, 1987) should be used for better comprehension in reading, a skill which needs to be learned in order to develop.

Learner Characteristics

Rubin (1975) examined the characteristics of good language learners in his study. Recent research on this issue encourages appropriate use of strategies, since it "results in improved L2 proficiency overall, or in specific language skill areas" (Oxford, 2002, p. 126).

The previous literature on learning strategies had focused on the characteristics good learners., Poor readers, on the other hand, were seen as having difficulties in administering strategies, such as predicting and monitoring (McNeil, 1987), since monitoring is attributed with having a positive effect on achievement (Bialystock, 1981). Age is also considered to be an effective factor and good language learners adapt themselves to different situations through monitoring and adaptive strategies; however, poor readers have the tendency to pursue ineffective strategies (Chamot and El-Dinary, 1999).

Learning Strategies

Strategy use is regarded as being in parallel with learners' perception of the strategies (Barnett, 1988). Previously, the general tendency to categorize learning strategies put them into two subcategories; 'direct' and 'indirect'. The favourite accounts of categorization of learning strategies belong to Oxford (1990) and O'Malley and Chamot (1990). O'Malley and Chamot listed learning strategies in three categories: metacognitive, cognitive and social/affective. Although their number of categories differs from Oxford's, their metacognitive strategies are essentially quite similar to Oxford's, since they refer to the planning of language study, preparation and monitoring of learning tasks, and evaluating student performance. In support of this, Oxford (2002, p. 121) defined metacognitive strategies which "deal with planning, monitoring, and evaluation of language learning activities". It is worth mentioning Oxford's (1990) six types of learning strategies categorized in two groups; direct and indirect. Oxford listed 'memory', 'cognitive', and 'compensation' strategies in the direct group, while 'metacognitive', 'affective', and 'social' strategies were in the indirect group. She indicated that there was an interaction between her direct and indirect strategies; therefore learners may need to refer to their direct strategies in order to use an indirect strategy.

Another categorization of learning strategies came from Stern (1992) who listed them under five categories, namely, 'management and planning', 'cognitive', 'communicative-experiential', 'interpersonal', and 'affective'. It is interesting to note that metacognitive strategies exist in this categorization under the title of *management and planning*, which refers to learners' plans, objectives, assessment of progress, and evaluation of achievement.

Alptekin (2007) explored differences in the choice of language learning strategy and in the frequency of its use among 25 international students at university level in Turkey, English being learned in a tutored and Turkish being learned in a non-tutored manner. His results concerning strategy preference and frequency of use indicate significant differences between groups in terms of use of strategies in English and Turkish.

> In the case of learning Turkish, the participants are high strategy users in terms of their deployment of compensation and social strategies, and medium strategy users in terms of their deployment of cognitive strategies. In the case of learning English, however, the participants seem to make more use

of metacognitive, cognitive, and compensation strategies (in a decreasing order of frequency), while they can be labeled as medium strategy users in relation to social strategies. (p. 8)

Since the present study focuses on MRS (Metacognitive Reading Strategies), the other learning strategies are outside its scope.

Reading Strategies

Readers follow a very complex process in reading by engaging in different models where the aim is decoding the writer's intended message by referring to background knowledge. To achieve their goals, readers use different learning strategies, in other words, thoughts and behaviours to accelerate comprehension (O'Malley and Chamot, 1990). Oxford (1990, p. 8) mentions the favourite definition of learning strategies as "operations employed by the learner to aid acquisition, storage, retrieval, and use of information" and expands this by offering her own definition: "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations".

Cross (1999) compared real reading strategies with classroom reading. In real life, readers use a variety of strategies related with their purpose. Similarly, Nunan (1999) also questions the reasons for reading and he formulates a list of these reasons. With the help of this list, he concludes that people read different things with different aims; therefore they use different strategies for different tasks. He illustrates this by comparing reading a label on a bottle of wine with reading an academic text, both of which require use of different strategies. Harmer (2001) has drawn attention to *instrumental* and *pleasurable* reading. The former represents reading to achieve some clear aim, wile the latter represents reading that takes place just for pleasure. In Cross's view, on the other hand, for classroom reading teachers are required to use a number of reading strategies. Therefore, a number of different types of texts should be used in classes. For example, a scientific article's statistics could provide a good example for scanning; or a short story may help to practice skimming. Nevertheless, the type of the task is not the only variable affecting strategy selection. As Singhal (2001) indicated, age also makes a contribution to strategy usage and selection, and she pointed out the less frequent and ineffective usage of strategies by younger and less proficient learners.

According to Grabe and Stoller (2001), academic reading requires developing strategic readers who are aware of their goals in reading and able to administer strategies effectively, chosen carefully depending on their purpose in reading, to check their understanding of the text and solve comprehension problems. Successful readers are believed to be those who use learning strategies effectively (Green and Oxford, 1995; Aebersold and Field, 1997). The study of successful readers led the research in the field of reading strategies emerge. For example, Ur (1996) pointed out that efficient readers used different strategies for different purposes. On the other hand, she implied that inefficient readers tended to use the same strategy for all texts, therefore their inadequacy in using appropriate strategies triggered researchers to also study poor readers (see, Vann and Abraham, 1990). Nevertheless, having a tendency of using more strategies resulted in better performance on reading tests (Anderson, 1991). Readers' preferences of strategy choice are thought to be affected by their beliefs, which are affected by any aspect in educational practice (LoCastro, 1994).

