EFL LEARNING STRATEGIES USED BY FEMALE UNDERGRADUATE STUDENTS

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ORIGINAL LITERARY WORK DECLARATION

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Field of Study: **English Language Learning Strategies**

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ABSTRACT

The aim of the present study was to provide an accurate and holistic description of the language learning strategies used by female EFL undergraduate students, as well as to explore the relationship of language learning strategies with the two variables: major field of study and performance level in the English language. It also aimed at specifying the English language learning strategies that were associated with the four language skills.

The survey method was used on a sample of 264 female EFL undergraduate students who were enrolled in the first and second year of their undergraduate degree programme. Their majors were Medicine, English Language, Computer Science and Biology. Four tools were employed for eliciting information: Oxford's (1990) Strategy Inventory for Language Learning (SILL), interviews, class observations and an achievement test.

The findings indicated that while EFL students employed a variety of language learning strategies, the cognitive and meta-cognitive ones were more frequently used than others. In general, EFL students reported medium overall strategy use. More importantly, the results provided new evidence for the relationship between strategy use and the two variables: major field of study and English language performance level. Medical, English and Computer Science majors used the meta-cognitive strategy category most often followed by the cognitive one. On the other hand Biology majors used the compensation strategy category most frequently followed by the meta-cognitive one. Similarly, results indicated that Medical students used the memory strategy category more than the students in all the other major fields of study. In general, Medical students reported the highest use of overall strategy while the Computer Science and

Biology students reported the least use of overall strategy. Regarding the relationship between strategy use and year level of the students, results revealed that both first and second year students share most of the strategies and that they are meta-cognitive strategy users. In general, they both reported medium overall strategy use. Additional results confirm the conclusion that language learning strategies are related to language proficiency. The findings indicated that proficient learners do not necessarily use more strategies but rather use different and more appropriate ones. Finally, the findings specified the language learning strategies that were associated with each of the four language skills.

The study concluded by bringing together the key findings, recommendations for EFL teachers and suggested areas for further research.

ABSTRAK

Tujuan kajian ini ialah untuk memberi satu deskripsi yang tepat dan menyeluruh berkaitan penggunaan strategi pembelajaran di kalangan siswazah wanita bahasa Inggeris sebagai bahasa asing (BIBA), serta menerokai perhubungan di antara strategi pembelajaran bahasa dengan dua pemboleh-ubah: bidang pengkhususan pengajian dan tahap pencapaian bahasa Inggeris. Kajian ini juga bertujuan mengenalpasti strategi pembelajaran bahasa Inggeris yang berhubung-kait dengan keempat-empat kemahiran bahasa.

Kaedah survei telah digunakan ke atas sample yang terdiri dari 264 siswazah BIBA wanita yang berdaftar dalam Tahun pertama dan kedua program ijazah sarjana muda. Bidang pengkhususan pengajian mereka ialah Perubatan, Bahasa Inggeris, Sain Komputer dan Biologi. Empat instrumen telah digunakan bagi tujuan mendapatkan maklumat: Inventori Strategi Pembelajaran Bahasa Oxford (1990), temubual, pemerhatian kelas dan ujian pencapaian.

Dapatan menunjukkan bahawa pelajar BIBA menggunakan berbagai-bagai strategi pembelajaran bahasa, namun strategi kognitif dan metakognitif lebih kerap digunakan berbanding strategi yang lain. Secara amnya, pelajar BIBA ini melaporkan keseluruhan penggunaan strategi yang sederhana. Lebih penting dari itu, hasil dapatan memaparkan bukti baru bagi perhubungan antara penggunaan strategi dengan dua pemboleh-ubah: bidang pengkhususan pengajian dan tahap pencapaian bahasa Inggeris. Pelajar pengkhususan Perubatan, bahasa Inggeris dan Sains Komputer paling kerap menggunakan strategi kategori metakognitif diikuti strategi kognitif. Pelajar bidang Biologi sebaliknya, paling kerap menggunakan strategi kategori kompensasi di ikuti strategi kategori metakognitif. Dapatan kajian juga menunjukkan pelajar Perubatan

lebih kerap menggunakan strategi kategori pengingatan berbanding pelajar dari bidang pengkhususan selainnya. Secara amnya, pelajar Perubatan melaporkan tahap penggunaan strategi menyeluruh paling tinggi, manakala pelajar pengkhususan Sains Komputer dan Biologi melaporkan tahap penggunaan strategi menyeluruh paling rendah. Berkaitan dengan hubung-kait di antara penggunaan strategi dan tahap/tahun pengajian pelajar, dapatan menunjukkan bahawa pelajar tahun pertama dan kedua berkongsi penggunaan kebanyakan strategi dan mereka ini merupakan pengguna strategi metakognitif. Secara amnya kedua-dua kumpulan pelajar melaporkan penggunaan strategi menyeluruh di tahap sederhana. Dapatan tambahan mengesahkan bahawa penggunaan strategi berhubung-kait dengan kemahiran bahasa. Dapatan juga menunjukkan bahawa pelajar yang mahir tidak semestinya mengguna lebih banyak strategi tetapi menggunakan strategi yang pelbagai dan strategi yang bersesuaian. Akhir sekali, dapatan telah berjaya mengenalpasti strategi pembelajaran bahasa spesifik yang berhubung-kait dengan keempat-empat kemahiran bahasa.

Kajian ini diakhiri dengan rumusan kesemua dapatan penting, syor untuk guru BIBA dan cadangan bidang bagi tujuan penyelidikan lanjutan.

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Date: April 2009

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CHAPTER 1

INTRODUCTION

1.0 Overview

The English language today has become the principal language of the world. This has led to an increasing concern about the improvement of education in the field of teaching English as a second or foreign language. The aims of teaching have shifted from being teacher-centred to learner-centred, from examining the product (what students learn), to examining the process (how students learn). The learner's involvement in the learning process is now emphasized. The concepts of learner strategies and learner autonomy have become central issues in discussions and research.

An understanding of students' learning strategies provides researchers with insights not only into the overall process of second language acquisition but also into the strategies of successful and unsuccessful learners. Understanding such type of strategies can help determine both the characteristics of the successful learners, and the procedures they follow at different levels in order to acquire the skills required.

Studies have addressed a wide range of factors that affect learning strategy's choice. These factors include context, gender, major field of study, age, and proficiency level of the learner (Johnson & Newport, 1995; Bedell & Oxford, 1996; Kaylani, 1996; Embi, 1999; Mingyuan, 2000). This study examines in some detail all of the above factors with a special emphasis on the environmental factor. In the choice of learning strategies, the environmental factor is the variable that has been frequently considered in discussions of individual differences (Bedell & Oxford, 1996). Research on ESL learning strategies - where learners learn English in an English speaking environment -

and EFL - where learners learn English in their native country - highlights the importance of understanding strategies used by learners. Awareness of learner strategies aids second and foreign language learning; it enhances the efficiency with which learners might approach their goals and reduces the barriers that hinder language learning. As Oxford et al. (1996:19) aptly suggest:

> Students derive the maximum benefit from language learning strategies in developing language skills when they and their teachers are aware of and pay attention to these strategies.

1.1 Background to the Study

Saudi Arabia is one of the Gulf countries. Its major ethnic group is the Arabs as they consist of 90% of the population, the other 10% are Afro-Asian. The national and official language is Arabic. English is studied as a foreign language; it is not used as a medium of everyday communication, rather it is a required subject acquired in an artificial setting which is the English classroom.

Education in Saudi Arabia is not compulsory, but it is free to all, textbooks and health services for students included. The spread of education is dependent on availability of schools in the various regions. It has progressed rapidly and extensively since the unification of Saudi Arabia (1932). Before that, it was confined to religious schools and a number of mosques.

Boys' schools are separate from girls' schools in the kingdom. The Ministry of Education is responsible for boys' education all over the country at all levels, elementary, intermediate and secondary. General and vocational education which is divided into technical, commercial and agricultural schools falls under its supervision. In addition, the Ministry is responsible for adults' education and private schools which

exist mainly in the larger cities and teach the same curriculum and use the same books that are used in the public sector.

Girls' education was one of the major concerns of the kingdom leadership. In 1960 a special department for girls' education known as the "General Presidency for Girls' Education" was established. The Presidency is responsible for this type of education up till the end of the secondary school. In addition to this, women's literacy programmes and some colleges of education fall under its supervision. In 2002, the General Presidency was fully merged into the Ministry of Education.

The school system consists of the Elementary level that lasts for six years. This is followed by three years of Intermediate level followed by another three years of Secondary level. During the first year of secondary level, students share a common curriculum. In the two final years, they are divided into science or literary stream. Students scoring 60% in all first year subjects may choose between the two streams. Those who score under 60% are automatically put in the literary stream.

Saudi schools used to teach English in Grade Seven which is the first year of the Intermediate level. Then there was a new plan that introduced teaching English as a main subject in Grade Six for boys and girls, beginning from the 2004/ 2005 academic year. There are also other plans to improve the teaching of English at the Intermediate and Secondary levels by updating the curricula, enhancing the competence of teachers and using modern technologies.

Tertiary education in Saudi Arabia which has expanded at a remarkable pace is provided by universities, higher institutes, and teachers and technical colleges. The

Ministry of Higher Education is responsible for all the universities in the kingdom. These universities are for males but with separate branches for females.

The medium of instruction at the higher levels is Arabic and English except at King Fahd University of Petroleum and Minerals where the instruction is in English only. In the other universities English is largely confined to technological disciplines. In general, the kingdom of Saudi Arabia is advancing in accordance to five-year plans aimed at adequate general education at all levels nation wide.

1.1.1 A Brief Profile of King Khalid University

In 1998, the branches of King Saud University and Imam Muhammed bin Saud Islamic University in Abha, in the Asir region were joined to form the University of King Khalid. The University is comprised of twelve faculties. There are three requirements for admission into King Khalid University: students should be Saudis, they should hold the Secondary Certificate "Tawjihiya" or an equivalent qualification, and they must have the specified score required by the different departments. The university offers bachelor's, master's and doctor's degrees. The bachelor's degree is conferred after four years, except for Pharmacy, and Medicine which take five years. English is the medium of instruction in technological and scientific fields, whereas all other subjects are taught in Arabic.

1.1.2 The English Language Programme at King Khalid University

In the first two years in the University, all students have to attend intensive courses in English offered by the English Language Department. All four skills, listening, speaking, reading and writing are taught in these courses. Furthermore, as many students leave secondary school with little or no knowledge on study skills, the English

Language Department at King Khalid University offers a course in study skills for English majors. This course focuses on teaching students techniques in note taking, summarizing, memory and concentration, using the dictionary and mastering the strategies of speaking, reading and writing. Despite these intensive courses in English, students are not sufficiently proficient to comprehend lectures in English. This situation may be explained by the existing gap between the language curriculum at the secondary school and what is actually demanded at the university level. In secondary schools, the duration of exposure to the English language is limited to five hours a week. On the other hand, students at the university level have greater exposure to English; they have more opportunities to hear English being used and to use it themselves. Furthermore, reading skill and grammar receive most of the attention in the language curriculum in secondary schools followed by writing, then listening, and finally, speaking skill that receives the least attention. On the other hand, all four skills receive equal attention at the university level. In addition to that, audio-visual aids, which are an integral part of the learning situation, are inadequate in secondary schools causing the teaching and thus the learning process to suffer.

The direct method which is often used in teaching the English language at the university level encourages the students to think in the target language. No translation is allowed. When teachers introduce a new target language word, they demonstrate its meaning through the use of pictures, gestures, examples or other means. Students are not allowed to speak or communicate in Arabic in class. They may ask questions in Arabic but are likely to be answered in English. In this way, students acquire vocabulary more naturally through the use of full sentences as compared to merely memorizing word lists.

English is also the medium of instruction for most of the programmes in the female campus at King Khalid University. However, Arabic is the medium of instruction for the programme of study leading to the Bachelor of Science degree. Nevertheless, all the students are required to attend intensive English language courses offered by the Department of English Language. The goal of these courses is to assist students to upgrade their English language proficiency in grammar, reading, writing, listening and speaking. These English language courses are divided into three levels of proficiency: elementary, lower intermediate and upper intermediate. Each level comprises one-semester courses which are intensive in nature.

These intensive courses aim at enabling students to understand and use the grammar of English accurately and communicatively. On the other hand, reading comprehension courses introduce students to authentic texts covering a wide range of topics including global, Islamic, social, educational, political and scientific issues. These reading courses aim to provide students with practice in the techniques of skimming and scanning, identifying the main idea of the text, understanding text organization, guessing from context and evaluating the author's attitude. In terms of writing, students learn essay writing, covering elements such as paragraph development and organization, coherence and unity. Students are given practice in various forms of essays such as descriptive, argumentative, compare and contrast and cause and effect. Finally, listening and speaking courses aim at helping students recognize shifts in meaning caused by stress and intonation, improve note taking and develop oral skills such as making requests, telling a short story, describing an event, discussing a problem and agreeing and disagreeing.

1.2 Statement of the Problem

Context difference affects nearly every area of learning, and understanding these differences opens a number of doors to better education. Oxford (1996) stresses the influence of context on strategy use. She points out that there are hundreds of foreign and second language learning strategies. Identifying these strategies can offer keen insight into the process of language learning for both EFL and ESL students. Since English is the primary medium of instruction in various departments at King Khalid University, students strive to develop sufficient proficiency in English in order to cope with their studies and for their future career. However, despite the intensive courses in English, some students are not sufficiently proficient in English to comprehend lectures or summarize or take notes during lectures. Furthermore, it is apparent from the examination results that students in specific major fields of study such as Medicine and Computer Science are better in learning English. Thus, being aware of the learning strategies used by EFL students and their relationship to factors such as major field of study, and proficiency level, may benefit the learners, teachers and researchers. When there is some degree of understanding on how a learner actually learns, the findings can be utilized in classroom teaching and material preparation.

1.3 Objectives and Research Questions

This study was conducted with the purpose of identifying the English language learning strategies used by female EFL undergraduate students. The findings can be adapted into present teaching methods that may help students attain a higher degree of successful foreign language learning. This study also aimed to determine whether the learning strategies exhibited by female EFL undergraduate students vary according to major field of study and English language performance level. Finally, the purpose of this study was

as well to specify the English language learning strategies that were associated with the four language skills.

In meeting the objectives, the following research questions are addressed:

1. Of the fifty learning strategies outlined under the Strategy Inventory for Language Learning (Oxford, 1990), which are the main strategies used by female EFL undergraduates?
2. Does the female EFL undergraduates' major field of study influence their choice of language learning strategies?
3. Does the female EFL undergraduates' performance level in the English language influence their choice of language learning strategies?
4. Which English language learning strategies used by the female EFL undergraduates are associated with each of the four language skills?

1.4 Significance of the Study

According to Wittrock (1988:289):

> By becoming aware of learning strategies, by measuring them, by naming them and by trying to teach them to students, we believe that we can enhance learning in class and also performance on the job.

Learning strategy research is important because it helps learners and especially the less effective ones to improve their ability to learn and to use the strategy that would maximise their learning. The application of learning strategies can facilitate the acquisition of different language skills (Chamot, 1987; O'Malley, 1987; Winden, 1987; Dreyer & Oxford, 1996). An understanding of students' learning strategies can help pave the way for preparation of course materials and upgrading of teaching and learning processes to best suit the learners. Research has shown that the environmental factor has a tremendous influence on learning strategies. Oxford (1996) indicates that

environmental factors such as cultural background affects strategy choice, and understanding the cross-cultural similarities and differences in language learning strategies is useful for foreign and second language teachers.

Thus, the present study provides a more detailed picture than that of previous ones firstly, by examining variation in the use of individual strategies, the overall strategy, and strategy categories, and secondly, by looking for patterns of variations in ESL / EFL contexts, major field of study, and performance level in the English language. Therefore, this study integrates the separate work performed in the foreign language context by identifying the English language learning strategies preferred by undergraduate EFL learners (i.e. Saudis). The findings provide information that enhances students' awareness of their learning strategy preferences and help teachers who need to be aware of their students' learning strategy preferences. Furthermore this study helps teachers develop a more "culture-sensitive pedagogy". In which teachers are able to use students' cultural background as a starting point to build further learning. Thus, the findings of this study will make a valuable contribution to the field of language learning strategy in the foreign language context.

1.5 Limitations of the Study

This study provides some clear description about the strategies used in foreign language learning. The subjects of this study were intended to initially include both male and female students. But as both male and female students study in separate campuses and there is no co-education in Saudi Arabia, the study was restricted to female students only. A major limitation of the study was that, it was confined to first and second year undergraduates. This was due to the recent establishment of the Female Centre as courses were only offered for first and second year students so far. Other limitation of

the study can be attributed to the observational method used. Class observations yielded limited information about learning strategies. In the teacher-centred classrooms, students have few opportunities to engage in active learning with observable strategies. Another limitation of the study lies in the scope and range of learning strategies of poor language learners. The study could not include the analysis of learning strategies used by poor language learners, which might help in the explanation of the relationship between the use of learning strategy and proficiency level. This was due to the very limited number of failures as only two students failed in the achievement test of English.

1.6 Conclusion

This study is presented in five chapters: Chapter 1 presents the background information which provides the context for the study. It gives a general description of the purposes of the study and lists the research questions. It highlights how the study will contribute to the field of teaching English as a second or foreign language. Chapter 2 presents a review of relevant literature that provides readers with the theoretical foundation and applied perspectives of this study. It begins with a brief account of the learning strategy in general. It then moves on to discuss six areas in the field of language learning strategy; first, the distinction between the term strategy and other terms, second, the differing criteria for classifying language learning strategies in early literature and recent ones, third, the language learning strategies associated with the four language skills, fourth, the linking of learning strategies to other variables such as context, gender, major field of study, age and the English language performance level, fifth, the role of learning strategies in the language acquisition process, sixth, the techniques and methods used in the teaching of learning strategies according to theoretical and applied perspectives. Chapter 3 presents the methodology and design of the study and explains

the data gathering procedures which include the use of questionnaire, observation, interview, and achievement test. The data analysis procedures and the empirical results of the study are reported in Chapter 4. The discussion and the major findings generated from the data analysis are reported in Chapter 5.