Metacognitive Reading Strategies

According to Silberstein (1994), successful readers are required both to know about their cognition, called *metacognition*, and be able to monitor their comprehension. Therefore, they should be aware of their metacognition, such as knowing their goals and using a variety of different

strategies for different reading texts. Similarly, Aebersold and Field (1997, p. 95) defined the term metacognition as follows:

> [It] comes from the field of cognitive psychology and is increasingly used in language teaching and learning. Meta mans after or behind, and cognition means the act or process of knowing or perception. Thus, metacognition is understanding what is behind, what supports or informs, readers' knowledge and perception. In the simplest terms it means understanding the process of knowing, or how (not just what) readers know and perceive.

Gardner (1978) proposed that the roots of metacognition belong to early accounts of one's life. Richards and Lockhart (1996) also indicated that through metacognitive strategies learners can organize, plan, and evaluate their own learning. According to Johnson (2001), metacognitive strategies are used to co-ordinate the learning process. Nevertheless Cook (2001) proposed that such strategies also involve thinking about learning, monitoring one's own production, and evaluating comprehension. When metacognition is related with reading it is described "as the knowledge learners have about reading strategies and the ability to capitalize upon such knowledge to monitor their own reading" (Vacca and Vacca, 1989, p. 220). However, to make use of transfer skills, learners need to be aware of their learning process and learning strategies can be transferred to new tasks once they are learned (Chamot and O'Malley, 1987). Therefore, being able to monitor learning strategies can contribute to (student) learning through metacognitive approaches (National Research Council, 2000). Block (1986) said that the use of strategy is a stable phenomenon; and therefore it is not tied to any specific language.

According to Demirel (1992, p. 9), metacognitive learning strategies are 'advanced organizers', 'directed attention', 'selective attention', 'self-management', 'functional planning', 'self-monitoring', 'delayed production', and 'self-evaluation', which runs parallel to the ideas of Singhal (2001). Nevertheless Tudor (1996) calls attention to the relationship between metacognitive strategies and organisation of the learning process.

Learners have a tendency to use metacognitive strategies to oversee, regulate or self-direct their learning process (Rubin, 1981). However, O'Malley and Chamot (1990) describe the process involved in metacognitive strategies as consisting of four elements, namely, 'planning', 'prioritising', 'setting goals', and 'self-management'. On the other hand, learners use metacognitive strategies to regulate their learning (Oxford, 1990).

Metacognitive strategies also encourage learners to observe their environment rather than focusing their attention on learning (Willams and Burden, 1999). Therefore, they need to be aware of what they are doing and also which strategies they are using. In this respect, it is also crucial to manage the strategies appropriately for different tasks. As learners become aware of their own learning process, they know about their knowing, a different level called *metacognition*. Willams and Burden conclude that providing metacognitive awareness is crucial for effective learning, pointing out the difference between strategies which allow direct and indirect contributions to learning. If learners memorize new vocabulary or guess the meaning of an unknown word, these then could be considered as making a direct contribution to learning the target language, which takes place at a cognitive level. However, if they a tendency to chat with foreigners on the Internet or walk around in order to make contact with tourists, then these could be exemplified as indirect strategies.

Anderson (1999, p. 38) also indicated that successful readers had a tendency to monitor comprehension. "Part of that monitoring process includes verifying that predictions that are being made are correct and checking that the reader is making the necessary adjustments when meaning is

not obtained". Anderson then recommends that reading teachers encourage their students first to monitor their comprehension, which is a cognitive process since it allows readers to be aware of their current process, and secondly to discuss the process of comprehension in a metacognitive manner. Metacognitive awareness of the reading process is attributed as the most important skill by Anderson, where he defines metacognition as thinking about thinking. According to Baumann, Jones, and Seifert-Kessell (1993), in order to monitor reading comprehension, readers are also recommended to *think aloud*, which would allow them to see where they have difficulties.

Metacognitive strategies are found to be extremely valuable in EFL (English as a Foreign Language) contexts with reference to a number of studies conducted in various countries such as South Africa and Turkey (Oxford, 2001). According to Ellis Ormrod (1995, p. 46), "[t]he term metacognition refers both to the knowledge people have about their own cognitive processes and to their internal use of certain cognitive processes to facilitate learning and memory", therefore metacognition is believed to maximize memory, for example by knowing the limitations of memory. In this respect, through *strategy schema* (Casaneve, 1988), the reader first monitors her understanding from the text and then decides which strategy is appropriate for her. Thus the reader is thought to be aware of the reading process before deciding on the appropriate strategy. Carrell (1989) investigated the relationship between readers' metacognitive awareness on reading strategies and their reading ability. The participants who used 'local' strategies showed negative correlation with reading performance. "One would expect this correlation for proficient L1 readers who have the requisite language decoding skills to process texts automatically (rather than attentionally) for effective reading comprehension" (p. 127).

Metacognitive strategies are considered to be useful in reading by Oxford (1990). Alderson (2000) proposes that *skimming* is a metacognitive skill that is used by good readers which allow them to read for general understanding (Bachman and Cohen, 1998; Flowerdew and Peacock, 2001). Similarly, *skimming* and *scanning* are thought to be the most valuable reading strategies by Brown (2001). Nevertheless, Davies (1995) concludes that these two terms are confusing and gives examples from real life reading and points out that in daily life readers' scan with the help of *skimming* and also *skipping*. Similarly, *skimming* is subcategorized together with *surveying* under the category of *scanning* by Wallace (1999). Therefore it would not be wrong to identify *skimming* and *scanning* as good strategies used by successful readers; however it is important to keep in mind the crucial difference between these two strategies, where scanning is used to get specific information from the text and skimming is used to get a general idea about the text.

Since the present study mainly aims to investigate the effects of learning a second (or third) foreign language on the use of MRSs, it is important to mention the deficiency of such studies in the literature of reading strategies.

<u>Study</u>

Previous research on the use of Megacognitive Reading Strategies (MRSs) emphasizes such strategies as being extremely valuable for foreign language reading. Thus, students in the department of FLT should involve such strategies in their reading process. The present study therefore mainly aims to investigate the impact of learning multiple foreign languages on using MRSs by FLT department students at university level, "multiple" in the sense that students in the study are learning not just one, but two or more foreign languages during their university life. Nevertheless a number of various factors such as gender, hand preference, class, and programme with reference to the participants' belief orientation on the text were also involved in the study.

The six research questions addressed were as follows, with the emphasis on the 1st with reference to the study's main aim.

1. Does learning another foreign language along with English have an impact on the use of MRSs?
2. What are the most frequently used MRSs among foreign language learners?
3. Is there a correlation between the use of MRSs and belief orientation?
4. Does a right or left hand preference have an impact on the use of MRSs?
5. Does gender have an impact on the use of MRSs?
6. Does being a student in various classes at university have an impact on the use of MRSs?

The study had the following hypothesis:

H₁: Learning another foreign language along with English will be positively related to the use of MRSs.

Methodology
Setting

The study was conducted among students in three programmes of the Foreign Languages Department (FLT), Faculty of Education at Çanakkale Onsekiz Mart University in Turkey in the fall semester of the 2007-2008 Academic Year. The three programmes consisted of English Language Teaching (ELT), German Language Teaching (GLT), and Japanese Language Teaching (JLT). The Foreign Language Department was considered suitable for the study since all the students regardless of being in ELT, GLT, or JLT are accepted on their programmes by being successful in an English placement test.

Participants

A total of 205 participants from different classes participated in the study. The participants were all young adults aged from 16 to 26 (average 19.7). They were all being trained to become teachers of English, German, or Japanese. At the time of data collection, they had studied English for 4-13 years (average 8.4 years). Since the Department of FLT is female-dominant, the vast majority of participants involved in the study were females. Since ELT students outnumber GLT and JLT students, they were also represented in the study more than the others. The following table shows the frequency statistics of the participants in the study (See Appendix A for other details about the participants).

Table 1: Frequency statistics of the participants

N	Total	Class					Programme				Hand preference		
		Prep	*1st*	*2nd*	*3rd*	*Total*	*ELT*	*GLT*	*JLT*	*Total*	*Left*	*Right*	*Total*
Female	165	64	65	19	17	165	81	53	31	165	14	151	165
Male	40	15	14	5	6	40	15	15	10	40	5	35	40
Total	205	79	79	24	23	205	96	68	41	205	19	186	205

As seen in Table 1, female participants quadrupled the number of males. As the curriculum in the FLT department allowed for students to have reading classes mainly in their Prep and 1st classes, most of the participants were from these classes. As expected, the vast majority of the participants preferred using their right hands; only about one in ten participants preferred using their left hands.

Materials

In order to collect data, Taraban's (2006) questionnaire consisting of two groups of items, namely the *Metacognitive Reading Strategies Questionnaire* (Taraban, Rynearson, and Kerr, 2000 and Taraban, Kerr, and Rynearson, 2004) and the *Reader Belief Inventory* (Schraw, 2000), was delivered to the participants (See Appendix B).

The first part of the questionnaire consisted of 22 statements on the use of MRSs divided into two subcategories, namely, *cognitively-based analytic strategies* and *action-based pragmatic strategies*. Moreover, the questionnaire included another section in which participants' beliefs about reading texts was collected through the reader belief inventory, consisting of 12 statements under the two subcategories of *transaction* and *transmission*.

The participants were also required to give demographic information about their *age, period of study of English, programme, class, hand preference,* and *gender*.

Procedures
Method of Data Collection

Since the researcher is an academic staff member in the department where the study was conducted, the students in the department were informed about the aims of the present study by the researcher and willing students were delivered copies of the questionnaire. The participants were allowed a day to fill in the questionnaires. Although 400 copies of the questionnaire were delivered, only 205 of them were actually returned by participants.

Method of Data Analysis

The data collected through the questionnaire were entered on the computer through SPSS (Statistical Package for Social Sciences, version 10.0). The data were analysed by descriptive statistics, correlations, independent samples T-test, oneway ANOVA test, and post hoc multiple comparisons Scheffe tests.