CHAPTER 2

LITERATURE REVIEW

2.0 Overview

This chapter will begin with a brief account of the learning strategy in general and will move on to discuss language learning strategy terminology. six areas in the language learning strategy field will be considered in clarifying some terminological and conceptual issues: the distinction between the term strategy and other terms; the differing criteria for classifying language learning strategies; the language learning strategies associated with the four language skills; the linking of the learning strategies to other related variables such as context, gender, major field of study, age and the English language performance level; the role of learning strategies in the language acquisition process; finally, the techniques and methods used in the teaching of learning strategies.

2.1 The Concept of Learning Strategy

The term, “strategy” comes from the ancient Greek term “strategia” which is mainly a military term that refers to procedures for a military operation such as the management of troops, ships and aircraft in a planned campaign (Oxford, 1990).The strategy concept presents a vastly different picture in education nowadays. However both concepts share the view of planned, management and conscious actions. These two concepts serve as the orienting definitions for the term "learning strategy". The next section provides the description of the term learning strategy according to second language acquisition researchers and teachers.

Pride (1981) refers to strategies as learner techniques or devices to assist second language acquisition. Elsewhere, learning strategies have been referred to as “a skillful planning and management of language learning as carried out by the learner or language teacher" (Paivio 1983:189). On the other hand, Nisbet and Shucksmith (1986) give “strategy” a much wider scope as they focus on developing the idea of learning to learn by understanding the process of learning. According to them, the learner can be encouraged to have greater self awareness of how to learn and how to transfer the use of strategies from task to task. Wenden (1987) defines learning strategies as learning behaviours used by the learner to regulate learning. However, Rubin (1987) interpreted this definition in a broader sense when she suggests that learning strategies are learning behaviours that contribute directly to learning.

Similarly, Mayer (1988:11) emphasizes the role of understanding the learning process in order to successfully pursue the goal of teaching students how to learn. He states that learning strategies can be defined as “behaviors of a learner that are intended to influence how the learner processes information”. Mayer (1988) stresses that developing theories of learning strategies should be based on theories of human learning such as quantitative (how much is learned), qualitative (what is learned) and behaviourist (how much behaviour is acquired). In addition, Schmeck (1988) points out that the term strategy refers to a sequence of procedures rather than a single event and these procedures must be intended to attain a goal. This means that the learner needs to acquire both the component processes and the organization of the processes to attain a goal. Oxford (1990) then, expands the definition of learning strategies into a more comprehensive one. She states that learning strategies are actions taken by the learner to acquire, store, retrieve and use information in an easy, fast, and more enjoyable manner. These learning strategies she goes on to say, make learning more self directed, more

effective and more transferable to new situations. O'Malley and Chamot (1990:1) support Oxford's view that learning strategies are: "The special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information." Finally, the literature arrives at a generally accepted definition drawn by Ellis (1994) who suggests that the best approach to define learning strategies is to list the main characteristics of the term as follows:

1. Strategies can be either specific or general techniques to enhance learning.
2. Strategies are problem oriented.
3. Strategies involve linguistic and non linguistic behaviours.
4. Strategies consist of mental or behavioural activities.
5. Strategies can be divided into direct and indirect ones.
6. The choice of strategies is influenced by the individual learner variables.

Thus, the term strategy has been defined and the next section will throw some light on the differences between the term strategy and other terms.

2.1.1 The Distinction Between the Term Strategy and Other Terms

The term "learning strategy" has been used by many authors under other terms such as "thinking and learning skills" (Dave et al., 1985; Segal et al., 1985), "learning to learn skills" (Nisbet & Schucksmith ,1986), and "learning styles" (Spolsky, 1989).

Dave et al. (1985) differentiate between skills and strategies; they indicate that learning strategy is a level above that of the skills and that learning strategy is the action of using the learning skills and the various resources available to the learner in achieving a specific learning goal. Nisbet and Shucksmith (1986) add that strategies are sequences of activities that are purposeful, goal oriented, more readily modified to suit the context,

and they are executive processes that regulate the use of skills in learning tasks. In addition, Kirby (1988) states that skills are abilities and existing cognitive routines employed either intentionally or automatically. These skills can be divided into knowledge skills or action skills. Furthermore, the strategy domain according to Kirby consists of tactics, strategies and styles; tactics and strategies involve conscious decisions to implement a skill while styles refer to the habitual use of a class of similar strategies. Schmeck (1988:171) similarly, distinguishes between learning strategy and tactic; the learning strategy is "a higher level cluster of learning tactics that work together to produce a unified learning outcome"; while the term tactics refers to "the specific activities of learners" and the word strategy "refers to their more general approach or plan". On the other hand, Brown (1994) emphasizes the differences between styles and strategies; styles are constant and predictable as they characterize general personality or cognitive traits and tendencies; while strategies are methods, modes of operation and planned design for acquiring the target language.

2.1.2 Classification of Learning Strategies

The different definitions of learning strategies discussed in the previous section were framed in terms of taxonomies by labeling and classifying them into different categories. The following classifications were conducted roughly chronologically, and fall into three research groups. The first group (Fillmore, 1976; Naiman et al., 1978) was mainly carried out in the 1970s. The second group (Rubin, 1981; Tarone, 1981; O'Malley et al., 1985; Weinstein, 1988) was carried out in the 1980s. The third set (Oxford, 1990; Ellis, 1994; Embi, 1996) was carried out in the 1990s.

Skehan (1989) cites three types of classifications, Wong-Fillmore (1976), Naiman et al. (1978), and Rubin (1981). In the earlier research Wong-Fillmore (1976) identifies two

sets of learning strategies while investigating how children increase their communicative competence in English:

1. Social strategies are important in establishing social relationship. They consist of:
    a) Join a group and act as if you understand what is going on, even if you do not.
    b) Give the impression, with a few well-chosen words, that you speak the language.
    c) Count on your friends for help.
2. Cognitive strategies match with social strategies as students have to learn English in order to communicate and establish social relationship. They consist of:
    a) Assume what people are saying is relevant to the situation at hand.
    b) Get some expressions you understand, and start talking.
    c) Look for recurring parts in the formulas you know.
    d) Make the most of what you have got.
    e) Work on the big things first, save the details for later.

Naiman et al. (1978) collected data through interviews with successful language learners on the language learning strategies that assisted them. The data consists of a set of five major strategies with a number of minor and more specific sub-categories:

1. Active task approach: successful language learners actively involve themselves in the language learning task by either responding positively or seeking preferred learning environment, intensifying their efforts and practising.
2. Realization of language as a system: successful language learners deal with the language as a system. They conduct contrastive analysis between their first and

second languages to eliminate interference errors in the process of second language acquisition.

3. Realization of language as a means of communication and interaction: successful language learners deal with language as a means of communication and interaction by focusing on fluency more than accuracy in the earlier stages, talking to native speakers and seize every opportunity to speak the target language.
4. Management of affective demands: successful language learners are those who cope with the affective demands made upon them by language learning and succeed in doing so.
5. Monitoring of L2 performance: successful language learners always monitor their language by venturing a possible guess and then either look for needed adjustments or ask for verification from a native speaker.

Among the second group is Rubin (1981) who distinguishes between two sets of strategies. The first set is direct strategies that involve class activities which contribute directly to language learning:

1. Clarification/verification strategies that are used to confirm rules in a new language or confirm understanding of the language.
2. Guessing/inductive inferencing strategies that are used by learners to infer meaning. Students may use their knowledge of the world and their first language as a source for understanding and producing the second language.
3. Deductive reasoning is a strategy used by learners to approach the second or foreign language. Here, the learner uses more general rules to obtain and store information about a language in an organized fashion.

The second set is indirect strategies that involve out of class activities such as:

1. Monitoring strategies that involve analysis, synthesis of learning materials, self-management and evaluating effect of actions taken.
2. Memorization strategies that focus on the organization by focusing on the storage and retrieval processes.
3. Practice involves strategies that help in the storage and retrieval of language.

Furthermore, Tarone (1981) distinguishes between four types of strategies, communication, learning, production and perception.

1. Communication strategies refer to activities of two interlocutors to communicate meaning. These strategies are used when either linguistic structures or sociolinguistic rules are not shared between a second language learner and a speaker of the target language.
2. Learning strategies involve activities to develop linguistic and sociolinguistic competence in the target language.
3. Production strategies are attempts to use the language system efficiently and clearly without excessive effort.
4. Perception strategies are activities that interpret incoming utterances efficiently.

When motivation for using a strategy is unclear, some overlap may occur between definitions, but in general the distinction is useful. However, Oxford (1990) argues that it is impossible to separate these four types of strategies apart as all of the above four types result in learning.

There are interesting similarities and differences in the comparison of the earlier strategy classifications. The similarities are:

1. Rubin's (1981) "clarification/verification", "memorization", and "practice' strategies" and Naiman et al.'s (1978) first strategy that is using "active task approach" all reflect Wong-Fillmore's (1976) social strategies and the strategies of "get some expressions" and "make the most of what you have got".
2. Rubin's (1981) strategies of, "guessing/inductive inferencing", and "deductive reasoning" embraces Naiman et al. (1978) second strategy of "realization of language as a system", and this contains Wong-Fillmore's (1976) strategy of "look for recurring parts in formula".
3. Rubin's (1981) "monitoring" strategy seems to contain Naiman et al.'s (1978) strategy of "monitoring of performance".

Differences that emerge can be seen in Wong Fillmore on the one hand and Naiman and Rubin on the other. Wong Fillmore's classification excludes "monitoring", the reflections of learners about their own learning as it is beyond the ability of young children, while Naiman and Rubins' classifications contains "monitoring". Furthermore, Wong-Fillmore's strategy of "assume relevance of what is being said to the situation at hand" shows that non-analytic learning is emphasized. On the other hand, Naiman et al.'s strategy of "realization of language as a system" which involves referring back to the first language and Rubin's strategies of "guessing/inductive inferencing" and "deductive reasoning", they all emphasize the development of a system through analysis. In addition, Wong-Fillmore is more concerned about context-dependent language use; while Naiman and Rubin extend their analysis to include actual language functioning as well as situations where language use is not involved (Skehan, 1989).

O'Malley et al. (1985) on the other hand, identified three sets of strategies on the basis of observation and interviews. The participants of the study were secondary school students studying English as a second language, and their teachers. The first set of strategies is meta-cognitive strategies that include nine strategies: advance organizers, directed attention, selective attention, self management, advance preparation, self-monitoring, delayed production, self-evaluation and finally, self-reinforcement. The second set is cognitive strategies that include repetition, resourcing, directed physical response, translation, grouping, note taking, deduction, recombination, imagery, auditory representation, keyword, contextualization, elaboration, transfer, inferencing, and question for clarification. The third set consists of only a social mediation strategy which is cooperation.

O'Malley et al.'s (1985) classification of learning strategies is different from the previous ones. Most of the strategies that are related to language as a means of communication, management of affective demands or social strategies are not included in O'Malley et al.'s classification as they mentioned only one social strategy that is "cooperation". Furthermore, O'Malley et al. give a number of meta-cognitive strategies in contrast with the previous classifications that include only "monitoring" strategy. In short, O'Malley et al.'s tripartite categorization of learning strategies, cognitive, meta-cognitive, and social/affective strategies is useful and has been generally accepted (Ellis, 1994).

Weinstein (1988) classifies learning strategies differently:

1. Rehearsal strategies for both basic and complex learning tasks.
2. Elaboration strategies for both basic and complex learning tasks.
3. Organizational strategies for both basic and complex learning tasks.

4. Comprehension monitoring strategies.
5. Affective strategies.

According to Weinstein (1988), cognitive strategies are subsumed under the first three categories and there is only one meta-cognitive strategy that includes monitoring strategies.

The classification which is of primary concern with in this study is the one provided by Oxford (1990). She builds on some of the earlier classification to develop a more comprehensive and detailed taxonomy of strategies. These strategies are organized into a set of classes and subclasses. The two major classes are direct and indirect strategies. Direct strategies are divided into three subclasses: memory strategies, cognitive strategies, and compensation strategies. Indirect strategies include meta-cognitive strategies, affective strategies and social strategies. These six subcategories are subdivided into a larger set of more specific strategies.

The first major class, direct strategies, is concerned with the direct involvement of the target language in a variety of specific tasks and situations. All the strategies concerned require mental processing of the language in different ways and for different purposes. The direct class is composed of three subclasses:

1. Memory strategies

   These strategies are powerful mental tools as they aid language learners to store, remember and retrieve new information. They fall into four sets:

   a) Creating mental linkages by:

      i. Grouping.

      ii. Associating/elaborating.

iii. Placing new words into a context.

b) Applying images and sounds by:

i. Using imagery either in the mind or in an actual drawing.

ii. Semantic mapping.

iii. Using key words.

iv. Representing sounds in memory.

c) Reviewing well by:

i. Structured reviewing as the new target language information should be reviewed well in order to be remembered.

d) Employing actions by:

i. Using physical response or sensation.

ii. Using mechanical technique such as the one that involves moving something concrete to remember the target language information.

2. Cognitive strategies

These strategies are the most popular and most significant ones in learning a new language. They are concerned with manipulation or transformation of the target language. They allow learners to understand and produce the language by different means. Cognitive strategies fall into four sets:

a) Practising which contains five strategies such as:

i. Repeating.

ii. Formally practising sounds and the writing system.

iii. Recognizing and using routine formulas and patterns.

iv. Recombining elements in new ways.

v. Practising the new language in natural and realistic settings.

b) Receiving and sending messages that involve

i. Getting the idea quickly (skimming and scanning).

ii. Using resources for receiving and sending messages.

c) Analysing and reasoning, this set of strategies involves

i. Reasoning deductively.

ii. Analysing expressions.

iii. Analysing contrastively (a cross language).

iv. Translating into the native language or the target language.

v. Transferring from one language to another.

d) Creating structure for input and output by:

i. Taking notes.

ii. Summarizing.

iii. Highlighting.

3. Compensation strategies

These strategies allow learners to use the language despite limitations in knowledge and they occur in comprehension and production. These ten compensation strategies are clustered into two sets:

a) Guessing intelligently during listening and reading by:

i. Using linguistic clues.

ii. Using other clues.

b) Overcoming limitations in speaking and writing by using eight strategies such as:

i. Switching to the mother tongue.

ii. Getting help.

iii. Using mime or gesture.

iv. Avoiding communication partially or totally.

v. Selecting the topic.

vi. Adjusting or approximating the message.

vii. Coining words.

viii. Using synonym or describing the concept to get the meaning.

The second major class, indirect strategies are concerned with the general management of learning without directly involving the target language. The indirect class is composed of meta-cognitive, affective and social strategies.

1. Meta-cognitive strategies

   They are actions that help learners control their own cognition that is essential for successful language learning. These strategies are made up of three sets:

   a) Centring the learning by:

      i. Overviewing and linking with already known material.

      ii. Paying attention.

      iii. Delaying speech production to focus on listening either totally or partially.

   b) Arranging and planning the learning by:

      i. Finding out about language learning.

      ii. Organizing by using conditions related to optimal language learning.

      iii. Setting goals and objectives.

      iv. Identifying the purpose of a language task.

      v. Planning for a language task.

      vi. Seeking practice opportunities.

   c) Evaluating the learning, this set involves two strategies:

      i. Self monitoring.

      ii. Self-evaluating.

2. Affective strategies

They help learners control emotions, motivations and attitudes about learning. They have a significant influence on language learning success or failure. This set involves two main groups:

a) Lowering the anxiety by:

i. Using progressive relaxation, deep breathing or mediation.

ii. Using music.

iii. Using laughter.

b) Self-encouragement by:

i. Making positive statements.

ii. Taking risks wisely.

iii. Rewarding oneself either tangibly or visibly.

iv. Taking the emotional temperature by:

- Listening to own body.
- Using a checklist to assess own feelings about language learning.
- Writing a language learning diary.
- Discussing own feelings about language learning.

3. Social strategies

They help students learn through communication and social interaction with others. They aid comprehension through helping students getting closer to the intended meaning. They also, indicate interest and involvement. Three sets of strategies exist:

a) Asking questions that involves:

i. Asking for clarification or verification.

ii. Asking for correction.

b) Cooperating with others that involves:

i. Cooperation with peers.

ii. Cooperating with proficient users of the new language.

c) Empathizing with others by:

i. Developing cultural understanding.

ii. Becoming aware of others' thoughts and feelings.

Oxford's (1990) classification of learning strategies has a common ground with O'Malley et al.'s (1985) classification despite differences. Oxford's indirect meta-cognitive strategies include a range of what O'Malley et al. would classify as meta-cognitive strategies. Oxford's cognitive strategies and a number of memory and compensation strategies of her direct strategies cover a similar ground to O'Malley's cognitive strategy category. Oxford affective and social categories of indirect strategies correspond closely to O'Malley et al's social/affective strategies. The classifications of both Oxford and O'Malley et al's are valid and insightful. In addition, Oxford's is more accessible while O'Malley et al's is simpler to use (Tudor, 1996).

Ellis (1994) maintains O'Malley's (1985) classification of learning strategies as he puts forward a tripartite categorization of learning strategies: First, cognitive strategies that involve the analysis, synthesis or transformation of information; Second, meta-cognitive strategies that involve the planning, monitoring and evaluating of learning; Third, social/affective strategies which involve the communication and interaction with others.

Finally, Embi (1996) presents a similar classification in his investigation of the language learning strategies used by Malaysian secondary school students and their

relationship to success in language learning. He proposes a model of learning to learn based on his findings. This model is known as SMART language learning. SMART is the acronym of the following main strategies:

S - Social learning strategies.

M - Meta-cognitive learning strategies.

A - Affective learning strategies.

R - Remembering strategies.

T - Test preparation strategies.

There is however, an important point yet to be considered linked to a definition and classification of learning strategies. It is the classification of strategies by skill areas. The next section will deal with the learning strategies associated with the four language skills, listening, speaking, reading and writing. Some other attention will be devoted to describing the strategies associated with vocabulary and grammar learning.

2.2 The Learning Strategies Associated With Language Skills

Researchers adopt several different taxonomies to classify learning strategies. The type presented in this section focuses on classifying strategies according to skill areas. Success in learning a foreign or second language depends on a variety of factors such as the application of particular strategies to the acquisition of different language skills. The body of existing literature describes the language learning strategies associated with the four language skills and why students decide to use them when engaging in language learning tasks. Oxford (1990) offers significant implications for the ESL and EFL teachers who want to improve their instructional effectiveness. She focuses on the application of direct strategies (memory, cognition, and compensation) and indirect strategies (meta-cognitive, affective and social) to each of the four language skills

(listening, speaking, reading and writing). She stresses the importance of using these strategies in developing all language skills.

2.2.1 Listening Comprehension Strategies

Second language researchers investigated how learners approach listening comprehension. They made lists of strategies presumed to be essential in improving listening comprehension skill. Ellis and Sinclair (1989) cited in O'Malley and Chamot (1990) present some of the basic listening strategies used with intermediate level EFL and ESL students in the language classroom:

1. Using imagery while listening.
2. Planning to listen for selected information (selective attention).
3. Identifying prior knowledge before listening (elaboration).
4. Predicting based on prior knowledge (elaboration and inferencing).
5. Using linguistic signals and paralinguistic cues (selective attention).
6. Guessing unknown words from context (inferencing).

According to Ellis and Sinclair (1989), students have to apply certain strategies to develop listening. It is essential for students to depend upon mental effort to connect words with situations. They should know how to manage their learning through planning. They have to consider listening as an active process of constructing meaning. It is an interactive process by which the students guess intelligently by using clues coming purely from knowledge of the target language or from a variety of sources which are related to world knowledge and own experience. However, although affective and social strategies proved to be powerful contributions to language learning (Oxford, 1990), Ellis and Sinclair's (1989) list does not include these strategies. It might be that learners are not familiar with paying attention to their feelings and social relationship or

maybe because these behaviours are not researched frequently by second language learners.

On the other hand, in the assessment of the strategies used for successful acquisition of listening comprehension skill, O'Malley, Chamot and Kupper (1995) approach listening strategies in a different way. They conducted a study involving students from Spanish speaking countries in Central or South America who were enrolled in ESL classes at the secondary level. Data was collected by using think-aloud procedures. Their findings indicated that listening comprehension process can be classified into three phases and each phase requires the use of certain strategies.

1. Perceptual processing

   In this phase, paying attention is fundamental for comprehension. Students' attention was affected in this study by the length of the listening task and fatigue. Effective listeners were aware of their inattentiveness and consciously redirected their attention back to the task. In contrast, ineffective listeners failed to be aware of their inattention when encountering an unknown word or phrase.

2. Parsing

   Listeners segment and parse portions of the text they heard by using a variety of strategies such as elaboration, self-monitoring, and inferencing. On the other hand, translation was often a problematic task when the text is difficult and complicated.

3. Utilization

   Two ways were identified in making use of prior knowledge- whether to assist comprehension or to assist recall. In order to assist comprehension, the effective listeners tend to relate new information to prior knowledge by using three types of elaborations that form the basis for the schemata:

a) Relating the new information by using world knowledge acquired either in an academic or a non-academic context.
b) Relating the new information to a personal experience and making critical judgment about value of the information.
c) Asking oneself questions about the new information listened to.

In short, students deployed strategic resources to aid comprehension such as paying attention, self monitoring, elaboration, inferencing and relating new information to prior knowledge in a variety of ways depending on the phase of comprehension. Furthermore, the effective listeners made use of both top-down and bottom-up processing strategies. In contrast, ineffective listeners consistently made use of bottom-up strategy. In the top-down processing strategies, the listener employs world knowledge to construct a meaningful interpretation of aural messages. The focus is on the speaker's purpose and the topic of the message. On the other hand, in the bottom-up processing strategies, the listener focuses on the individual components of spoken messages. In other words, the listener decodes the individual sounds to derive the meaning of words and then the meaning of utterances (Nunan, 1991).

Grenfell and Harris (1999) add some other effective listening strategies that can help in developing listening skill:

1. Identifying the type of listening text.
2. Identifying the topic.
3. Using common sense.
4. Using clues such as tone of speaker's voice and facial gestures in the case of video or clues from the tense, word order, etc.
5. Picking out cognates.

6. Identifying unfamiliar phrases and playing the relevant section of the tape over and over again.
7. Holding unfamiliar sounds in your head by saying them over and over again.
8. Trying to break down the stream of sound into individual words.
9. Trying to write down the sounds and relate them to written words previously learned.

According to Grenfell and Harris (1999), the strategies used to promote listening skill involve some analyses on the side of the learner through identifying the type of listening text and the topic. The use of these strategies can facilitate comprehension. Guessing is another essential strategy used to develop listening. Students guess the meaning of what is heard by using their general knowledge of the world, linguistic clues such as the tense and word order, or non-linguistic clues such as the tone of the speaker's voice and the facial gestures. Mastering listening requires students to practise by repetition; they should listen to the native speakers in the new language on a tape or record repeatedly with silent rehearsal (repeating the words to oneself mentally). This strategy helps students to be accustomed to English pronunciation. Finally, students should use their cognition in understanding something spoken in the target language, they should analyse expressions by breaking down a new word, phrase, sentence or even a paragraph into its component parts. The strategy of analysis is valuable as it helps learners to use logical thinking to understand (Oxford, 1990).

Finally, Ai and Noor (2000) specify other types of listening strategies used to develop listening comprehension and production. These strategies are:

1. Identifying the main idea.
2. Identifying sub-topics.

3. Predicting the answers.
4. Identifying what is required of each question.
5. Listening for the relevant details.
6. Taking notes using the outline format.
7. Determining the context.

In other words, Ai and Noor (2000) suggest that the use of cognitive strategies is fundamental in the development of listening. They state that in the process of developing listening skill, students use their cognitive strategies in identifying the main idea, sub-topics and relevant details, also, in previewing the questions and analysing them, and finally, students use the cognitive strategies in organizing the target language information by taking notes. The strategy of taking notes allows students to demonstrate their understanding tangibly and prepare them to use the language for speaking and writing.

In general, mastering listening requires students to focus their learning by paying attention. This strategy is essential for comprehension. Students, also have to use linguistic signals, their own experience and world knowledge to guess the meaning of unknown words. They should exert some mental effort to use imagery while listening and finally, students have to use analyses to identify the main idea, sub-ideas and relevant information.

2.2.2 Speaking Strategies

Nunan (1991:39) states that "mastering the art of speaking is the single most important aspect of learning a second or foreign language". Similarly, in the discussion of the importance of comprehension and production in second language learning, Swain

(1988) cited in Cook (1993) stresses that successful language learning needs more than comprehensible input rather successful management of classroom interaction. In an attempt to help learners improve their speaking skill, researchers focus their attention to identify strategies that facilitate the acquisition of speaking. O'Malley et al. (1988) list some of the language learning strategies that are associated with different speaking tasks:

1. Meta-cognitive strategies
    a) Students use functional planning by analysing a communication for the functions that must be accomplished and rehearsing linguistic components to perform the communication.
2. Social/affective strategies
    a) Students use cooperation with fellow students to obtain feedback on volume, pace, organization, and comprehensibility of their presentation.

According to O'Malley et al. (1988), English language learners use meta-cognitive and social/affective strategies to improve their speaking skill. These two types of strategies include planning, analysing, rehearsing and cooperating with peers. However, no strategies are used to reduce anxiety and create a pleasant environment that leads to second language acquisition (Krashen, 1982). In addition, no strategies are used to overcome limitation in speaking and ask questions which are influential in the acquisition of speaking (Oxford, 1990).

Ellis and Sinclair (1989) cited in O'Malley and Chamot (1990) add some other important cognitive, meta-cognitive and memory strategies used with speaking such as:

1. Self management and cooperation strategies are used in finding practice opportunities.

2. Auditory representation strategy is used by conducting imaginary mental conversations.
3. Self-management and organizational planning strategies are used by applying hesitation techniques that provide thinking time in a conversation.
4. Advance preparation strategy is used by rehearsing.
5. Organizational planning and self evaluation strategies are used by staying within one's own language repertoire.

Ellis and Sinclair's (1989) classification of speaking strategies is comprehensive. They state that in the process of developing speaking skill, students practise speaking and rehearsing with other people in natural settings that provide rapid communication. They use their memory strategies that are useful for remembering new expressions that have been heard or read. Finally, students know well how to use their meta-cognitive strategies in planning and organizing their speech, they use hesitation techniques to provide thinking time in a conversation.

On the other hand, Ai and Noor (2000) specify different types of strategies used with speaking such as:

1. Generating ideas.
2. Organizing ideas.
3. Using appropriate expressions.
4. Recalling information.
5. Jotting down reasons.
6. Jotting down suggestions.

Ai and Noor (2000) stipulate that language learners use their memory strategies to retrieve language information quickly. Then, they mentally organize the ideas. Later, they use their cognitive strategies by analysing and taking notes. Finally, students practise the target language by using appropriate expressions.

2.2.3 Reading Comprehension Strategies

Reading is an interactive process by which readers play an active role in constructing a meaningful interpretation of the text. Skilled readers usually utilise linguistic cues and background knowledge to reconstruct meaning (Nunan, 1991). In order to improve students' reading skill, several lists of reading strategies were provided by researchers. However, there are some differences in the way strategies are classified as a consequence of researchers own views of reading process. Winograd and Hare (1988:125) cited seven reading comprehension strategy studies that provide the readers with the effective reading comprehension strategies in general:

1. In the study conducted by Adam et al. (1982), the focus was on the six step strategy for reading content area texts:
    a) Previewing headings.
    b) Reciting subheadings.
    c) Asking questions for subheadings.
    d) Reading to find important details.
    e) Reading sub headings and reciting important details.
    f) Rehearsing or reading each subheading and reciting important details.
2. Hansen and Pearson (1983) focus on inferencing strategy by raising students' consciousness about relating new information to old one and relating personal experiences to text events and predicting text events.
3. Patching et al. (1983) discuss the critical reading strategy through:

a) Detection of faulty generalizations.

b) Detection of false causality.

c) Detection of invalid testimonial.

4. Alex and White (1984) discuss the reasoning strategy and how to teach it to the students through:

    a) Encoding.

    b) Inferring.

    c) Mapping.

    d) Applying.

5. Baumann (1984) outlines the comprehension strategy by helping students:

    a) Locate explicit and implicit main ideas in paragraphs.

    b) Locate explicit and implicit main ideas in brief passages.

    c) Construct outlines of main ideas for brief passages.

6. Garner et al. (1984) highlight the text look-back strategy; students were taught how and when to go back to reread certain words or phrases that they did not see accurately the first time.

7. Hare and Borchardt (1984) point out that summarization strategy is composed of:

    a) Rule-checking suggestions which include:

        i. Understand the text.

        ii. Look back.

        iii. Rethink and check and double-check.

    b) Summary rules that include:

        i. Collapse lists.

        ii. Use topic sentences.

        iii. Get rid of unnecessary details.

        iv. Collapse paragraphs.

v. Finally, the polishing rule that requires summary editing.

The findings of the above studies indicated that reading is a complex process. It involves many physical an intellectual process. Students have to employ various strategies to develop their reading such as using strategies for reading content area texts, reasoning, comprehension, text-look-back, summarizing and critical reading.

Ellis and Sinclair (1989) cited in O'Malley and Chamot (1990) specify some other principle strategies used with reading:

1. Identifying a reason to read (problem identification).
2. Finding out about the topic before reading (planning, elaboration, and reasoning).
3. Preliminary skimming to determine difficulty level (advance organization and self evaluation).
4. Using First Language (L1) reading strategies (elaboration of prior strategy knowledge).
5. Predicting based on prior knowledge (elaboration and inferencing).
6. Using linguistic signals and paralinguistic cues (selective attention).
7. Guessing unknown words from context (inferencing).

According to Ellis and Sinclair (1989), developing reading involves the use of several strategies. Good readers control and plan their learning by identifying the purpose of reading and linking with already known material. They skim to determine difficulty. Good readers know how to transfer strategies used in the first language to different tasks in the target language. Finally, when confronted with unknown expressions while reading, they consider the strategy of guessing as essential.

Furthermore, Jordan (1997:143) offers a comprehensive list of the main strategies that aid reading comprehension:

1. Prediction.
2. Skimming (reading quickly for the main idea or gist).
3. Scanning (reading quickly for a specific piece of information).
4. Distinguishing between :
    a) Factual and non-factual information.
    b) Important and less important items.
    c) Relevant and irrelevant information.
    d) Explicit and implicit information.
    e) Ideas, examples and opinions.
5. Drawing inferences and conclusions.
6. Deducing unknown words.
7. Understanding graphic presentation (data, diagrams, etc.)
8. Understanding text organization and linguistic/semantic aspect, such as:
    a) Relationship between and within sentences (cohesion).
    b) Recognizing discourse/ semantic markers and their function.

Jordan's (1997) list of reading comprehension strategies stresses the importance of using the cognitive strategies of analysing and reasoning and the compensation strategy of guessing intelligently in developing reading comprehension

On the other hand, Urquhart and Weir (1998) outline the reading strategies offered by Jordan (1997) that aid comprehension in a different manner; they classify reading strategies into three categories:

1. Pre-reading strategies:

a) Previewing that can be achieved through the following:
    i. Thinking about the title.
    ii. Checking the edition and date of publication.
    iii. Reading the table of contents quickly.
    iv. Reading appendices quickly.
    v. Reading indexes quickly.
    vi. Reading the abstract carefully.
    vii. Reading preface, the foreword and the blurb carefully.
b) Prediction strategy that helps anticipating the content of a text can aid comprehension.

2. While-reading strategies:
    a) Self-questioning strategy that improves students' processing of a text and gives them an opportunity to monitor their comprehension.
    b) Self monitoring strategy that helps adopting repair strategies when comprehension does not take place.
3. Post-reading strategies:
    a) Evaluation and personal response strategy that encourages learners to relate content to their existing schemata and evaluate it in the light of their own knowledge.

According to Urquhart and Weir (1998), reading process involves the use of different strategies successively. First, readers should use previewing strategies to motivate them to read, followed by self questioning and self monitoring strategies. These two types of strategies enable readers to check understanding and take steps to enhance it. Finally, students have to use evaluation strategies in order to develop critical thinking.

On the other hand, Ai and Noor (2000) approach the English language learning strategies used in developing reading in a different way:

1. Identifying the topic.
2. Identifying details.
3. Recalling background knowledge.
4. Identifying content words.
5. Guessing the answers.
6. Identifying grammar words.
7. Transferring information from graphic representation to text.
8. Determining the subject.
9. Identifying extremes.
10. Making comparisons.
11. Interpreting trends.
12. Determining the meaning of words.
13. Determining pronoun referents
14. Distinguishing relevant/irrelevant details.
15. Making inferences.
16. Determining the author's purpose.
17. Identifying the author's attitude/tone.

Ai and Noor (2000) describe good readers as those who try to skim in order to identify the topic and scan to find specific details. They create mental linkages by grouping content words, grammar words, pronoun referents and the subject. This grouping makes the material easier to remember by reducing the number of discrete elements. They use their meta-cognitive strategies in arranging and planning the learning process. In addition, good readers use their cognitive strategies which involve analysing

contrastively and transferring information from graphic representation to text. Finally, they use their compensation strategies to guess and make inferences by recalling background knowledge or using the knowledge of the context.

In general, both reading and listening skills share some strategies. They are both active processes by which learners construct meaning through using linguistic and non-linguistic clues. In addition, both of the two skills require some type of analyses; students have to identify the type of text, the main ideas and supporting details.

2.2.4 Writing Strategies

Writing is one of the difficult skills to master by EFL learners. Identifying writing strategies may help in the development of this skill. Ellis and Sinclair (1989) cited in O'Malley and Chamot (1990) specify some of the principle cognitive strategies used with writing such as:

1. Grouping and elaboration of knowledge about discourse strategies are used in collecting models of different types of writing.
2. Organizational planning strategies are used in keeping audience in mind.
3. Organizational planning and self evaluation strategies are employed by using known vocabulary and structures.
4. Self evaluation and substitution strategies are used by composing directly in the target language.
5. Self evaluation strategy is used by revising.

On the other hand, Ai and Noor (2000) add some new memory, meta-cognitive and cognitive strategies used with writing. Students use their memory strategies in generating ideas and in retrieving information. They use their meta-cognitive strategies

in centring their learning by identifying the purpose of a language task. They use them also in planning learning by extracting relevant information, organizing the main points and determining the organizational style. Students use meta-cognitive strategies as well in evaluating their writing by self monitoring and checking subject verb agreement and other tenses. Finally, students use cognitive strategies in writing by developing the topic sentence, writing the introductory paragraph, expanding and combining points into sentences and paragraphs for the body of the essay, and they use them in writing the conclusion as well.

Although compensation, affective and social strategies are helpful in the acquisition of writing (Oxford, 1990), none of these strategies were reported by any of the above writers. No strategies were used to overcome limitations in writing such as coining words or using synonyms. In addition, students often need to find ways to keep their spirits up and persevere when producing the language, again no strategies were used to lower anxiety or encourage oneself. Finally, no strategies were reported using cooperation with peers or asking for corrections during writing. Oxford (1990) presents a good example for employing the strategy of cooperation in writing through dialogue journals in which learners exchange messages with their teachers who respond with comments.

2.2.5 Vocabulary Learning Strategies

Rivers (1983:125) argues that "the acquisition of an adequate vocabulary is essential for successful second language use". Researchers make lists of strategies presumed to be essential for vocabulary building. O'Malley et al. (1988) list the strategies used with different academic language tasks for vocabulary building:

1. Meta-cognitive
    a) Self evaluation by recording the number of new words and the method used to remember them.
2. Cognitive
    a) Grouping by listing words that have equivalent meanings in one section and those which are opposite in meaning in another section.
    b) Using imagery by relating new words to visual concepts in the memory in order to incorporate them with their English equivalent.

On the other hand, Dudley-Evans and John (1998) distinguish between two techniques for vocabulary development:

1. Techniques for comprehension are used through deducing the meaning of vocabulary from the structure of the word and from the context in which it is used.
2. Techniques for production are used through storage and retrieval. Storage can be deployed by the use of word association with a visual image. The retrieval of vocabulary items can be aided by grouping the words according to their meaning or topic, or according to chains of association.

Finally, Nation (2001) develops a taxonomy of vocabulary learning strategies that includes the following:

1. Planning vocabulary learning

    This category of strategies comprises four sets that explain where, when and how to focus attention:

    a) Choosing words

Learners should know their vocabulary goals and then choose from the various levels of vocabulary (high frequency, academic, technical, low frequency) that can help them achieve their goals.

b) Choosing an aspect of word knowledge to focus on

Learners should be aware of the various aspects involved in knowing a word such as form, meaning and use.

c) Choosing strategies

Learners need a strategy that controls their strategy use. They have to know how to choose the appropriate strategy that achieves their goals. They also have to decide how to pursue the strategy and how to switch to another one.

d) Planning repetition

Repetition is essential for vocabulary learning. It should be spaced at increasingly larger intervals to encourage remembering for a long period of time.