Findings
Research Question 1

Research question 1 deals with the main aim of the present study. Table 2 Oneway ANOVA test examines whether there is a scientifically significant difference for the use of strategies in terms of the different programmes in the FLT Department.

Table 2: Oneway ANOVA test for the programmes

		Sum of Squares	df	Mean Square	F	Sig.
Strategies mean	*Between Groups*	3,240	2	1,620	8,003	**,000**
	Within Groups	40,885	202	,202		
	Total	44,125	204			

In Table 2, Oneway ANOVA test indicates a significant difference for the use of strategies [F=8.003 p<.01]. Table 3 Post Hoc Multiple Comparisons Scheffe Test for the programmes compares the three groups with each other and shows where the differences occur among the groups and at what level for the use of strategies.

Table 3: Post Hoc Multiple Comparisons Scheffe Tests for the programmes

Dependent Variable	(I) programme	(J) programme	Mean Difference (I-J)	Std. Error	Sig.
Strategies mean	*ELT*	*GLT*	-6,5090E-02	7,131E-02	,660
		JLT	-,3330*	8,393E-02	**,001**
	GLT	*ELT*	6,509E-02	7,131E-02	,660
		JLT	-,2679*	8,896E-02	**,012**
	JLT	*ELT*	,3330*	8,393E-02	**,001**
		GLT	,2679*	8,896E-02	**,012**

To answer the first research question, Table 3 Post Hoc Multiple Comparisons Scheffe Test indicates significant differences between participants in the JLT programme and ELT programme [p<.01] and also between participants in the JLT programme and GLT programme [p<.05] concerning use of strategies. These significant differences confirmed the hypothesis of the study.

Emerged Data

Table 4 below shows T-test group statistics comparing the participants in the ELT programme with those in the GLT and JLT programmes combined. Also, the independent samples T-test in the table below indicates whether these differences are statistically significant or not.

Table 4: Independent samples T-test group statistics for ELT vs GLT & JLT

Mean	Programme	N	$\overline{X}$	S.D.	t	df	Sig.
Strategies	*ELT*	96	3,6548	,4649	-2,583	203	**,010**
	GLT & JLT	109	3,8207	,4533			

Table 4 above gives the mean values for the use of strategies by ELT participants in one group and GLT and JLT participants in the other group. The mean value for the use of strategy indicates the superiority of GLT & JLT participants. Independent samples T-test in the table indicates a significant different for the use of strategies [t=-2.583 p<.01].

Although the present study did not aim to compare participants in the JLT programme with participants in the ELT and GLT programmes, the findings presented in Table 2 and Table 3 led the researcher to compare these two groups. As the participants in the JLT programme have a tendency to use MRSs more frequently, Table 5 below illustrates T-test group statistics comparing the participants in JLT with those in ELT and GLT together. Also, an independent samples T-test in the table below indicates whether these differences are statistically significant or not.

Table 5: Independent samples T-test group statistics for JLT vs ELT & GLT

Mean	Programme	N	$\overline{X}$	S.D.	t	df	Sig.
Strategies	*JLT*	41	3,9878	,4150	3,897	203	**,000**
	ELT & GLT	164	3,6818	,4578			

In Table 5 the mean value for the use of strategy indicates the superiority of JLT participants. Independent samples T-test in the table indicates a significant difference for the use of strategies [t=3.897 p<.01].

Research Question 2

Table 6 shows the mean values of the participants' responses to the first group of statements, which consist of two groups; 'analytic' and 'pragmatic'. Table 6 first illustrates the responses of all participants to these two groups, gives the mean values for two subcategories and also the mean

value of these two subcategories (out of a possible 5), then shows the partial responses of participants by focusing on the factors 'period of study of English', 'class', 'age', 'programme', 'hand preference', and 'gender'. The total number of participants is 205, however the distribution of participants for other groups is shown in Table 6.