2. Sources: finding information about words

Learners have to get information on new vocabulary from various resources such as:

a) Analysing word parts

Being familiar with the word parts such as affixes, suffixes and stems may help in working out its meaning or see connection between related words.

b) Using context

Incidental learning from context is the most important strategy of all sources of vocabulary learning. Learners should be able to guess words

from context by making good use linguistic cues and background knowledge.

c) Consulting a reference source

Reference sources can be divided into two types:

i. Formal written sources such as dictionaries, glossaries, lists, concordances.

ii. Oral sources such as asking teachers, native speakers or other learners.

In vocabulary learning, learners may refer to any of the above reference sources to gain information.

d) Using parallels with other languages

In order to cope with the new vocabulary, learners may get information about words from drawing on analogies and connections with first or other languages.

3. Processes: establishing vocabulary knowledge

This set of strategies focuses on the process that leads to a word being remembered such as:

a) Noticing

These strategies encourage giving attention to an item as the first step towards deeper processing of the word. They include:

i. Putting the word in a vocabulary notebook or a list.

ii. Repeating the word orally and visually.

b) Retrieving

Retrieval involves recalling knowledge in the same form in which it was originally stored. It can be divided into various types: receptive/productive, oral/visual, overt/covert, in-context/de-

contextualized. Finally, retrieval does not occur if the form and its meaning are presented simultaneously to the learner and it occurs across the four skills of listening, speaking, reading and writing.

c) Generating

Generating involves recalling the items met before but in different ways in which they were originally stored. It can be divided into many types: receptive/productive, oral/visual, overt/covert, in-context/de-contextualized. Generating strategies include:

i. Attaching new aspects of knowledge through visualizing examples of the word.
ii. Word analysis.
iii. Semantic mapping.
iv. Using scales and grids.
v. Creating contexts.
vi. Collocations and sentences containing the word.
vii. Keyword technique.
viii. Meeting and using the word in new contexts across the four skills of listening, speaking reading and writing.

In short, vocabulary learning strategies in general can be divided into three sets: first, cognitive or meta-cognitive, second, strategies for comprehension and others for production and third, planning vocabulary learning, finding information about words and establishing vocabulary knowledge.

2.2.6 Learning Strategies and Grammar

Acquisition of a target language grammatical system is important. Nunan (1991) presents two different views for teaching grammar. The first view involves providing students with a great deal of grammatical explanation that ends up with them knowing quite a lot about the language. The second view focuses on analogy rather than explanation. Students practise inducing the grammatical rules from their experience in using the language. The purpose of grammar teaching is to help students use English correctly and appropriately. Tudor (1996) provides some learning strategies that help in acquiring the grammar of the target language. These strategies are classified into two main categories.

1. Student preparation of exercises

   Asking learners to write and answer their own exercises offers a rich scope for an explorative approach to learning in collaboration with the teacher. The learning strategies that are used in the preparation of exercises are:

   a) Meta-cognitive strategies:

      i. "Planning and self management" strategies are used in the organization and preparation of the exercise task.

      ii. "Selective attention" and "problem identification" strategies are used by focusing on the target constructions and the contexts in which they are used.

      iii. "Self evaluation of students' understanding and ability to use the target constructions" strategy is used by the students.

   b) Cognitive strategies:

      i. Using the strategies of "resourcing", "deduction/induction", and "transfer" that are involved in exercises preparation.

ii. “Grouping the instances on the use of the target construction” is used as a basis for preparing exercises.

iii. “Translation” can be used as a starting point for preparing exercises.

c) Social/affective strategies:

i. “Questioning for clarification” strategy is used; students ask teachers about the use of the target construction and other aspects of the exercises being prepared.

ii. “Cooperation with peers” strategy is used in exercise preparation.

2. Exploring textual material

In the discovery-based approach, students collect a body of textual material in the target language containing instances of the target construction. This exploratory form of learning may precede rule formulation or may be used as a follow up activity. The strategies employed in the discovery-based approach are:

a) Meta-cognitive strategies that include:

i. “Planning and organizing” the text exploration task.

ii. Using “selective attention” and “problem identification” strategies on identifying instances of the target construction in the text exploration task.

iii. Using “self evaluation” strategy to assess mastery of the target construction during the text study and feedback stages.

b) Cognitive strategies include:

i. Using “resourcing”, “deduction/induction”, and “transfer” strategies that are involved in gathering information for text explanation task.

ii. Using “elaboration” and “inferencing” strategies to work out the principles underlying the target constructions usage in the text exploration task.

iii. Using “grouping”, “summarizing”, and “note taking” strategies to explain target constructions occurring in the text corpus.

c) Social/affective strategies that include:

i. Using “questioning for clarification” and “cooperation with fellow students” in the text exploration task.

Thus, Tudor (1996) divides grammar learning strategies into two categories: first, strategies for preparation of exercises and second, strategies for exploring textual material. Both categories play an influential role in the acquisition of grammar.

In summary, this section describes various studies conducted with second and foreign language learners. It summarizes the strategies used with the four language skills, listening, speaking reading and writing. In addition, it describes the strategies used with other skill areas such as vocabulary and grammar learning that cross cut the four basic skills. The next section will shed some light on the factors that influence a language learner’s choice of strategies, and the representative studies that are conducted in an attempt to describe this influence.

2.3 Factors Affecting Strategy Choice

Research on learning strategies indicates that all students employ language learning strategies to improve their progress in developing the target language. However, there are some individual differences which are of primary concern with in this study, that influence strategy choice including context, gender, major field of study, age and the English language performance level. Several studies have been conducted to investigate the influence of these factors on the choice of strategies.

2.3.1 First and Second Language Contexts

Among the many factors that might influence a language learner's choice of strategies is the language context of the learner. Oxford (1990:6) states that "some learning strategies might be easier to use in second language contexts than in foreign language settings, or vice versa. However, most learning strategies can be applied equally well to both situations." The differences between second language contexts and foreign language contexts are viewed in terms of where the language is learned and what social and communicative functions the language serves there. ESL learners use the target language for social and communicative functions within the community, whereas EFL learners do not use the target language for immediate social and communicative functions within the community where it is learned (Oxford, 1990).

Similarly, Bedell & Oxford (1996) differentiate between EFL and ESL learners. EFL learners are students who learn in their native, non-English speaking environment, whereas, ESL learners are those who learn English in an English speaking country such as the US or the UK.

Krashen (1982) adds that among the factors that have been thought to be related to second language acquisition success is the amount of exposure to the second language. The informal real world environment is more superior in providing comprehensible input than the classroom or formal environment. In the second language classroom, the range of discourse that students are exposed to is quite limited. Thus, the length of residence in the second language environment allows a great amount of comprehensible input a student obtains that encourages acquisition.

Chamot (1987) investigated the English language learning strategies used by 70 ESL students. The subjects of the study also included 22 of the teachers in three suburban high schools in northern Virginia. The instruments used were class observation and interview with teachers and students. Results were classified as meta-cognitive, cognitive and social/affective. The following is a list of learning strategies found in the study:

1. Meta-cognitive strategies are divided into:
    a) Advance organizers.
    b) Directed attention.
    c) Selective attention.
    d) Self management.
    e) Advance preparation.
    f) Self monitoring.
    g) Delayed production.
    h) Self evaluation.
2. Cognitive strategies are divided into:
    a) Repetition.
    b) Resourcing.

c) Directed physical response.

d) Translation.

e) Grouping.

f) Note taking.

g) Deduction.

h) Recombination.

i) Imagery.

j) Auditory.

k) Representation.

l) Key word.

m) Contextualization.

n) Elaboration.

o) Transfer.

p) Inferencing.

3. Social/affective strategies are divided into:

    a) Cooperation.

    b) Question for clarification.

In short, most of the strategies found in Oxford (1990) are consistent with Chamot (1987). The difference is in the classification of memory strategies that are considered as cognitive ones by Chamot (1987). O'Malley and Chamot (1990) went on to describe a series of studies that are used to classify and define strategies used in second and foreign language acquisition.

The purposes of the first study conducted by O'Malley et al. (1985a) cited in O'Malley and Chamot (1990) were to identify the range of learning strategies used within and

outside the classroom and to determine if the strategies varied depending on the task or the level of English proficiency of the student. The participants of the study were high school ESL students and particularly both beginner and intermediate levels of English proficiency. The two data collection instruments used in gathering information were the interview and the classroom observation. Interviews with beginner level students were conducted in Spanish while interviews with intermediate level students were conducted in English. The results indicated that there are three classifications of learning strategies, seven meta-cognitive strategies, fourteen cognitive strategies and two social strategies. Although students reported using the above strategies, classroom observations indicated that students rarely used them on integrative tasks instead they often relied upon strategies that did not demand elaborative or active mental processing.

Chamot et al. (1987) cited in O'Malley and Chamot (1990) conducted a study to investigate the learning strategies used in foreign language instruction. The purposes of the study were to determine differences in strategy use between Russian and Spanish students at high school and college level and to identify the range and variety of strategies used in formal language context. The instrument used in collecting the data was the General Interview Guide, preceded by classroom observations. This General Interview Guide describes nine types of learning tasks and how the students approached each of the following nine language tasks:

1. Vocabulary learning.
2. Oral grammar drills.
3. Written grammar drills.
4. Listening comprehension.
5. Reading comprehension.
6. Written composition.

7. Oral presentation.
8. Operational communication.
9. Functional communication.

The results showed that one cognitive strategy namely “Key word” was not used in the foreign language study at all. “Key word” strategy means remembering a new word in the second language by identifying a familiar word in the first language that sounds like or resembles the new word. This means that foreign language learners do not refer to their first language in remembering new words in the target language. On the other hand, “rehearsal”, “translation”, “note taking”, “substitution” and “contextualization” strategies were used. In contrast, both of the social strategy “self talk” and the meta-cognitive strategy “delayed production” were used to reduce anxiety and to learn through listening comprehension. Foreign language students at all levels of study reported using far more cognitive strategies than meta-cognitive ones.

Again, in an attempt to confirm the influence of context on learning strategies, Bedell and Oxford (1996) cited several studies involving EFL and ESL learners from many countries such as Ahmad (1988), Oxford, Talbott and Halleck (1990), and Touba (1992). Some of these studies used a strategy classification based on the Strategy Inventory for Language Learning (SILL) and some did not.

Ahmad (1988) used course notebooks, self-reports, observations and interviews to identify vocabulary learning strategies used by 300 Sudanese students. Fifty strategies were identified and the most frequent ones were “Taking notes in the book margin” and “Asking classmates for information”.

Oxford, Talbott, and Halleck (1990) used a SILL-based questionnaire with 43 ESL students in Pennsylvania. Analysis of the data revealed high use of social, meta-cognitive, cognitive and compensation strategies with medium use of affective and memory strategies.

Finally, Touba (1992) conducted a study to identify the English language learning strategies used by 500 Egyptian university students majoring in teaching the English language. The tool used to collect the data was an Arabic translation of the 50-item SILL, version 7.0. The results indicated that the students tended to use meta-cognitive and memory strategies most frequently and cognitive strategies least often.

In short, according to the studies cited by Oxford (1996), ESL learners showed high use of meta-cognitive, cognitive, social and compensation strategies. On the other hand, EFL learners reported far more meta-cognitive and memory strategies than cognitive ones. Thus, both ESL and EFL learners made high use of meta-cognitive strategies that focus on organizing and evaluating the learning.

Furthermore, Ai (1996) conducted a study on four Malay learners to identify the academic reading strategies used. Data collected through various instruments such as self-report checklist, subjects' notes, text markings, questionnaire, interview and observation. The results indicated that the Malay students used 83 academic reading strategies. The most common strategies used were cognitive, followed by meta-cognitive ones and finally, the least strategies employed were the affective ones. Furthermore, results reported that there were 10 academic reading strategies common to all subjects such as, rehearsal, elaboration, organizational, comprehension, monitoring and affective strategies. Furthermore, the good learners employed more meta-cognitive

strategies than the less effective ones. The good learners processed the textual information in depth and made extensive use of visual representations.

On the other hand, Yang (1996) reported different results than those reported by the previous studies. She investigated the learning strategies of 68 university students in Taiwan, 38 students were English majors and 30 were Sociology majors. The instruments used in collecting data were a questionnaire and a Group Interview Question Guide. The questionnaire was composed by the author. It contains three sections: the first section consists of 49 items adapted from the SILL to assess strategy use; the second section investigates students' beliefs and attitudes about language learning and the last section obtains students' background information such as gender, age, major field of study, proficiency and perceived motivation. The results indicated that the most commonly used strategies were compensation, followed by affective, meta-cognitive and finally memory strategies respectively.

Finally, Mingyuan (2000) conducted a study on Chinese ESL students who where chosen to study in a six month intensive English programme at the National University of Singapore. The purpose of the study was to identify the language learning strategies and to relate them to proficiency level. Students completed a questionnaire on their use of language learning strategies (SILL) designed by Oxford (1990). Results indicated that students used compensation strategy as most frequently followed by meta-cognitive, cognitive, then, social, next, affective and finally, memory strategies as the least frequent ones.

The conclusion drawn from studying learning strategies in different contexts is that a group of learning strategies may be of a particular use for ESL learners such as meta-

cognitive, cognitive, compensation and social ones whereas, affective and memory strategies were the least used. On the other hand, there was no consistency in the use of strategies used by EFL learners as some used meta-cognitive and memory strategies most frequently, others used them least often.

2.3.2 Gender

There is a growing number of studies that emphasized the importance of gender issues in education. Gender is a term used to "describe the traits and behaviours that are regarded by the culture as appropriate to men and women" (Brannon, 1999:18). This section takes a look at some of the literature available on gender and second language learning; different explanations have been put forward for gender in education; research conducted in this area and how these findings help reach an understanding of gender differences that influence learning which is the primary concern of this study.

During the past twenty years, after women's second movement which questions women's position and rights in 1970s and 1980s in the USA, there has been a great deal written about gender and education in terms of language, achievement, classroom behaviour, learning styles and learning strategies. Teachers became aware of and sensitive to gender issues. They were being urged to develop techniques to eliminate gender bias from schools. As such, gender equity has become one of the most important educational issues. The gender imbalances in the text books were remedied in order to influence females' education achievement positively. Women were presented as positive and active participants and engaged in challenging tasks (Hoover, 1982).

In ensuing section two general questions regarding gender differences will be addressed:

1. Do such differences actually exist?
2. What are the causative factors leading to these differences?

2.3.2.1 Differences Between Males and Females in Education

As males and females are fundamentally different, the influence of one's gender on both production and reception of language is a major factor that affects the acquisition of that language (Brown, 1994). Similarly, Francis (2000:31) states:

> The teacher's perception of gender differences and their consequent interaction with, and expectations of pupils, have been shown to affect classroom interaction and pupil self-perception.

Gurian et al. (2001:44) state: "gender difference affects nearly every area of learning in some nuanced way". Therefore, understanding these gender differences will be the key to advancing true educational reform; Learning environments will be adapted to fit the different needs of both males and females; Specific teaching techniques that accommodate the ways boys and girls learn differently will be applied and tested.

2.3.2.2 Gender and Learning Strategies

Gender-related differences are among the factors that contribute to differences in learning strategies. Green and Oxford (1995:266) state that “gender differences have appeared in SILL-based studies around the globe, with females usually reporting more strategy use than males”.

Ehrman and Oxford (1989) cited a study conducted by Politzer (1983) on 1,200 university foreign language students to investigate the influence of gender on strategy use. The results indicated that males did not show statistically greater use of strategies

in any category while females used more learning strategies with significantly greater frequency than males in three categories:

1. Formal practice.
2. Standard study habits.
3. The highly social category of input elicitation.

Similarly, Ehrman and Oxford (1989) conducted a study at the U.S. Foreign Service Institute to examine the effect of gender on the selection of language learning strategies. The participants were 78 Foreign Service institute students and language instructors. The Strategy Inventory for Language Learning (SILL), a 121-item, likert-scaled, a self-report survey of preferred language learning techniques, was distributed to both students and instructors. The findings reported that females showed a significant advantage for the following four sets of strategies:

1. General strategies that include previewing lessons, arranging the study environment, skimming the reading passage before reading in detail, and checking one's own performance.
2. Authentic language use that includes seeking native speakers with whom to talk, initiating conversations in the new language, reading authentic, natural texts, etc.
3. Searching for and communicating meaning, that include guessing when complete information is not available, using text markers to aid comprehension, finding alternative ways to express meaning.
4. Self-management strategies that include correcting own written errors, encouraging oneself, considering one's own progress, planning for future language tasks, and identifying goals.

Similarly, Green and Oxford (1995) found that students in three different course levels in the University of Puerto Rico at Mayaguez showed significant gender differences on the Strategy Inventory for Language Learning (SILL). Although only one strategy "watch TV or movies in English" was used significantly more often by men, fourteen were used significantly more often by women:

1. Use flashcards to remember new words.
2. Review English lessons often.
3. Connect words and location.
4. Skim and then read carefully.
5. Seek first language words similar to second language words.
6. Make summaries of information.
7. Use gestures when stuck for a word.
8. Try to find out about language learning.
9. Think about own progress in learning.
10. Give self a reward for doing well.
11. Notice oneself when tense or nervous.
12. Ask other person to slow down or repeat.
13. Ask to be corrected when talking.
14. Ask for help from English speakers.

Regarding the relationship between gender and strategy categories, results showed that females used the following strategy categories significantly more often than males: memory, meta-cognitive, affective and social. Furthermore, the findings indicated that females used more overall strategy than males. Thus, it is notable that women used strategies more than men and this confirms that gender can determine strategy use.

Furthermore, Kaylani (1996) reached the same results that female used more categories of strategies than males. She investigated the influence of gender on language learning strategies among 255 high school seniors in Jordan. Eight classrooms were used; each contains 26 to 36 students of which four were boys' classes and four were girls' classes. The instrument used in this study was an Arabic translation of the Strategy Inventory for Language Learning (SILL). The results indicated that female students used significantly more memory, cognitive, compensation, and affective strategies than male students. On the other hand, there were no significant differences in the use of meta-cognitive and social strategies between male and female students.

On the other hand, Peacock (2001) researched strategies uses among 140 Hong Kong City University students, 80 males and 60 females. Their average age was 20, ranging from 18 to 24. The 43 teachers who took part were all staff in the Department of English language. Data collected by using the recent version of 50-item Strategy Inventory for Language Learning (SILL). However, results reported something different where males showed a significant advantage for three strategies:

1. I use the English words I know in different ways.
2. I try to guess what the other person will say next in English.
3. I try to find as many ways as I can to use my English.

Another related issue concerns understanding leaning strategies clearly is discussed by Gurian et al. (2001) who co-founded the Gurian Educational Institute as an educational training organization. Its purpose is primarily to focus on providing teachers, administrators, parents and community members with crucial understanding of how the brain learns and how the male and female brains learn differently. Gurian et al. (2001)

classified male-female mind differences that may have influences on strategy use into five categories:

1. Developmental and structural differences

   In most aspects of brain development, females mature earlier than males of which the explanations are as follows:

   a) At the beginning of childhood, girls acquire their complex verbal skills a year earlier than boys. So, in the preschool girls read faster with large vocabulary and better grammar than boys. In general girls tend to have better verbal abilities while boys tend to rely heavily on non-verbal communication.

   b) At the end of childhood, girls' myelination that is responsible for allowing electrical impulses to travel down a nerve fast and efficiently is complete earlier than in young men.

   c) Brain development in infant proceeds from the right hemisphere to the left one. In females the movement to the left starts earlier than in males. On the other hand, men tend to have more development in certain areas of the right hemisphere, which can provide them with better spatial abilities.

   d) In females, the corpus callosum, the bundle of nerves that connects the right and left hemispheres is 20 percent larger than in males.

   e) The prefrontal lobes where sensory processing often occurs develop quicker in females than males. Consequently, females tend to do better than males at controlling impulsive behaviour.

2. Chemical differences

   The amount of most of the brain chemicals differs in males and females. "Serotonin" is secreted in males less than females making males impulsive and

fidgety. In addition, Oxytocin is more stimulated in females making them respond faster to other's pain and needs.

3. Hormonal differences

   Males and females differ in the degree of dominance of human hormones; "Estrogen" and "Progesterone" are female growth and bonding hormones. On the other hand, "Testosterone" is the male growth, sex-drive and aggression hormone. The interplay of hormones and the brain affects humans' mood and influences learning performance. When female "Estrogen" is high, girls score higher on tests than when it is low. Furthermore, when male "Testosterone" is high, boys score higher on spatial exams but worse on verbal tests. Male and female hormone levels vary; males' testosterone goes up much more than females; this makes males more aggressive compared to females.

4. Functional differences

   The new technologies that allow researchers to examine the function of living brains show that there are innate differences in male and female brain functioning such as the uses of brain cells and blood activity: males use the right hemisphere more while females use the left; Males move more emotive materials down to the brain stem while females move more of it upwards to the upper brain; The female’s brain never rest, using its resources, doing so quickly in more places in the brain while male brain is not as activated in many places. The areas of greater functioning in females are memory and sensory intake. Males and females see, hear, and taste things differently; females are able to hear and see things better than males. Furthermore, their nose and palate are more sensitive. In addition, females' overall resistance to long-term discomfort is stronger than males although, they reach pain quickly. Regarding memory ability, females can store a greater quantity of random information for short

periods while males can store better than females for long periods if the information is important to them or organized in a coherent way. On the other hand the areas of greater functioning in males are in spatial tasks and abstract reasoning.

5. Differences in processing emotion

   Brain based research shows that male and female brains differ in relation to emotive processing which is crucial to learning. Females process more emotive information than males since more of the activity moves up to the hemispheres that verbalize and reason over the crisis. On the other hand, male's emotive processing takes longer and involves less reasoning. Male’s brain moves information towards the brain stem over a crisis that makes male physically aggressive or withdrawn. This lesser emotive ability makes males more emotionally fragile and this fragility may extend to their ability to learn.

2.3.2.3 Gender and Learning Styles

Gurian et al. (2001) discuss ten areas of learning styles differences between males and females based on brain-based research such as the following:

1. Deductive and inductive reasoning

   Males favour deductive thinking as they begin their reasoning process from general to specific more quickly than females. On the other hand, females tend to favour inductive thinking as they begin from specific to general and they prefer to begin with concrete examples.

2. Abstract and concrete reasoning

   Males can explore the abstract world better than females while females find it easier to refer to concrete physical things; although, there are many exceptions to all these rules.

3. Use of language

   During the learning process, females often speak while they learn while males work silently. Furthermore, females prefer to use everyday language replete with concrete details while males prefer to communicate by using jargon and coded language.

4. Logic and evidence

   Females tend to hear more of what is said. They feel safe with more instructional meaning. On the other hand, males tend to hear less and often ask for evidence to convince them.

5. The likelihood of boredom

   During all aspects of education, males tend to get bored more easily than females and require varying stimulants to refresh them.

6. Use of space

   Males tend to use up more physical space when they are learning compared to girls as they are learning in the way their spatial brains learn.

7. Movement

   Males tend to move around while learning, in contrast, females need not move around, as this movement helps males to stimulate their brain and relieve impulsive behaviour.

8. Sensitivity and group dynamics

   Learning through social interaction is effective with females. Males focus on performing the task without much sensitivity to the emotions of others around them. On the other hand, pecking orders (i.e. where the student fits in the group's social strata) is more important to males than females. Males become fragile learners when they feel they are worthless; while females are not as dependent on pecking order status for school performance as males. The cause of this

fragility for males when they are humiliated or disliked is their high level of stress hormones.

9. Use of symbolism

   Males tend to prefer symbolic texts, diagrams and graphs while females prefer written texts and ponder the emotional workings of character.

10. Use of learning teams

    In forming the learning teams, males tend to spend less time in creating structured ones while females tend to spend longer time in creating looser organization.

In conclusion, the new millennium is going to be the age of innovations as it reveals more about how the brain in general learns and how males and females learn differently. Therefore, understanding gender differences will open a number of doors to better education (Gurian et al., 2001).

2.3.3 Major Field of Study and Learning Strategies

Research shows that another factor rather than gender exerts influence on the learners' choice of strategies. The focus of this section will be on the influence of major field of study on strategy use. Most of the strategy research focuses on high school students or students majoring in English. Bedell & Oxford (1996) reviewed several studies that examined the learning strategies of students majoring in English and some other fields of study.

Dai (1989) proved that there is some significant relationship between the use of meta-cognitive strategies and major field of study. He investigated the meta-cognitive strategies of 60 Chinese graduate students at three US universities majoring in English

language and Engineering. The instrument used in collecting the data was a think-aloud reading task.

On the other hand, Huang (1984) conducted a study on 60 graduating English majors to assess their individual strategy use. Results reported that many students often used memorizing, keeping vocabulary lists and listening to radio in English.

Similarly, Adegbija (1990) investigated the language learning strategies of 35 Nigerian senior university English majors. The instruments used to collect data were open-ended surveys, interviews and observations. Results indicated that the most frequent strategies used were reading extensively, mixing with fluent speakers, listening to radio in English, watching TV, and referring constantly to the dictionary. The meta-cognitive strategies and the strategies associated with the writing skill were all rarely reported.

Furthermore, Touba (1992) investigated the learning strategies of 500 Egyptian university students majoring in English. The instrument used in collecting the data was an Arabic translation of the 50-item SILL, Version 7.0. Results indicated high use of meta-cognitive and memory strategies and low use of cognitive strategies.

On contrary, Mullins (1992) reported different results than those reported by the previous study; he conducted a study on the use of language learning strategies of 110 English majors at Chulalongkorn University, Thailand. The SILL 7.0 was used in collecting the data. Results reported high or near-high use of compensation, cognitive and meta-cognitive strategies, and a medium use of social, affective and memory strategies.

The conclusion drawn from studying learning strategies with different major fields of study is that students differ in their learning preferences based on major field of study. Students majoring in English used the following individual strategies at a high level: memorizing, keeping vocabulary lists and listening to radio in English, reading extensively, mixing with fluent speakers, watching TV. On the other hand, there was no consistency in the use of strategies at category level as some used memory and cognitive strategies most frequently, others used them least often.

2.3.4 Age in Language Learning

Do children learn in different ways to adults? This section examines one of the factors that received the most attention in second language acquisition (SLA) research. The age issue is an important one for theory building in SLA research, for educational policy-making and for language pedagogy. A number of studies that investigated age effect on second language acquisition demonstrated an adult advantage and some child advantage.

Taylor and Martlew (1992) present the differences between children's and adults' spelling strategies that have important implications for teaching practice. They are:

1. Children rely solely on phonetic spelling strategies that involve splitting words into constituent phonemes and searching for their invariant spelling correspondences. On the other hand, adults use other strategies such as visual ones to cope with the irregular nature of orthography.
2. Although both adults and children adopt phonetic spelling strategies, there are differences between the groups; adults use different phonological judgment from children when presented with the same task, such as, spelling short vowels for their long counterparts by children and so on.

Ellis (1994) summarizes the relationship of the learners' age with their English language performance by stating that the age issue has some common grounds such as the following:

1. Adults are superior to children in rate of learning, particularly in grammar.
2. Only learners who start as children can achieve a more native-like accent in informal learning contexts.
3. A native grammatical competence can be acquired by children later than acquiring pronunciation.
4. Children have an advantage over adults in reaching higher levels of attainment in pronunciation and grammar.
5. Age affects the process of acquiring pronunciation but it does not affect acquiring L2 grammar.
6. Social and interaction strategies are more important with young learners while meta-cognitive strategies are more important with adults.

Johnson and Newport (1995) present a study to supplement the findings that say there is an age related effect on learning the grammar of a second language. The subjects were 46 native Chinese and Korean speakers who varied in age from ages 3 to 39. They learned English as a second language. Subjects were tested on their knowledge of English syntax and morphology by being asked to judge the grammaticality of spoken English sentences of varying types. The results indicated that there is a clear and strong relationship between age of exposure to the English language and performance. Subjects who were exposed to English in earlier age obtained higher scores on the test than those who began later.

Tudor (1996) adds that younger learners may find some learning strategies difficult to handle or may not be prepared cognitively to use them while adults feel ease in using them. In general, there appears to be a strong relationship between age of learning English as a second or foreign language and performance.

2.3.5 Second or Foreign Language Performance Level

Learning strategies change as the knowledge of the second or foreign language develops and the choice of strategies reflects the general stage of second or foreign language development. Green and Oxford (1995) list the different ways used by researchers and teachers to gauge students' language performance such as:

1. Self-rating of proficiency.
2. Language proficiency and achievement tests.
3. Entrance and placement examinations.
4. Years of language study.
5. Career status reflecting expertise in language learning.

The following two ways in gauging students' language performance "years of language study" and "language proficiency and achievement tests" will be given the centre of attention.

2.3.5.1 Years of Language Study

O'Malley et al. (1985) conducted a study to identify the type and frequency of learning strategies used with the following different types of language learning activities: pronunciation, grammar, vocabulary, following directions, listening, making a brief presentation in class, social communication and functional communication. Data was collected through interviews and observations. The participants of the study were 70

beginner and intermediate ESL students. The data collected over a span of one month towards the end of the school year. The findings indicated that both beginner and intermediate students used an extensive variety of learning strategies. Furthermore, intermediate level students reported greater use of meta-cognitive strategies than beginner level students. In general, both beginner and intermediate level students used more cognitive than meta-cognitive strategies.

On examining the variation in the use of individual strategies in relation to students' level in the English language, O'Malley et al. (1985a) cited in O'Malley and Chamot (1990) conducted a study to discover the differences in strategy use between beginner level and intermediate/advanced level students. Results showed that students at higher levels reported more strategies than did beginner level students. Moreover, students at the beginner level of language study relied most on repetition, translation, and transfer, whereas, more advanced students relied most on inferencing. Furthermore, some cognitive strategies were reported less frequently by beginner level students such as rehearsal, grouping, substitution, imagery, elaboration and summarizing. The least frequent strategies used by both beginner and intermediate level students were social and affective ones.

Similarly, Green and Oxford (1995) focus on individual strategies as well as the use of strategy categories and overall strategy use. They examined the variation in the use of strategy and its relationship to student's achievement level. They conducted a study on a total of 374 students in three different course levels, Pre-basic, Basic, and Intermediate English at the University of Puerto Rico at Mayaguez. Students are placed in these three course levels according to their scores on the English as a second language achievement test. The test consists of two parts, the first part deals with grammar and the second part

is made up of reading passages with comprehension questions. The main instrument used was the SILL (50-item Version 7.5 for ESL/EFL). The results demonstrated significant relationship between strategy use and success in language learning. Regarding the use of strategy category and its relationship to proficiency level, the results indicated that the following individual strategies were used by more successful students:

1. Try to talk like native English speakers.
2. Practise sounds of English.
3. Use known words in different ways.
4. Start conversation in English.
5. Watch TV shows spoken in English.
6. Read for pleasure in English.
7. Write notes, letters and reports in English.
8. Try not to translate word-for word.
9. Read without looking up all new words.
10. Try to guess what other person will say.
11. Use circumlocutions or synonyms.
12. Look for people to talk in English.
13. Seek opportunities to read in English.
14. Have clear goals for improving skills.
15. Encourage oneself to speak when afraid.
16. Practise English with other students.
17. Ask questions in English.

On the other hand, the affective strategy “Notice when I am tense or nervous” was used more frequently by less successful students. Students take their emotional temperature

when studying English. They listen to signals given by the body that reflect stress, worry, fear and anger. Furthermore, results showed that the following individual strategies were used frequently at all course levels:

1. Associate new material with already known one.
2. Connect word sound with an image or picture.
3. Connect words to mental pictures of situations.
4. Connect words and locations.
5. Notice own mistakes and try to be better.
6. Try to find out about language learning.
7. Think about own progress in learning.
8. Ask other person to slow down or repeat.
9. Ask for help from English speakers.

Proficiency level had a significant effect on the use of cognitive, compensation, meta-cognitive and social categories as they all were used most by more successful students. Pre-basic students used compensation, meta-cognitive and social strategy categories significantly less often than Intermediate or Basic students, but there were no significant differences in the use of strategies between Intermediate and Basic students. Regarding the cognitive group, the Intermediate level students used this strategy group significantly followed by Basic students who in turn used these strategies significantly more often than the Pre-basic students. Finally, the findings indicated that there was no significant difference for overall strategy use between Basic and Intermediate courses, but there was a significant difference between each of these levels and the pre-basic level.

Grenfell and Harris (1999) classify the strategies used by beginners, intermediate and advanced-intermediate students. They conducted case studies on three language learners- Sophie, Jenny, and Ben. Think aloud technique was used in collecting information on strategy use. Learners were asked either to provide an oral commentary while undertaking a reading or speaking task in the target language, or to reflect retrospectively after carrying it out.

Sophie was at advanced-intermediate stage in her linguistic development. She developed limited range of learning strategies such as:

1. Monitoring.
2. Inferencing.
3. Making use of an established list of fillers and pre-packaged forms.
4. Social interaction.

Jenny was at an intermediate stage in her linguistic development. She developed a range of useful strategies for reading and writing such as:

1. Applying formal rules.
2. Visualization words while speaking.
3. Advanced inferencing strategies.
4. Advanced monitoring strategies.
5. Paying attention to detail.

Ben was a beginner learner; he developed the following learning strategies while undertaking reading and listening tasks in the target language:

1. "Look-cover-test-check" strategy in the vocabulary learning.
2. Repetition in the learning of phrases.

3. Guessing.

Jenny’s approach in learning was different from both Sophie’s and Ben’s. Jenny used more complex strategies at least for the learning of grammatical rules and for monitoring. As Sophie was in the advanced stage, she was a proficient speaker and needed to monitor less. Ben’s major feature of his approach was guessing. Grenfell and Harris (1999) conclude that differences in strategy use are determined by significant factors such as task and cognitive style as well as stage of learning and competence.

Overall, there was a variation in the use of strategies in relation to the students' level in the English language. Students at higher levels reported more and different strategies than did beginners level students.

2.3.5.2 Language Proficiency and Achievement Tests

Successful learners use different strategies than the less successful, either in the quality or quantity. However, Reiss (1983) cited in Kaylani (1996) stresses the differences between successful and unsuccessful learners in the quality of the strategies used. She states that successful learners employ strategies that are appropriate to their age, stage of learning and purpose of learning the language. Taylor (1975) conducted a study to investigate the relationship between the strategies of overgeneralization and transfer and the degree to which elementary and intermediate students of English as a second language rely on these strategies while learning English. The participants of the study were twenty native Spanish speakers who offered 1600 English sentences. Error analysis in the auxiliary and verb phrase indicated that overgeneralization and transfer errors were quantitatively different for elementary and intermediate language learners. The intermediate subjects made a higher proportion of errors attributed to

overgeneralization. On the other hand, the proportion of elementary errors was attributed to transfer from Spanish. The major conclusion from the study is that as proficiency increases, reliance on transfer decreases and reliance on overgeneralization increases.

Identifying strategies used by good language learners has a significant importance in language learning. It can help teachers and researchers to be aware of what is going on inside the good language learner and how do they think and process information. It will also tell what strategies and processes learners use to learn a language. Finally, identifying good language learners' strategies helps in training poor learners to enhance their success record. Rubin (1981) investigated the strategies used by good learners and listed them as follows:

1. A willing and a good guesser who uses all the clues the environment and the discourse may give him/her. Guessing relates to one's first language as much as to one's second language. Furthermore, guessing changes as one gets older; adults use different strategies in guessing than do children.
2. Has a strong motivation to communicate by using his/her knowledge to get the message across. Although learners may make mistakes in order to learn.
3. Attends to the form by analysing, categorizing, synthesizing constantly.
4. Willing to take advantage of using the language and practising.
5. Monitors his/her speech and the speech of others to learn from his/her and their own mistakes.
6. Focuses on meaning comprehension more than to structure acquisition.
7. Looks for ways to convey the language functions.
8. May develop a feeling for some features that best enhance intelligibility.
9. Looks for meaningful ways to memorize new words.

Furthermore, Kim (1983) proves that there are some differences in the use of learning strategies by successful and poor readers. He investigated the oral reading strategies of 40 second language learners in the Faculty of Social Sciences and Humanities, at the National University of Malaysia. Two groups were selected, proficient and poor readers. Students were required to read a passage which had been subjected to four treatment conditions by varying its graphic display and semantic information. The findings showed that proficient readers relied heavily on the graphic information in the text and they made more miscues when the graphic display was varied. On the other hand, poor readers were not affected by the graphic or semantic information rather they made a great number of miscues.