Table 6: Descriptive statistics of participants in terms of use of strategies

Variable	Participants	Strategy group	N	$\overline{X}$	S.D.
All	*All*	*Mean*	205	3,7430	,4651
		Analytic	205	3,7765	,4689
		Pragmatic	205	3,6537	,7120
Period of English study	*Has studied English for 4-6 years*	*Mean*	33	3,6157	,4624
		Analytic	33	3,6117	,4563
		Pragmatic	33	3,6263	,8610
	Has studied English for 7-9 years	*Mean*	123	3,7542	,4815
		Analytic	123	3,7952	,4688
		Pragmatic	123	3,6450	,7208
	Has English for 10 or more years	*Mean*	49	3,8006	,4153
		Analytic	49	3,8406	,4618
		Pragmatic	49	3,6939	,5807
Class	*Prep class*	*Mean*	79	3,7112	,4992
		Analytic	79	3,7634	,5107
		Pragmatic	79	3,5717	,7317
	1st class	*Mean*	79	3,8136	,4645
		Analytic	79	3,8426	,4513
		Pragmatic	79	3,7363	,7346
	2nd class	*Mean*	24	3,6420	,2866
		Analytic	24	3,6797	,3585
		Pragmatic	24	3,5417	,4746
	3rd class	*Mean*	23	3,7154	,4879
		Analytic	23	3,6957	,4735
		Pragmatic	23	3,7681	,7600
Age	*19 and younger*	*Mean*	106	3,7654	,4928
		Analytic	106	3,8101	,5058
		Pragmatic	106	3,6462	,6949
	20 and older	*Mean*	99	3,7190	,4346
		Analytic	99	3,7405	,4254
		Pragmatic	99	3,6616	,7333
Programme	*ELT programme*	*Mean*	96	3,6548	,4649
		Analytic	96	3,6823	,4722
		Pragmatic	96	3,5816	,6942
	GLT programme	*Mean*	68	3,7199	,4483
		Analytic	68	3,7362	,4464
		Pragmatic	68	3,6765	,7391
	JLT programme	*Mean*	41	3,9878	,4150
		Analytic	41	4,0640	,3862
		Pragmatic	41	3,7846	,7034
	GLT & JLT programme	*Mean*	109	3,8207	,4533
		Analytic	109	3,8595	,4520
		Pragmatic	109	3,7171	,7245
Hand preference	*Left-hand dominant*	*Mean*	19	3,7344	,3721
		Analytic	19	3,7928	,4109
		Pragmatic	19	3,5789	,5425
	Right-hand dominant	*Mean*	186	3,7439	,4744
		Analytic	186	3,7749	,4754
		Pragmatic	186	3,6613	,7278
Gender	*Female*	*Mean*	165	3,7614	,4701
		Analytic	165	3,7883	,4736
		Pragmatic	165	3,6899	,7042
	Male	*Mean*	40	3,6670	,4412
		Analytic	40	3,7281	,4515
		Pragmatic	40	3,5042	,7333

As seen in Table 6, the responses of the participants indicate that the overall tendency is to use analytic MRSs. When *analytic* strategies are compared to *pragmatic* ones in the other variable groups – 'period of study of English', 'class', 'age', 'programme', 'hand preference', and 'gender' – it is seen that *analytic* strategies are superior to *pragmatic* ones for all subcategories of 'age', 'programme', 'hand preference', and 'gender'. However, *pragmatic* strategies are slightly superior to *analytic* ones for participants who have been studying English for 4-6 years. Similarly, 3rd year students' responses also indicate that usage of *pragmatic* strategies is superior to *analytic* ones. Nevertheless, it would not be wrong to accept the superiority of *analytic* strategies with reference to Table 6. The following table exemplifies the strategies in terms of their frequency of usage.

Table 7: Descriptive statistics of strategy items (N=205)

Items	$\overline{X}$	S.D.
12. Determine meaning of critical words	4,1902	,8955
3. Draw on knowledge	4,1610	,8509
22. Re-read for better comprehension	4,1610	,9844
18. Underline and highlight important info	4,0195	1,0477
15. Visualize descriptions	3,9512	,9062
7. Distinguish new and existing info	3,9415	,9002
4. Reconsider and revise background info	3,9268	,9391
20. Underline to remember	3,9073	1,0738
8. Inferring meaning	3,8829	,9424
1. Evaluate understanding	3,8780	,8458
14. Exploit personal strengths	3,8683	,9586
13. Check understanding of current info	3,7415	,9375
2. Anticipate how to use knowledge	3,7317	,8467
5. Reconsider and revise prior questions	3,6683	,9937
9. Evaluate goals	3,6537	,9610
11. Anticipate next info	3,6390	,9734
10. Search out info relevant to goals	3,5561	,9145
21. Read more than once to remember	3,5463	,9971
6. Consider interpretations	3,5122	,9580
17. Make notes to remember	3,2927	1,3107
16. Note readability of text	3,1220	1,2795
19. Use margins for notes	2,9951	1,2583

Table 7 above answers the second research question by indicating the most frequently used MRSs, such as 'determining meaning of critical words', 'drawing on knowledge', 're-reading for better comprehension', and 'underlining and highlighting important information', which stand as a combination of analytic and pragmatic strategies.

Research Question 3

Table 8 shows the mean values of the participants' responses to the second group of statements comprising two groups, 'transaction' and 'transmission'. The table first illustrates the responses of all participants to these two groups, gives the mean values for the two subcategories and also the mean value of these two subcategories. Then the table illustrates the partial responses of the participants, similar to Table 8, by focusing on 'period of study of English', 'class', 'age', 'programme', 'hand preference', and 'gender'.

Table 8: Descriptive statistics of participants in terms of belief orientation

Variable	Participants	Strategy group	N	$\overline{X}$	S. D.
All	**All**	*Mean*	205	3,5841	,4817
		Transaction	205	3,9569	,5747
		Transmission	205	3,2114	,7252
Period of English study	**Has studied English for 4-6 years**	*Mean*	33	3,3763	,5736
		Transaction	33	3,7525	,7774
		Transmission	33	3,0000	,7301
	Has studied English for 7-9 years	*Mean*	123	3,6301	,4593
		Transaction	123	3,9986	,5480
		Transmission	123	3,2615	,7167
	Has English for 10 or more years	*Mean*	49	3,6088	,4414
		Transaction	49	3,9898	,4506
		Transmission	49	3,2279	,7326
Class	**Prep class**	*Mean*	79	3,5675	,4848
		Transaction	79	4,0295	,5214
		Transmission	79	3,1055	,7212
	1ˢᵗ class	*Mean*	79	3,5601	,5113
		Transaction	79	3,9008	,6556
		Transmission	79	3,2194	,7824
	2ⁿᵈ class	*Mean*	24	3,6458	,4237
		Transaction	24	3,8681	,5270
		Transmission	24	3,4236	,5472
	3ʳᵈ class	*Mean*	23	3,6594	,4366
		Transaction	23	3,9928	,4936
		Transmission	23	3,3261	,6676
Age	**19 and younger**	*Mean*	106	3,5676	,4831
		Transaction	106	4,0409	,5096
		Transmission	106	3,0943	,7503
	20 and older	*Mean*	99	3,6019	,4820
		Transaction	99	3,8670	,6272
		Transmission	99	3,3367	,6789
Programme	**ELT programme**	*Mean*	96	3,5712	,4820
		Transaction	96	3,9167	,5488
		Transmission	96	3,2257	,7563
	GLT programme	*Mean*	68	3,5980	,4762
		Transaction	68	3,9265	,6125
		Transmission	68	3,2696	,6911
	JLT programme	*Mean*	41	3,5915	,5010
		Transaction	41	4,1016	,5601
		Transmission	41	3,0813	,7072
	GLT & JLT programme	*Mean*	109	3,5956	,4834
		Transaction	109	3,9924	,5968
		Transmission	109	3,1988	,7000
Hand preference	**Left-hand dominant**	*Mean*	19	3,6886	,4705
		Transaction	19	4,0351	,4987
		Transmission	19	3,3421	,7125
	Right-hand dominant	*Mean*	186	3,5735	,4828
		Transaction	186	3,9489	,5825
		Transmission	186	3,1980	,7270
Gender	**Female**	*Mean*	165	3,5939	,4532
		Transaction	165	4,0141	,5336
		Transmission	165	3,1737	,7212
	Male	*Mean*	40	3,5438	,5899
		Transaction	40	3,7208	,6777
		Transmission	40	3,3667	,7301

As seen in Table 8, the responses of the participants indicate that their overall tendency is towards the belief of *transaction*. It is important to call attention to the subcategories of variables, since belief of *transaction* is superior in all subcategories. Therefore, it could be concluded that participants preferred a *transaction* orientation over a *transmission* orientation to text. Table 9

below shows the relationship among 'mean value of strategies', 'analytic strategies', 'pragmatic strategies', 'mean value of beliefs', 'transaction orientation', and 'transmission orientation'.

Table 9: Correlations

$\overline{X}$		Strategies	Belief	Analytic	Pragmatic	Transaction	Trans-mission
Strategies	*Pearson Cor.*	---	**,368****	**,930****	**,762****	**,404****	**,169***
	Sig. (2-tailed)	---	,000	,000	,000	,000	,015
	N	---	205	205	205	205	205
Belief	*Pearson Cor.*	**,368****	---	**,342****	**,281****	**,661****	**,804****
	Sig. (2-tailed)	,000	---	,000	,000	,000	,000
	N	205	---	205	205	205	205
Analytic	*Pearson Cor.*	**,930****	**,342****	---	**,470****	**,384****	**,150***
	Sig. (2-tailed)	,000	,000	---	,000	,000	,031
	N	205	205	---	205	205	205
Pragmatic	*Pearson Cor.*	**,762****	**,281****	**,470****	---	**,292****	**,142***
	Sig. (2-tailed)	,000	,000	,000	---	,000	,043
	N	205	205	205	---	205	205
Trans-action	*Pearson Cor.*	**,404****	**,661****	**,384****	**,292****	---	,086
	Sig. (2-tailed)	,000	,000	,000	,000	---	,218
	N	205	205	205	205	---	205
Trans-mission	*Pearson Cor.*	**,169***	**,804****	**,150***	**,142***	,086	---
	Sig. (2-tailed)	,015	,000	,031	,043	,218	---
	N	205	205	205	205	205	---

To answer the third research question, Table 9 indicates a low but significant correlation between the means values of 'use of strategies' and 'belief orientation' (r= .368 p< .01). A low but significant correlation also occurs between the subcategories of the means values of the use of strategies namely 'analytic' and 'pragmatic' strategies (r= .470 p< .01). ('of' occurs 3 times in the previous sentence, try and reduce to 2) It is interesting to note that the subcategories of the mean values of belief orientation namely 'transaction' and 'transmission' did not give significant outcomes (r= .086 p= .218).

Research Question 4

Table 10 illustrates T-test group statistics in terms of participants' hand preference in order to examine whether there exists a difference for hand preference. Also, the independent samples T-test in the table below indicates whether these differences are statistically significant or not.

Table 10: Independent samples T-test group statistics for hand preference

	Hand preference	N	$\overline{X}$	S.D.	t	df	Sig.
Strategies	*Left*	19	3,7344	,3721	-,084	203	,933
	Right	186	3,7439	,4744			

Table 10 above gives the mean values for the use of strategies for left hand and right hand preferences of the participants and answers the third research question. The mean values show slight differences in terms of hand preference and do not indicate scientifically significant mean differences for the use of strategies [t=-0.84 p= .933].