On the other hand, Pearson (1988) describes the effective strategies used by good language learners and those which are not used by poor learners. He conducted two interviews on site in South East Asia with two employees. The aim of the interviews was to confirm the findings of previous studies that say, successful language learners apply specific strategies to the task of learning. The results indicated that the first businessman Mr. J. who had been in Singapore for three and a half years reported his failure in improving his English language due to the lack of employment of several language learning strategies such as:

1. He did not speak English unless it was unavoidable.
2. He did not try to guess or work out meanings or general rules.
3. He was always frustrated because he did not understand everything.
4. He did not try to take risks in speaking English.
5. He avoided topics.
6. He rarely planned or practised what he wanted to say in English.
7. He did not try on his own to learn English.

8. He used gestures and local expressions for beginning and ending a conversation.

The interview with the second employee Mr. T, the oldest of the engineers, on the coastal site in Malaysia indicated that his success in acquiring Indonesian as a second language was due to his extensive use of many of the language learning strategies such as:

1. He had a desire to learn and seized every opportunity to communicate with native speakers.
2. He repeated each word several times for memorization.
3. He took risks.
4. He listened to conversations and tried to create sentences and finding general rules.
5. He used guesses followed by checking for clarification.
6. He practised the language.
7. He used gestures, paraphrasing, simplification and synonyms.
8. He always tries to improve his target language.
9. He monitored his production errors which he then tried to correct.
10. He did not suffer any symptoms of culture shock.

Thus, this study confirms the findings which indicate that there is a strong relationship between the use of learning strategies and proficiency level as successful language learners make extensive use of many of the strategies.

Whereas, Rubin (1981) described the strategies used by good language learners in general, Porte (1988) investigated the strategies of poor language learners in dealing with new vocabulary. Structured interviews were used with fifteen adolescent EFL

learners studying at private language schools in London. The analysis of the structured interviews identified several strategies such as the use of repetition in vocabulary learning, the writing out of translation equivalents in order to aid learning and the use of dictionaries to discover meaning. Studies of the good language learner showed that the above strategies used by poor learners were very similar to those of successful learners. The only difference was that, the weak learners demonstrate less sophistication and a less suitable response to a particular activity.

Finally, Embi (1999) investigated the types of language learning strategies used by Malaysian secondary school students learning English, Arabic, and Bahasa Malaysia (BM) and the relationship between language learning strategies and success in language learning. The subjects of the study were 400 Form Four students from three secondary schools in Selangor. The instrument for this study was the Strategy Questionnaire that consisted of 87 items divided into three main parts: classroom Language Learning Strategies, Out-of-class Language Learning Strategies and Exam Language Learning Strategies. Three different levels of analysis were undertaken to determine variation in the use of overall strategy use, and strategy categories as well as individual strategies. The results showed significant relationship between the overall reported strategy use for English and Arabic learning and language performance. On the other hand, there was no significant relationship between the overall reported strategy use for Bahasa Malaysia learning and language performance. Regarding the three strategy categories used in the Strategy Questionnaire, the findings showed that the classroom language learning strategies varied significantly by language performance only with Arabic learning but not with English and Bahasa Malaysia learning. On the other hand, the Out-of-class language learning strategies and Exam language learning strategies varied significantly by language performance for English and Arabic learning but not for Bahasa Malaysia

learning. Regarding the relationship between language performance and the use of each individual strategy, the findings showed that nearly a quarter of the strategy questionnaire items varied significantly by language performance. Furthermore, the most common individual strategies used by the subjects included strategies from the social, meta-cognitive, affective, memory and examination categories.

Mingyuan (2000) investigated the language learning strategies used by the pre-matriculation Chinese students participating in a six month intensive English programme. The purpose of the study was to examine the relationship between the use of learning strategies and English proficiency. The participants were 18 years old on average. They were from the People's Republic of China and chosen to study in Singapore. Strategy Inventory for Language Learning (SILL) was used as an instrument to collect data. This Inventory was developed by Oxford (1986). A proficiency test was used to determine students' proficiency in terms of vocabulary, grammar, composition and oral communication.

The findings showed that there was a strong relationship between the use of language learning strategies and language proficiency. The more students used all the strategies, the more progress they made in their language proficiency. Moreover, the findings indicated that the use of different strategies might lead to an improvement in different areas of language development. Results reported that the more the students used memory and affective strategies, the more progress they made in writing compositions. Additional findings reported that the more students used cognitive strategies, the more progress they made in their proficiency in overall English. This is due to the concern of this type of strategy to the direct activities that promote learning; the strategy represents what students actually do in oral communication.

In general, this section discusses some of the major issues that need to be addressed in describing the factors that influence the choice of learning strategies such as context, gender, major field of study, age and English language performance level. The next section will deal with the role of learning strategies in the second or foreign language acquisition.

2.4 The Role of Learning Strategies in the Language Acquisition Process

There are two opposing views regarding the importance of cognitive strategies in second language acquisition. Some views suggest that language is learned separately from cognitive skills. The best known proponent of this view is Krashen (1982). In the Monitor Model, Krashen denies the importance of cognition in second language acquisition as he differentiates between "learning" and "acquisition". According to him, learning is a formal, conscious process that functions as a monitor or editor. This does not lead to real language proficiency or acquisition and it may slow the processes that occur automatically. On the other hand, acquisition is subconscious. It is responsible for our fluency. It occurs without awareness when the input is comprehensive. The two processes "learning" and "acquisition" are entirely independent of one another. However, we will shortly see the controversy surrounding this claim.

Other views support the role of cognition in second language acquisition. Schmidt (1986) cited in Ellis (1994) offers the terms "attention" and "intention" to refer to "conscious learning" and he distinguishes between two types of learning- intentional and incidental. The intentional learning involves the conscious decision to learn the second language and incidental learning occurs when the learner picks up the second

language through exposure. Based on his experience on acquiring Portuguese, Schmidt (1986) argues that in both cases learning involves some degree of conscious attention to the second language although there is no intention to learn. Consequently, learning cannot take place without conscious attention in the process of second language acquisition.

Similarly, Jones (1988:237) defines learning strategies from a cognitive perspective, as she says “learning strategies are the various mental operations that the learner uses to facilitate learning". On the other hand, Mayer (1988) does not distinguish learning strategies from other cognitive processes, as he focuses on describing how information is stored and retrieved, not on how learning can be enhanced. Mayer states that the information processing framework explains how the information is stored and acquired in three memory stores: sensory memory, short term memory and long term memory. Furthermore, Mayer points out that those learning strategies are intentional as the learners can control their own learning by applying techniques for selecting information, building internal and external connections.

Garner (1988) points out an important feature of any strategy as he says that strategies are not accidental, they are largely under the control of the learner, they are generally deliberate, planned, and consciously engaged in activities. O'Malley and Chamot (1990:1) stress the active nature of mental processes in the language acquisition process; they state that "language is a complex cognitive skill that can be described within the context of cognitive theory". Furthermore, O’Malley and Chamot (1990) present four advantages in viewing second language acquisition as a cognitive skill such as:

1. This approach can provide a comprehensive and well-specified theoretical framework when applying relevant theories developed in other disciplines to the study of second language acquisition.
2. When applying relevant models developed in other disciplines to the study of language acquisition, the level of specificity and the process orientation of the models help provide a more detailed process view of second language acquisition than is provided by most current models of second language learning.
3. Viewing language acquisition as a cognitive skill can provide a detailed process view of second language acquisition.
4. This approach helps in the development and use of learning strategies in second language instruction.

Finally, O'Malley and Chamot (1990) summarize the distinction between Krashen's linguistic theory and cognitive theory in two points:

1. Krashen considers acquisition as a subconscious process while cognitive theory views acquisition as an active conscious process at least in the initial stages of learning. According to the cognitive view, beginning and intermediate second language (L2) learners are conscious about the strategies used inside and outside the classroom.
2. According to the cognitive theory, Krashen's acquisition/learning distinction is unnecessary as different language skills can be acquired at different levels, so the unconscious acquisition can depend on the level of the skill and not on the formal settings.

2.5 The Teaching of Learning Strategies

Once strategies used by second or foreign language learners have been identified, described and classified, the question arises of whether strategies training can assist learning, what strategies should be taught, and what instructional approach can teach learning strategies: the separate versus integrated instruction or direct versus embedded instruction.

There is a widespread agreement in the literature about the importance of implementing a learner training programme to enhance the effectiveness and use of strategies by the independent learner. Oxford (1990:201) states "research shows us that learners who receive strategy training generally learn better than those who do not, and that certain techniques for such training are more beneficial than others."

Wittrock (1988) documents the historical development of the teaching of learning strategies; he says that traditionally, the teaching of learning strategies refers to the ancient Greece and Rome, where learning how to remember information was an important part of higher education. But there has been little or no evidence of success. The current revival of interest in studying learning strategies is based on the growing understanding of how people learn (Mayer, 1988).

With regard to the teaching of learning strategies, the major goal of any educational system is to train students to process information and enhance their thinking abilities. Wittrock (1988:296) states that all people can be educated by following a strategy that " goes beyond the design of instructional materials to include changing the behaviour of learners by giving them new strategies, and new ways to think about learning and knowledge acquisition." Oxford (1990) adds that the scope of strategy training can

cover many aspects of language learning such as the kinds of language functions, individual and group work in language learning, learning versus acquisition, accuracy versus fluency, fear of mistakes and the ways of language learning versus the ways of learning other subjects.

This following section of the chapter will focus on a number of issues related to actual implementation of learning strategy instruction and how to influence the manner in which students deal with new information. Nisbet and Shucksmith (1986) suggest that a learning strategy's training programme has two main functions. First, it teaches super-ordinate skills or strategies that help learners integrate transfer from task to task. Second, it develops a degree of self awareness and self monitoring of learning performance in the learner. Jones (1988) points out an important set of discoveries regarding training. It involves the following:

1. Experimental studies show that there are four levels of strategy training:
    a) General instruction for strategy use.
    b) Guidelines for strategy application to the text.
    c) Structure of text information.
    d) Instruction for strategy application.
2. Training that provides explicit strategy instruction has a powerful impact on learning.
3. The poor students with limited competence need extended instruction.

Brown (1994) suggests four different approaches for teaching strategies in the language classroom. They are:

1. Interactive techniques

Brown presents various techniques to encourage students to develop their own strategies such as, to lower inhibitions, to encourage risk-taking, to build students' self confidence, to help students to develop intrinsic motivation, to promote cooperative learning, to encourage students to use right-brain processing, to promote ambiguity tolerance, to help students use their intuition, to get students to make their mistakes work for them, and finally, to get students to set their own goals.

2. Compensatory techniques

   This type of strategy training focuses on the identification of specific techniques that aim to compensate for certain style weaknesses. Brown prescribes using certain techniques to overcome some cognitive style problems such as: to low tolerance of ambiguity, to excessive impulsiveness, to excessive reflectiveness/caution, not to be too much field dependence, and finally not to be too much field independence.

3. Administer a strategy inventory

   Many instruments can be used in class or out-of-class for developing awareness of strategies such as self check list or formal style test and the best is Rebecca Oxford's Strategy Inventory for Language Learning (See Appendix A).

4. Impromptu teacher-initiated advice

   Students can benefit greatly from the teachers insights about their own language learning experiences and from the training they receive on how to learn.

Oxford (1990) on the other hand, provides three different ways for strategy training:

1. Awareness training

   This step is very important as students will be introduced to the concept of learning strategies. They will develop awareness on the general idea of language

learning strategies and the ways of using such strategies to accomplish various language tasks in a fun way.

2. One-Time strategy training

   In this type of training, participants engage in practising one or more strategies with actual language tasks. The training usually takes place in one or a few sessions.

3. Long-Term strategy training

   This type of training is more effective than the One-Time training as Long-Term strategy training lasts for a longer time and covers a greater number of strategies. However, both types of training focus on helping the participants practise strategies with actual language tasks.

Oxford (1990) presents an eight step model for strategy training:

1. Determine the learners' needs and the time available

   Are the learners children? Adolescents? Graduate students? Adults? Are they intermediate language students? Beginners? Advanced? The next step is to consider the strategies preferred by the learners and the time available for strategy training.

2. Select strategies well

   Choose strategies that are important for the students and satisfy their needs. Furthermore, the selected strategies should be transferable to a variety of language situations and tasks.

3. Consider integration of strategy training

   Integrating strategy training with the tasks and materials used in the regular language teaching programme is very efficient. The meaningful context helps in remembering the strategies.

4. Consider motivational issues

   It is important to increase motivation through giving grades, or credits for attainment of new strategies. Also, students can be highly motivated by asking them to choose the strategies or the tasks they will use in language learning. Finally, being sensitive to learners' original strategy preferences and introduce new strategies gently and gradually can increase motivation highly.

5. Prepare materials and activities

   The teacher should develop some hand-outs that focus on the way of using the strategies and the suitable time for using them. Also, developing some strategy handbooks by either students or teachers can be very helpful and interesting to the learners.

6. Conduct completely informed training

   This step is the best and the most effective training technique. In this stage students are informed as completely as possible about the value of the strategies used, the ways of using the strategies in several language tasks and how to transfer strategies from task to task. Finally, learners can be informed on how to evaluate the success of the strategies used.

7. Evaluate the strategy training

   This step indicates that observations during and after the training are useful for evaluating the success of strategy training. Moreover, self assessments can help in practising self-monitoring and self-evaluating strategies

8. Revise the strategy training

   The last step in strategy training is the revisions of each step in the cycle of strategy training that has just occurred. This step helps in the improvement of strategy training.

Grenfell and Harris (1999) present a framework of steps in the teaching of learning strategies. The steps can be applied to a range of strategies and cover the following areas:

1. Reading strategies.
2. Listening strategies.
3. Memorization strategies.
4. Strategies for checking written work.
5. Communication strategies.

Grenfell and Harris'(1999) steps used in the teaching of learning strategies are:

1. Consciousness raising

   The purpose of this step is to encourage learners to reflect on the learning process and share the strategies they use in a class brainstorm. The teacher brainstorms with the learner and collects the ideas on the board in the form of a checklist.

2. Modelling

   In this step, the teacher may need to model some strategies that are less familiar to students.

3. General practice

   Learners in this step need allocated classroom time to become familiar with the strategies. Therefore, they need some explicit reminders to use the learning strategies alongside a number of tasks to promote them.

4. Action planning, goal setting and monitoring

   In this step, learners are encouraged to draw up their own individual action plan by identifying their own targets, the particular strategies that help to achieve them and the means by which they will measure success.

5. Focused practice and fading out the reminders

   In this step, students reach a stage where they can use the strategies they have previously identified without explicit directions.

6. Evaluating strategy acquisition and recommencing the cycle

   Here, the teacher establishes whether the strategies have been internalized and can be deployed effectively by the learners.

Brown (1994) classifies the packaged models of learning strategy training into three types. The first one is textbook-embedded training. In this type, the content of the ESL textbooks itself is the utilization of learning strategies. The second type is adjunct self-help guides. In this type, strategy training can be practised through the assignment or recommendation of a self-help guide. The third type is the learning centres that provide a number of possible types of extra-class assistance which improve the strategic competence in language learning. Sometimes learners are trained to use the effective strategies but they fail to use them due to several factors:

1. Learners' perceptions of strategy attributes, for example, if a student believes that certain strategies may take extra time but he/she is not willing to spend extra time.
2. Students' perceptions of their own achievement attributes; for example, the student who believes that in order to use a strategy, he/she should be smart but he/she sees himself/herself as a poor student with limited competence.
3. The match between learners and strategy attributes. For example, if a student believes that a certain strategy requires a prior knowledge and he/she does not have that background knowledge, he/she will not use the strategy.
4. Perceived efficacy of learning strategies for obtaining a learning outcome.

(Palmer and Goetz, 1988)

Mayer (1988) suggests that two research issues have been hotly debated and should be addressed for proper implementation of learning strategy programmes in schools:

1. Providing techniques for describing and evaluating learning strategies, including techniques for describing the cognitive processes and outcomes of learning.
2. Providing separate general learning strategies, or integrated specific strategies within the context of subject matter.

O'Malley and Chamot (1990) are in favour of the direct integrated strategy instruction programmes. They argue that direct integration can demonstrate to learners the specific application of the strategies and can facilitate the transfer of strategies to similar tasks. As a result, students will be assisted toward autonomous use of strategies.

There are several studies which indicate that strategy training is effective in improving the performance of students on a wide range of tasks and skills. O'Malley et al. (1988) described a training study in order to evaluate the effectiveness of strategy training among ESL intermediate level students, for vocabulary learning, listening comprehension and academic speaking tasks. Findings indicated that students could be taught to apply learning strategies to a variety of language tasks and link certain strategies to specific tasks. In addition, results suggested that the selection and use of strategies were based on ethnic background.

Wittrock (1988) conducted a research on the teaching of learning strategies to soldiers who failed reading comprehension tests. The purpose of teaching was to help soldiers learn how to read better at the army research institute. The beginning was to lay learning strategies on the students, then giving meta-cognitive strategies such as a strategy for building inferences, and a strategy for writing summaries. The results indicated that

there was a significant increase in reading comprehension and the processes of, attention, motivation and comprehension.

In summary, this chapter presents a review of relevant literature that provides the foundation of the present study. It first provides a general overview of the concept of language learning strategies, covering most of the earlier and current attempts to classify strategies. It demonstrates the strategies used to develop the students' four language skills, listening, speaking, reading and writing. Next, it discusses some of the major issues that need to be addressed in describing the factors that influence the choice of learning strategies. It reviews some issues related to the role of learning strategies in the language acquisition process and the possibility of teaching the learning strategies. The chapter ends in providing useful models and techniques for incorporating strategy training.

The next chapter will build upon the review presented and describes a study conducted by the researcher. The purposes of the study are to identify the strategies used by female EFL undergraduates and to examine the influence of a range of variables such as major field of study and performance level on the choice of language learning strategies. Finally, the study will identify some of the strategies that are associated with the language skills, listening, speaking, reading and writing. The findings would provide information that enhances students' awareness of their learning strategy preferences and help teachers incorporate strategy training that enhances students' progress in language learning.

CHAPTER 3

METHODOLOGY

3.0 Overview

This chapter contains a description of the methodology used in this study. It presents the research design, the participants, and the data collection and analysis procedures.

3.1 Research Design

The present study employs the survey as its main data gathering method. Wiersma (1995:169) states that "the survey research is probably the single most widely used research type in educational research". Many surveys are conducted in education through instruments such as questionnaires, interviews, published tests or inventories (Wiersma, 1995).

In this study, King Khalid University female undergraduate students were selected randomly as representing Saudi female undergraduates. The data was collected in semester one of the academic year 2003/2004. Eight intact classrooms were involved in the study. They consisted of two classes from each Department i.e. Computer Science, English Language, Medicine and Biology; one class was from the first year and the other class was from the second year. Since the Female Centre had only been established recently, courses were only offered for the first and second year levels. As such, participants were restricted only to the first and second year undergraduates. Each class contained 20 to 40 students except for the second year Biology students who were about 60 students. This larger number was due to the lower grade required to enroll in Biology Department, making it possible for more students to obtain a place. To major in Biology, students only needed to score 80% in contrast to Medical, Computer Science

and English Language students who needed a much higher grade. The reason for selecting two classes only from each department was due to the limited number of classes available for some years of study in some departments, such as the English Language, Medicine and Biology Departments; they all had one class each, for each year of study. On the other hand, the Computer Science Department had two classes for the first year and one class for the second year. Every student was required to respond to the same questionnaire; the Strategy Inventory for Language Learning (SILL). No variables were manipulated as they were studied as they existed in the situation. The data was analysed using the Statistical Package for Social Sciences (SPSS) Version 10. The statistical procedures involved:

1. Obtaining descriptive statistics such as frequencies of major field of study, academic level and proficiency level.
2. Comparing means using Analysis of Variance (ANOVA). ANOVA is a statistical procedure that proved to be the most effective and dominant method to analyse situations in which there are several independent variables. ANOVA tells us how these independent variables interact with each other and what effects these interactions have on the dependent variable (Willson, 1988).
3. Determining where significant differences lay using the Scheffe, which is a standard post-hoc test that is valid and sufficiently generalized to be applicable.

3.2 Participants

The participants in this study were 264 female undergraduate students from King Khalid University, Saudi Arabia. Their ages range between 18 and 20. They were from different departments and were enrolled in Level One and Level Three in the English language intensive courses. Students in Level One were first year students and were at

the beginner level of English proficiency while students in Level Three were second year students and were at a high intermediate level. Table 3.1 presents a detailed profile of the subjects from whom the data was collected.

TABLE 3.1

Subject Profile: Major Field and Year of Study (N=264)

Major	First Year	Second Year	Total
Computer Science	26	20	46
English Language	37	43	80
Medicine	25	21	46
Biology	32	60	92
Total	120	144	264

Table 3.1 shows that the group sizes for first and second year were different due to the differences in classroom sizes and availability of lecturers. The University sometimes has shortage of lecturers for some departments. Thus, students have to be grouped in large classes. Furthermore, the number of students in different major fields of study is not the same due to the specified score required for the enrollment in different departments.

3.3 Data Collection Procedures

Data gathering procedures involved using a variety of measures to collect both qualitative and quantitative data. The techniques for eliciting information employed were: questionnaire survey, interview, observation and achievement test.

At the initial stage, two data collection techniques were piloted to help identify potential problems in the overall research design. First, in the piloting stage of the questionnaire survey, six students were involved as participants for testing the appropriateness of the questionnaire. Many points had been checked such as the time required in completing the questionnaire, and the clarity and ease of both of the instructions and the questions. Students took thirty minutes to fill in the questionnaire. No modifications in the instructions or the language were required, as everything was clear to the students, except the addition of some questions that elicit students' background information. Second, in piloting the observation, the researcher focused on one English language reading class to get a comprehensive picture of learning strategies used. The class contained 25 Medical students. The observation took about fifty minutes. As audio and video tapes were not allowed to be taken to the classroom, the researcher decided to use note taking in recording strategy use to obtain the data, but later found that combining the use of an observational scale with note-taking could provide more accurate data.

3.3.1 Questionnaire

Questionnaires are widely used for surveys. They are the most appropriate and the most useful for data-gathering if properly constructed and administered (Best and Kahn, 1993). A self-reporting questionnaire was used to identify the English language learning strategies used by EFL undergraduate students (See Appendix A). This questionnaire was designed by Oxford (1990) and called the Strategy Inventory for Language Learning (SILL). No modifications were required except the addition of some questions that elicit students' background information such as the student's number, age, major field of study and nationality. This questionnaire is built on some of the earlier classifications of learning strategies such as Rubin's (1981) and O'Malley et al.'s (1985) classifications and provides a more comprehensive and detailed taxonomy than

the rest of them. The SILL is a structured survey that has two versions: one for native speakers of English (80 items) and another for learners of English as a second or foreign language (50 items). These two versions have been used as the key instruments to assess the use of learning strategies in many parts of the world, with learners speaking many different languages. SILL is an instrument that has been checked for reliability and validity. It has been extensively tested by Oxford, her associates and graduate students in both ESL and EFL contexts (Kaylani, 1996). The version of SILL that is used in this study is designed for learners of English as a second or foreign language and contains 50 items. It has a Likert-scale format where learners are asked to report how often they use each of the 50 strategies on a scale of one to five. The choices are: Never, Almost Never, Usually Not, Somewhat, Usually, Always or Almost Always. The questionnaire consists of six parts, each designed with a specific purpose. Part One aims at securing information about memory strategies used by students. Part Two focuses on cognitive strategies and mental processes that take place in learning the English language. Part Three, investigates the compensation for missing knowledge strategies used by students. Part Four specifies the meta-cognitive strategies students use to organize and evaluate their learning. Part Five focuses on affective strategies and how students manage their emotions. Part Six identifies the social strategies that students use in learning with others. The overall average indicates how often the learner tends to use language learning strategies in general while average for each part of the SILL indicates which strategy groups the learner tends to use most frequently.

The self-report questionnaire was administered to 246 students from different Departments: Medicine, Computer Science, English Language and Biology. Those students enrolled in level one and level three in the English language intensive courses. A brief explanation of the purpose of the study was given to the students by the

researcher. The students were given thirty minutes to complete the questionnaires and were informed that their responses to the questionnaires would be kept confidential and would have no effect on their course grades. The completed questionnaires were collected right after the subjects completed them.

3.3.2 Interview

Interviews were used as the secondary research tool (See Appendix B) to supplement data gathered from the SILL and data obtained from observations. The interviews were conducted with only 32 students out of 264 (12%). This small students' number was due to the time constraints for both the students and the researcher. Sixteen students were used from the first year and sixteen from the second year. Eight students were chosen from each Department: Computer Science, English Language, Medicine and Biology to be interviewed. Those students were among the same students who participated in the SILL.

Semi structured interviews were conducted with EFL undergraduate students. The researcher chose this type of interviews as they allow elaboration in either the questions or the answers but within limits. Students were arranged in one group for two-hour interviews, which were conducted in the English language by the researcher. Topics were selected in advance but the researcher decided the sequence and wording of the questions during the interview. Each of the thirty-two students was given the opportunity to voice her opinions on the following main topics:

1. Students' interest in improving their proficiency in the English language.
2. Strategies used for memorizing new words.
3. Strategies used to overcome obstacles to communication.
4. Strategies used in understanding any reading passage.

5. Students' interest in reading for pleasure in English.

As audio recording is not allowed in the Female Centre, interviews were recorded in writing during the interview. The manner in which the questions were asked and the setting encouraged the students to relax and provide accurate and honest answers.

3.3.3 Observation

Observations were conducted to obtain qualitative and quantitative description of the English language learning strategies used by EFL undergraduates in the four language skills. Data obtained from observations was triangulated with the data obtained from the SILL and interviews. Three factors were considered in planning the observation sessions: first, the number of observers and the number of students observed, second, the frequency and duration of the observations, third, the way of collecting, tabulating and analysing the observational data.

The first factor concerns the number of observers and the number of students observed. With regard to the number of observers, the researcher chose to observe the language learning strategies alone because of some scheduling problems. Most of the instructors had full timetables. They were either teaching or observing the students who were taught several courses such as Computer, Islamic studies, Medicine and Arabic through closed - circuit television by male lecturers. Another reason for conducting the observations alone was the difficulty expressed by some instructors in producing accurate descriptions of the students' strategies used.

As for the number of students observed, the researcher focused on four entire classes of first year students from all Departments: Computer Science, Medicine, English Language and Biology. Each class contained 20 to 40 students. These students are

among the 264 students who completed the questionnaire. Observations were confined to first year students due to some scheduling problems. Observations were not recorded on either audiotape or videotape due to the restrictions applied in the Female Centre. Non-participant observation was used in the study to help the researcher get a more comprehensive picture of the learning strategies used. Thus, the teaching was conducted by the students' actual instructors and the observations were carried out by the researcher who recorded in writing, as an outsider, all the strategies that were used. The researcher made no effort to manipulate variables or control the activities of individuals but simply observed and recorded the events as they naturally happened.

With regard to the second factor, the frequency and duration of the observations, the researcher observed the classes for nine sessions due to time constraints. Teaching of each of the following skills - reading, writing, listening and speaking- was observed three times. Keeping in mind that the teaching of listening and speaking was used to be integrated in one period. Each observation session took about fifty minutes. The data collected from the observations was limited due to the following drawbacks of the observational method:

1. All mental strategies are unobservable.
2. The inability to produce descriptions of the introvert students who do not participate during the class session.
3. As classrooms are teacher directed, students have few opportunities to engage in active learning with observable strategies.

Finally, with regard to how the observational data is collected, tabulated and analysed, the researcher used an observation scale (See Appendix C) that lists all the strategies used by EFL students with the four language skills, and then counted the occurrences of

each one. In addition, note-taking was used in giving examples of some of the classroom activities that included the use of learning strategies with each skill (See Appendix D). As such, the observational data is collected in a structured form and supplemented by unstructured open observations.

3.3.4 Achievement Test

Among the many factors that might influence a language learner's choice of strategies is the learner's achievement level in the English language. Therefore, an achievement test was administered to 60 students to investigate the influence of achievement level on strategy use (See Appendix F). The results of each of the sixty students were compared with the strategies students used according to their answers in the questionnaires. As students at King Khalid University were placed in classes according to their majors, a large number of second year Biology students were grouped in one class due to the shortage of lecturers in the Biology Department at that time. The researcher chose these 60 Biology second year students to be tested as they were the largest group who were gathered in one class. Another reason for choosing this group of Biology students was due to the difficulty in convincing the students in other departments to write their names or their students' numbers on the questionnaires to be compared with their achievement test. According to them, writing names means the results of the study would be individually identified. Second year Biology students were the only group who were convinced that they would not be identified individually in the results of the study. The test was designed, administered and marked by the English language instructors assigned by the English Language Department to teach Biology students the four language skills. It was checked for its validity by an expert in TESOL as is the usual practice at King Khalid University. It was administered at the end of the semester and is similar in format to the students' usual final exams. The test lasted three hours. Students

were advised that responses would not affect course grades and were urged to do their best. The test consisted of four parts, listening, speaking, reading and writing. One hundred marks were allocated to the test as a whole, divided equally between the four skills. Table 3.2 illustrates the grading scale used to assess the students' achievement level.

TABLE 3.2

Grading Scale for Achievement Test (GSAT)

Mark	Grade	Description
90-100	A	Excellent
80-89	B	Very Good
70-79	C	Good
60-69	D	Pass
0-59	F	Fail

3.4 Data Analysis Procedures

Upon completion of the pilot study, preparation for the main study started. As the objective of this study was to provide a holistic description of EFL learning strategies, analysis of the data consisted of synthesizing the information obtained from the questionnaires, interviews and observations. Furthermore, descriptive statistical procedures were employed for data analysis such as scores, means, percentages and frequencies. Upon getting the means from the descriptive statistical procedures by using SPSS, Oxford's (1990) key averages were used in the analysis of these means. Table 3.3 shows the keys used to describe the most frequently used strategy or group of strategies among EFL learners.

TABLE 3.3

Key Averages (Oxford, 1990)

	How Often Is the Strategy Used	Mean
High	Always or almost always used	4.5 to 5.0
	Usually used	3.5 to 4.4
Medium	Sometimes used	2.5 to 3.4
Low	Generally not used	1.5 to 2.4
	Never or almost never used	1.0 to 1.4

In making a decision about the hypothesis, 5 percent of the area in the sampling distribution was designated as the rejection region for the hypothesis, and the level of significance was therefore set at a $p<0.5$. In other words, the hypothesis is rejected at the 0.05 significance level, which means that hypothesis has a 0.05 probability of being wrong. Significance values from multiple comparisons of the means were determined on the basis of ANOVA. It has the advantage that it can be used to analyse situations in which there are several independent variables. It describes how these independent variables interact with each other and what effects these interactions have on the dependent variable. The Scheffe, a standard post-hoc test was used to determine where specific significant differences lay. It is a method of multiple comparisons. It is usually used with ANOVA to specify which variable among several independent variables is statistically the most different.

Having determined the methodology used in the assessment of language learning strategies, described the subjects who participated in the study and the data collection and analysis procedures, the following chapter will present the findings obtained from the analysis.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.0 Overview

In this chapter, the data was interpreted quantitatively and qualitatively. Three major statistical procedures using SPSS, Version 10 were involved in the data analysis. The first stage of analysis consisted of descriptive statistics (means and frequencies). These basic statistics provided answers to research questions 1 and 4. Stage two involved comparative statistics using the Analysis of Variance (ANOVA). Stage three involved a follow up test, the Scheffe, a standard post-hoc test which was used to determine where specific significant differences lay. The ANOVA and the Scheffe tests were used to examine the relationship between learning strategies preferences and the two variables; major field of study and achievement level. The findings provided answers to research questions 2 and 3.

In the data analysis procedures, the findings from the questionnaires, interviews, observations and an achievement test, were divided into the following components:

1. Description of the EFL learning strategies.
2. The influence of major field of study on the choice of language learning strategies.
3. The influence of performance level on the choice of language learning strategies.
4. The language learning strategies which are associated with the four language skills.

4.1 Description of the EFL Learning Strategies

4.1.1 At the Individual Level

Analysis of the data obtained from the SILL at the individual item level, indicated that EFL students in this study employed a variety of language learning strategies, with some strategies being used more frequently than others. Table 4.1 lists the strategies that were “Always” or “Usually” used by EFL students, their types and mean scores.

TABLE 4.1

Type and Mean Score of the Most Frequent Individual Strategies Used by EFL Students (cont’d)

Descriptive Statistics			
	Type	**Mean**	**Level**
I connect the sound of a new English word with an image or picture of the word to help me remember the word	Memory	3.7	High
I remember new English words or phrases by remembering their location on the page, on the board	Memory	4.2	High
I say or write new English words several times	Cognitive	3.8	High
I try to talk like native English speakers	Cognitive	3.7	High
I watch English language TV shows spoken in English	Cognitive	3.5	High
I first skim an English passage (read over the passage quickly) then go back and read carefully	Cognitive	3.8	High
I look for words in my own language that are similar to new words in English	Cognitive	3.9	High
I find the meaning of an English word by dividing it into parts that I understand	Cognitive	4.1	High
To understand unfamiliar English words, I make guesses	Compensation	3.5	High
When I can't think of a word during a conversation in English, I use gestures	Compensation	3.6	High
If I cannot think of an English word, I use a word or phrase that means the same thing	Compensation	4.1	High
I try to find as many ways as I can to use my English	Meta-cognitive	3.5	High

TABLE 4.1

Type and Mean Score of the Most Frequent Individual Strategies Used by EFL Students (cont'd)

Descriptive Statistics			
	Type	**Mean**	**Level**
I notice my English mistakes and use that information to help me do better	Meta-cognitive	4.1	High
I pay attention when someone is speaking English	Meta-cognitive	4.4	High
I try to find out how to be a better learner of English	Meta-cognitive	4.5	High
I have clear goals for improving my English skills	Meta-cognitive	3.7	High
I think about my progress in learning English	Meta-cognitive	4.2	High
I try to relax whenever I feel afraid of using English	Affective	3.5	High
I encourage myself to speak English even when I am afraid of making a mistake	Affective	3.5	High
I talk to someone else about how I feel when I am learning English	Affective	3.8	High
If I do not understand something in English, I ask the other person to slow down or say it again	Social	3.8	High

Table 4.1 shows that the strategy that had the highest mean was of the meta-cognitive type "I try to find out how to be a better learner of English". All of the other strategies were used "Usually" by EFL students. The analysis of the SILL also showed that, most of the strategies used at a high level were of the cognitive and meta-cognitive types followed by the compensation and affective types, then, the memory and finally the social type. The unpopularity of the social strategies among EFL students was expected. It was due to the EFL environment where English is not used in Saudi Arabia for communication needs in the social and economic daily lives.

The data obtained from the interviews supports the finding which indicated that EFL students were interested in improving their proficiency in the English language. Out of

the 32 students, 30 (93.8%) students gave positive results; 15 (46.9%) out of the 30 students indicated that they were keen to know how to improve their proficiency in the English language. 6 (18.8%) students praised themselves as being very good in memorization and questioned if this strategy could help them to be better learners. 5 (15.6%) students said that they exerted most of their effort to be good learners. 4 (12.5%) students acknowledged the importance of speaking English fluently when traveling abroad. On the other hand, 2 (6.3%) students indicated that they were not interested in improving their proficiency in the English language. One of them wanted to pass her exams only and the other one hoped to change her department as she was forced to join it. EFL students being interested in improving their proficiency in the English language indicated that they had the motivation to succeed, and this will help them arrange and plan their learning in an efficient and effective way.

Table 4.1 also shows that EFL students are more visually-oriented than auditory, tactile, or kinesthetic. They like to learn by visualizing words; consequently, they must have written directions if they are to function well in the classrooms. In learning new vocabulary items, the findings indicated that EFL students look for words in their language that are similar to new words in English, or they divide the word into parts that they understand, and they use the strategy of "Repetition". Furthermore, these learners are not afraid of making mistakes, they are risk takers, they encourage themselves to speak English, they know well how to control their emotions and lower their anxiety in their learning through physical relaxation techniques and discussing their feelings with others. Also, their scores in using the compensation strategy of "Using gestures" for limitation in speaking were high. Finally, EFL learners feel that practising English like native speakers and asking English speakers for help encourage them learn much more;

so, they considered practising speaking English frequently as one of the best ways to improve their proficiency.