Research Question 5

Table 11 illustrates T-test group statistics in terms of participants' gender differences. Also, the independent samples T-test in the table below indicates whether these differences are statistically significant or not.

Table 11: Independent samples T-test group statistics for gender

	Gender	N	$\overline{X}$	S.D.	t	df	Sig.
Strategies	*Female*	165	3,7614	,4701	1,152	203	,250
	Male	40	3,6670	,4412			

Table 11 above gives the mean values for the use of strategies by female and male participants. The mean values show slight differences in strategy use and does not indicate scientifically significant mean differences in terms of gender, which is similar to the findings related to hand preference [t=1.152 p= .250].

Research Question 6
Table 12 Oneway ANOVA test for the classes examines whether there is a scientifically significant difference for the use of strategies in terms of different classes.

Table 12: Oneway ANOVA test for the classes

		Sum of Squares	df	Mean Square	F	Sig.
Strategies mean	***Between Groups***	,736	3	,245	1,136	,336
	Within Groups	43,389	201	,216		
	Total	44,125	204			

In Table 12, Oneway ANOVA test does not indicate a significant difference for the use of strategies [F=1.136 p=. 336].

Discussion and Conclusions
In the literature, MRSs were indicated to be essential for foreign language reading (Alderson, 2000; Anderson, 1999; Oxford, 1990; Oxford, 2001; Willams and Burden, 1999). With the assumption of their usage by students in the FLT department, the present study indicated an almost-similar usage frequency of analytic and pragmatic metacognitive strategies; however a slight superiority for the use of analytic over pragmatic, in which the interaction is between the writer and the reader (Nuttall, 1996). Therefore, it could be concluded that the participants did not show a tendency of preferring analytic MRSs to pragmatic MRSs, which might be because of their academic maturity. Readers' preferences of strategy choice is thought to be affected by their beliefs (LoCastro, 1994), and with reference to participants' belief orientation, another conclusion, that of a preference of transaction orientation over a transmission orientation to text, can be drawn. Nevertheless, a low but significant correlation indicates that participants have a tendency to use MRSs more frequently with reference to their belief of the text.

The left hemisphere of the brain is known to control the right side of the human body and right hemisphere controls the left. Therefore, left-handed participants were compared with right-handers with the hope of identifying differences in the use of MRSs. However, the results did not indicate a significant difference between left and right hand users. Thus it could be concluded that the dominance of the brain does not have an impact on the use of MRSs. The present study was not specifically conducted to compare hand preferences, therefore left-handed participants were far

fewer than right-hand users. A large scale study, comparing two groups with an equal number of participants should be conducted to achieve reliable results to identify the impact of pre-dominance of brain hemispheres on the use of MRSs. Another factor regarding hand preference might be the identification of brain dominance, since using the left or right hand does not guarantee the dominance of left or right hemisphere.

Although female participants were considered to be more frequent strategy users compared to males, the present study did not reveal a significant difference between female and male participants; although females outnumbered males with reference to mean value of MRS usage. However, gender difference regarding the use of MRSs was not given priority in the present study; therefore, future studies should test the impact of gender by working with an equal number of participants.

Although metacognitive strategies are believed to developing with age, and age is considered to be an effective factor (Chamot and El-Dinary, 1999; Singhal, 2001), the present study did not reveal significant differences among the various classes at university level. The conclusion of this finding could be then, that being in a different class at university does not affect the use of MRSs. The explanation for this could be the maturity of the participants.

The main aim of the study was to investigate the impact of learning another foreign language after learning English. To achieve this aim, the participants studying in the ELT programme were classified as single foreign language learners; while participants in the GLT and JLT programmes were regarded as multiple foreign language learners, since being a student in GLT or JLT required being successful in an English test. When their use of MRSs was compared, ELT being in one group and GLT and JLT in the other group, with reference to the findings it could be concluded that learning a second foreign language fosters use of MRSs, confirming the hypothesis of the study. Nevertheless, comparing the use of MRSs in the JLT programme to that in ELT and GLT indicated more significant findings. As both English and German belong to the Indo-European language family, GLT participants were able to make use of language transfer skills during the process of learning German. On the other hand, JLT participants needed to refer (use?) more MRSs since Japanese, belonging to the Altaic language family, did not allow them to transfer their skills into the second foreign language learning process. However, the Japanese writing system could be considered another factor with an impact on the use of MRSs as it uses symbols which are not logically associated with phonology, similar to the alphabetical symbols in English or German.

In general, the findings of the present study indicate that the use of MRSs differs among the participants of various programmes in the FLT department. The lower usage of MRSs by ELT students indicates the superiority of studying a second foreign language on the use of MRSs, since the participants in JLT and GLT classes outperformed the students in ELT. However, the results of the present study point to a greater use of MRSs by JLT participants, which might be consequence of studying a second foreign language (Japanese) which does not belong to the same language family as the first foreign language (English). On the other hand, the ratio of MRS usage decreases with the participants of GLT whose first (English) and second (German) foreign languages belong to the same language family. Therefore, participants learning a second foreign language make use of transfer skills as they are aware they can transfer learning strategies to new tasks (Chamot and O'Malley, 1987).

Implications

Although a number of conclusions could be drawn from the data presented, the first five research questions need to be considered as hypotheses to be tested in future studies conducted with

larger groups. In addition to this, another important implication is the application of an MRS teaching module in an English as a single foreign language setting and another foreign language, along with English, may reveal more reliable results to test the effectiveness of these strategies, therefore subsequent research should be conducted on this issue.

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Appendix A

Distribution of participants in terms of period of study of English

Participants	Group	Frequency	Percent	Cumulative Percent
	4,00	6	2,9	2,9
	5,00	9	4,4	7,3
	6,00	18	8,8	16,1
	7,00	15	7,3	23,4
Period of study of English	8,00	48	23,4	46,8
	9,00	60	29,3	76,1
	10,00	33	16,1	92,2
	11,00	10	4,9	97,1
	12,00	4	2,0	99,0
	13,00	2	1,0	100,0
	prep	79	38,5	38,5
Class	1	79	38,5	77,1
	2	24	11,7	88,8
	3	23	11,2	100,0
	16,00	1	,5	,5
	17,00	1	,5	1,0
	18,00	57	27,8	28,8
	19,00	47	22,9	51,7
Age	20,00	34	16,6	68,3
	21,00	32	15,6	83,9
	22,00	23	11,2	95,1
	23,00	7	3,4	98,5
	24,00	2	1,0	99,5
	26,00	1	,5	100,0

Appendix B

Questionnaire

Dear participant,

This questionnaire is a part of survey in which you will indicate what you do while reading and what you think about reading. Before responding the statements, please write your exposure to English, class, and age; and circle your department, gender and hand preference. Keep in mind that the information collected through this questionnaire will be used only for research purposes and it will not affect your course grades by any means.

The first part of the questionnaire includes 22 statements on reading strategies. While responding to the statements in the first part, imagine that you are reading a text for school. Take a moment to think about the typical things you do to help you comprehend the text. For each strategy statement, choose the statement that best indicates how much you use that strategy.

The second part of the questionnaire includes statements to identify what your think about reading. Feel free to give your real opinions on the matter. Please, read each statement carefully.

Thank you for your contribution to the study.

I have been studying English for ...... years.	**Department** : ELT / GLT / JLT / ELL
Class :	**I use my *left* / *right* hand**
Age :	**Gender:** *Male* / *Female*

PART I	I use this strategy	Never	Rarely	Sometimes	Often	Always
1	As I am reading, I evaluate the text to determine whether it contributes to my knowledge/understanding of the subject.	1	2	3	4	5
2	After I have read a text, I anticipate how I will use the knowledge that I have gained from reading the text.	1	2	3	4	5
3	I try to draw on my knowledge of the topic to help me understand what I am reading.	1	2	3	4	5
4	While I am reading, I reconsider and revise my background knowledge about the topic, based on the text's content.	1	2	3	4	5
5	While I am reading, I reconsider and revise my prior questions about the topic, based on the text's content.	1	2	3	4	5
6	After I read the text, I consider other possible interpretations to determine whether I understood the text.	1	2	3	4	5
7	As I am reading, I distinguish between information that I already know and new information.	1	2	3	4	5
8	When information critical to my understanding of the text is not directly stated, I try to infer that information from the text.	1	2	3	4	5
9	I evaluate whether what I am reading is relevant to my reading goals.	1	2	3	4	5
10	I search out information relevant to my reading goals.	1	2	3	4	5
11	I anticipate information that will be presented later in the text.	1	2	3	4	5
12	While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text.	1	2	3	4	5
13	As I read along, I check whether I had anticipated the current information.	1	2	3	4	5
14	While reading, I exploit my personal strengths in order to better understand the text. If I am a good reader, I focus on the text; if I am good with figures and diagrams, I focus on that information.	1	2	3	4	5
15	While reading I visualize descriptions to better understand the text.	1	2	3	4	5
16	I note how hard or easy a text is to read.	1	2	3	4	5
17	I make notes when reading in order to remember the information.	1	2	3	4	5
18	While reading, I underline and highlight important information in order to find it more easily later on.	1	2	3	4	5
19	While reading, I write questions and notes in the margin in order to better understand the text.	1	2	3	4	5
20	I try to underline when reading in order to remember the information.	1	2	3	4	5
21	I read material more than once in order to remember the information.	1	2	3	4	5
22	When I am having difficulty comprehending a text, I re-read the text.	1	2	3	4	5

PART II	My response to this statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I like the fact that two people can read the same book and disagree about what it means.	1	2	3	4	5
2	I often have strong emotional responses to what I read.	1	2	3	4	5
3	When I read, I like to imagine I am living through the experience too.	1	2	3	4	5
4	I enjoy interpreting what I read in a personal way.	1	2	3	4	5
5	Reading for pleasure is the best kind of reading.	1	2	3	4	5
6	I enjoy sharing the thoughts and reactions of characters in a book with others.	1	2	3	4	5
7	The main purpose of reading is to understand what the author says.	1	2	3	4	5
8	When I read, I try to carry away exactly what the author meant.	1	2	3	4	5

9	People should agree on what a book means.	1	2	3	4	5
10	I like books where you know exactly what the author means.	1	2	3	4	5
11	When I read, I focus on what the author says is important.	1	2	3	4	5
12	Most books mean exactly what they say.	1	2	3	4	5