The data obtained from the interviews also yielded similar results. In learning new words 29 (90.6%) out of the 32 students, indicated that they would say the word several times; 2 (6.3%) students said that they practise by putting the new word in a sentence and 1 (3.1%) student uses rhymes to memorize the new words. At the same time, when the students are stuck with some words, 30 (93.8%) out of the 32 students indicated that they use gestures and mime while 32 (100%) said that they use a word or phrase that has the same meaning in English as well. The findings indicated that repetition is very important to these students in learning English as a foreign language. Although the strategy of repetition might not sound creative, it can still be used in innovative ways with other tactics such as clustering and concept maps and can always include some degree of meaningful understanding. In addition, the extensive use of gestures and mimes for limitation in speaking indicated that the students need extra effort to develop their vocabulary. Every possible device should be used to encourage students in building their vocabulary by using synonyms, antonyms and onomatopoeic words, by guessing meanings from contexts and by studying prefixes and suffixes.

Analysis of the SILL also indicated that the EFL learners employed a variety of language learning strategies at a medium level. Table 4.2 illustrates the strategies that were used "Sometimes" by the EFL learners.

TABLE 4.2

Type and Mean Score of the Strategies Used at a Medium Level by EFL Students (cont'd)

Descriptive Statistics			
	Type	**Mean**	**Level**
I think of relationships between what I already know and new things I learn in English	Memory	3.3	Medium
I use new English words in a sentence so I can remember them	Memory	2.8	Medium
I remember a new English word by making a mental picture of a situation in which the word might be used	Memory	3.4	Medium
I use rhymes to remember new English words	Memory	2.6	Medium
I physically act out new English words	Memory	2.7	Medium
I review English lessons often	Memory	3.1	Medium
I practise the sounds of English.	Cognitive	3.4	Medium
I use the English words I know in different ways	Cognitive	3.1	Medium
I start conversations in English	Cognitive	2.8	Medium
I read for pleasure in English	Cognitive	2.5	Medium
I write notes, messages, letters, or reports in English	Cognitive	2.6	Medium
I try to find patterns in English	Cognitive	3.1	Medium
I try not to translate word-for-word	Cognitive	3.4	Medium
I make summaries of information that I hear or read in English	Cognitive	2.5	Medium
I make up new words if I do not know the right ones in English	Compensation	3.2	Medium
I read English without looking up every new word	Compensation	2.9	Medium
I try to guess what the other person will say next in English	Compensation	3.3	Medium

TABLE 4.2

Type and Mean Score of the Strategies Used at a Medium Level by EFL Students (cont'd)

Descriptive Statistics			
	Type	**Mean**	**Level**
I plan my schedule so I will have enough time to study English	Meta-cognitive	2.7	Medium
I look for people I can talk to in English	Meta-cognitive	3.1	Medium
I look for opportunities to read as much as possible in English	Meta-cognitive	2.8	Medium
I give myself a reward or treat when I do well in English	Affective	2.7	Medium
I notice if I am tense or nervous when I am studying or using English	Affective	3.0	Medium
I ask English speakers to correct me when I talk	Social	3.2	Medium
I practise English with other students	Social	2.7	Medium
I ask for help from English speakers	Social	3.4	Medium
I ask questions in English	Social	3.2	Medium
I try to learn about the culture of English speakers	Social	2.5	Medium

Table 4.2 shows that most of the strategies that were used at a medium level were of the Cognitive types followed by the Memory ones, then, Social and next, Compensation as well as Meta-cognitive types and finally, the least type used at a medium level, was the Affective type.

Analysis of the SILL indicated that EFL students whose exposure to English was limited to classroom interactions reported medium level of using resources, such as "Reading English books for pleasure" or "Writing notes and letters in English" or "Speaking English with others". In learning new vocabulary items, students employed the following strategies "Sometimes": "Using words in sentences", "Using rhymes" or

"Physically acting out new English words". Finally, when these EFL learners were stuck with some words, they used the compensation strategy of "Making up new words" "Sometimes".

Data obtained from the interviews yielded different results in that 30 (93.8%) students indicated that they do not read for pleasure in English. This finding contradicted the data collected from the SILL. Based on the SILL, students reported that they read for pleasure in English at a medium level. Data obtained from the interviews gave reasons for not reading for pleasure in English. 12 (37.5%) students expressed that they prefer to watch TV than to read. While 11 (34.4%) students said that their timetables were so packed that they did not have time to read for pleasure. 3 (9.4%) students added that they would more likely read in Arabic for pleasure than in English. 3 (9.4%) students acknowledged the importance of reading in English in improving their English proficiency but they declared that it was difficult for them. 1 (3.1%) student expressed her inability to read for pleasure because of her family commitments. On the other hand, 2 (6.3%) students indicated that they like English and they like to use the internet and read the news and many other topics in English. An explanation to this difference in the data obtained from the SILL and the interviews could be that students do not read for pleasure during their study but in the end of year vacation when they have much free time, they enjoy themselves and do other useful activities such as reading for pleasure in English. However, as the students' exposure to the English language is limited to the classrooms interactions, they need to read more at home. Consequently, using the strategy of "Reading for pleasure in English" can be an efficient way in improving students' reading skill.

Finally analysis of the SILL also indicated that EFL learners used the two strategies displayed in Table 4.3 least frequently.

TABLE 4.3

Type and Mean Score of the Least Frequently Used Individual Strategies

Descriptive Statistics			
	Type	**Mean**	**Level**
I use flashcards to remember new English words	Memory	1.61	Low
I write down my feelings in a language learning diary	Affective	1.90	Low

Table 4.3 shows that the least popular strategies among the EFL learners were "I write down my feelings in a language learning diary" and "I use flashcards to remember new English words". However, free writing can be an effective way for stimulating students' critical thinking skills and creativity. EFL Students should be encouraged to write down their feelings in English to build up confidence that they can fill pages with words with no fear of criticism; and thus all the mental blocks will be removed and creativity can be enhanced.

In summary, the findings indicated that out of the 50 strategies that are included in SILL, EFL students used 21 (42%) strategies at a high level, 27 (54%) strategies at a medium level and 2 (4%) strategies at a low level. Thus, developing teaching activities that promote students specific learning strategies is a must in an effort to enhance language learning.

4.1.2 At the Category Level

The SILL is divided into six categories as illustrated in Table 4.4. These categories are called "Parts" in reference to how the questions are arranged in the inventory. Each

category represents a group of learning strategies. The mean score for each category shows which groups of strategies students use the most for learning English.

TABLE 4.4

Categories of the SILL

Part	Strategies Covered	Strategy Type
A	Remembering more effectively.	Memory
B	Using all your mental processes.	Cognitive
C	Compensating for missing knowledge.	Compensation
D	Organizing and evaluating your learning	Meta-cognitive
E	Managing your emotions.	Affective
F	Learning with others.	Social

In the analysis of the SILL categories used by EFL students, the findings indicated that there were some groups of strategies which were used more frequently than others. Table 4.5 shows the mean score and ranking for each category used by EFL students.

TABLE 4.5

Mean Score, Rank and Level of Strategy Categories

Part	Strategy Category	Mean Score	Rank	Level
D	Organizing and evaluating your learning	3.7	1	High
C	Compensating for missing knowledge	3.4	2	Medium
B	Using all your mental processes	3.3	3	Medium
F	Learning with others	3.1	4	Medium
E	Managing your emotions	3.1	5	Medium
A	Remembering more effectively	3.0	6	Medium

Table 4.5 shows that EFL students used all the strategy categories at a medium level except for the meta-cognitive strategy category which recorded a high level (mean 3.7). Thus, EFL students learn best by organizing and evaluating their learning. All of the rest of categories received nearly equal attention by EFL students such as “Compensating

for missing knowledge" which was used slightly more frequently than "Using your mental processes". This may be due to the EFL environment where the students encounter a knowledge barrier as they do not use English for communication and thus the break down in communication is overcome by using compensation strategies. Both the "Learning with others" and "Managing your emotions" categories received equal attention from EFL students. A possible explanation to ranking social and affective strategy categories as the second least employed ones is that they study in the traditional English classrooms where the English teachers function as information givers. As a result, students have limited opportunities to speak English and thus, they do not have to combat fear and anxiety. Another explanation might be that EFL students are not familiar with paying attention to their own feelings and social relationships as part of their language learning process. Finally, the least frequently used of the categories was the memory "Remembering more effectively". This might be explained in that EFL students depend more on rote learning which is based on the cognitive strategy repetition; therefore, they know little about using imagery or linking verbal material with motion.

Thus, EFL students should be encouraged to cooperate with their peers. They should learn how to lower their anxiety, how to encourage themselves by making positive statements, taking risks and rewarding themselves. Finally, a greater effort should be made to help students store and retrieve new information by associating, placing new words into a context, structured reviewing and linking verbal martial with motion.

4.1.3 Overall Strategy Use

Based on the analysis of the data obtained from the SILL, the EFL learners reported medium overall strategy use as their mean score is (3.3) which indicated that these strategies were used "Sometimes".

4.2 The Influence of Major Field of Study on the Choice of Language Learning Strategies

4.2.1 At the Individual Level

Analysis of the data obtained from the SILL using descriptive statistics is summarized in Table E1 (See Appendix E). The analysis revealed that there were some similarities and differences in the use of strategies where major field of study was concerned. Table 4.6 illustrates the similarities in the use of strategies at the individual level with regard to major field of study, their mean scores, and level.

TABLE 4.6

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
I connect the sound of a new English word with an image or picture of the word to help me remember the word	Medicine	46	3.72	High
	English Language	80	3.63	High
	Biology	92	3.91	High
	Computer Science	46	3.59	High
	Total	264	3.73	
I use flashcards to remember new English words	Medicine	46	2.39	Low
	English Language	80	1.61	Low
	Biology	92	1.39	Low
	Computer Science	46	1.26	Low
	Total	264	1.61	

TABLE 4.6

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
I remember new English words or phrases by remembering their location on the page or on a board.	Medicine	46	4.07	High
	English Language	80	4.14	High
	Biology	92	4.38	High
	Computer Science	46	4.09	High
	Total	264	4.20	
I say or write new English words several times	Medicine	46	3.89	High
	English Language	80	3.81	High
	Biology	92	3.61	High
	Computer Science	46	3.83	High
	Total	264	3.76	
I first skim an English passage (read over the passage quickly) then go back and read carefully	Medicine	46	4.04	High
	English Language	80	3.71	High
	Biology	92	3.67	High
	Computer Science	46	4.13	High
	Total	264	3.83	
I look for words in my own language that are similar to new words in English	Medicine	46	4.11	High
	English Language	80	3.63	High
	Biology	92	3.80	High
	Computer Science	46	4.26	High
	Total	264	3.88	
I find the meaning of an English word by dividing it into parts that I understand	Medicine	46	4.09	High
	English Language	80	4.19	High
	Biology	92	4.29	High
	Computer Science	46	3.46	High
	Total	264	4.08	
I read English without looking up every new word	Medicine	46	2.80	Medium
	English Language	80	2.73	Medium
	Biology	92	2.91	Medium
	Computer Science	46	3.33	Medium

TABLE 4.6

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
	Total	264	2.91	
If I cannot think of an English word, I use a word or phrase that means the same thing	Medicine	46	4.26	High
	English Language	80	4.11	High
	Biology	92	3.90	High
	Computer Science	46	4.04	High
	Total	264	4.05	
I notice my English mistakes and use that information to help me do better	Medicine	46	4.33	High
	English Language	80	4.30	High
	Biology	92	3.99	High
	Computer Science	46	3.67	High
	Total	264	4.09	
I pay attention when someone is speaking English	Medicine	46	4.61	High
	English Language	80	4.53	High
	Biology	92	4.23	High
	Computer Science	46	4.46	High
	Total	264	4.42	
I try to find out how to be a better learner of English	Medicine	46	4.85	High
	English Language	80	4.56	High
	Biology	92	4.27	High
	Computer Science	46	4.35	High
	Total	264	4.47	
I think about my progress in learning English	Medicine	46	4.50	High
	English Language	80	4.55	High
	Biology	92	3.92	High
	Computer Science	46	4.07	High
	Total	264	4.24	
I give myself a reward or treat when I do well in English	Medicine	46	2.93	Medium
	English Language	80	2.73	Medium
	Biology	92	2.48	Medium

TABLE 4.6

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
	Computer Science	46	2.93	Medium
	Total	264	2.71	
I talk to someone else about how I feel when I am learning English	Medicine	46	3.67	High
	English Language	80	4.01	High
	Biology	92	3.74	High
	Computer Science	46	3.52	High
	Total	264	3.77	
If I do not understand something in English, I ask the other person to slow down or say it again	Medicine	46	3.89	High
	English Language	80	3.66	High
	Biology	92	4.12	High
	Computer Science	46	3.57	High
	Total	264	3.84	

The analysis indicated that the most frequent individual strategies that were used "Always" by both Medical and English majors were "I try to find out how to be a better learner of English", "I pay attention when someone is speaking English", and "I think about my progress in learning English". In addition, the data obtained from interviewing eight students from each Department: Medical, English Language, Biology and Computer Science, yielded the same results as all of the 8 (100%) Medical students and all of the 8 (100%) English majors were interested in improving their proficiency in the English language. On the other hand, Computer Science majors used only the strategy of "I pay attention when someone is speaking English" most frequently and Biology majors did not use any strategy "Always" or "Almost Always". In other words, Medical and English majors regulated their learning by planning, monitoring and evaluating their learning activities. These findings are convincing to the researcher as both of the Medical and English majors study extensive theoretical courses that require a great deal

of planning and preparation; thus it is easy for the students to transfer the use of the strategies to learning English.

The findings also indicated that the students in all major fields of study reported low use of the strategy "I use flashcards to remember new English words", furthermore, English majors used other strategies at a low level such as: "I use rhymes to remember new English words", "I physically act out new English words", and "I write down my feelings in a language learning diary". Similarly, the data obtained from the interviews indicated that all of the 8 (100%) English majors never used the strategies of physically acting out new English words or using rhymes in remembering new English words rather they used "Repetition". Furthermore, Biology majors used the following ten strategies at a low level:

1. I use new English words in a sentence so that I can remember them.
2. I read for pleasure in English.
3. I write notes, messages, letters, or reports in English.
4. I make summaries of information that I hear or read in English.
5. I plan my schedules so I will have enough time to study English.
6. I look for people I can talk to in English.
7. I look for opportunities to read as much as possible in English.
8. I write down my feelings in a language learning diary.
9. I practise English with other students.
10. I try to learn about the culture of English speakers.

The data obtained from the interviews yielded similar results as all of the 8 (100%) Biology majors indicated that they do not read for pleasure in English, they also do not use new English words in sentences; rather they use repetition to remember new

vocabulary items. This low level in the use of the above strategies is perhaps due to the use of Arabic language as a medium of instruction in their department. Therefore, students who are not highly motivated to learn or use English will probably not make an effort to use it outside the classroom.

Computer Science students on the other hand used the following eight strategies at a low level:

1. I use rhymes to remember new English words.
2. I physically act out new English words.
3. I start conversation in English.
4. I read for pleasure in English.
5. I try to find patterns in English.
6. I make up new words if I do not know the right ones in English.
7. I write down my feelings in a language learning diary.
8. I try to learn about the culture of English speakers.

In addition, the data obtained from the interviews yielded the same results as all of the 8 (100%) Computer Science students indicated that they never use the strategies of physically acting out new English words or using rhymes in remembering new English words rather, they use the strategy of "Repetition". They also indicated that they do not read for pleasure in English and they do not make up words if they do not know the right ones in English rather, they use a word that has the same meaning or they use gestures. The low use of the above strategies may be due to the students' busy timetable and the length of time they spend in front of the computer.

In general, the findings indicated that besides the qualitative differences in the use of strategies where major field of study is concerned, there were quantitative differences too. Out of the 50 strategies included in the SILL, Medical students used 36 (72%) strategies most frequently, followed by English majors who used 27 (54%) strategies "Always" or "Almost Always", then, Computer Science majors who used 20 (40%) strategies most frequently and finally Biology majors who used 17 (34%) strategies "Always" or "Almost Always". On the other hand, Biology students used 22 (44 %) strategies "Sometimes" (i.e. at a medium level) followed by Computer Science majors 21 (42%), English majors 19 (38%) and finally Medical students 13 (26%) all of whom used strategies at a medium level. Likewise, Biology majors used 11 (22%) strategies least frequently, followed by Computer Science majors 9 (18%), English majors 4 (8%) and finally, Medical majors who used 1 (2%) strategy at the low level.

Another analysis of the SILL using ANOVA revealed significant differences in the use of language learning strategies at the individual level within the different major fields of study. Table E2 (See Appendix E) summarizes the results of this analysis and lists the significant relationships between the use of strategies and major fields of study.

The results showed that the F-values are statistically significant at the 0.05 level as the computed F-ratio with 3 and 260 degrees of freedom exceeds 2.63. Thus, there were significant differences in the means of the strategies used by EFL learners with regard to major field. The post-hoc Scheffe test as illustrated in Table E3 (See Appendix E) specifies where significant differences lay.

The results showed some variations in the use of individual strategies in relation to major field of study. Medical students reported the use of the following strategies more significantly than English Language, Computer Science and Biology students:

1. I use new English words in a sentence so I can remember them.
2. I use rhymes to remember new English words.
3. I use flashcards to remember new English words.
4. I review English lessons often.
5. I write notes, messages, letters, or reports in English.
6. I look for people I can talk to in English.
7. I encourage myself to speak English even when I am afraid of making a mistake.
8. I practise English with other students.

Furthermore, Medical students reported more significant use of the strategy "I try to guess what the other person will say next in English" than did English majors. On the other hand, Medical students reported the use of 25 (50 %) strategies more significantly than did Biology majors and 11 (22%) strategies more significantly than did Computer Science students.

The results indicated that English majors used the strategy "I make up new words if I do not know the right ones in English" more significantly than did Medical students. Furthermore, English majors reported the use of 17 (34%) strategies more significantly than did Biology students and finally, they used 7 (14%) strategies more significantly than did Computer Science students.

On the other hand, Biology students reported the use of the strategy "I make up new words if I do not know the right ones in English" more significantly than did Medical

students. This may be due to the limited exposure of Biology students to the English language as the language of instruction in this department is Arabic. Moreover, the strategy “I physically act out new English words” was used more significantly by Biology students than did English Language students. This indicated that language activities for Biology students should involve some movement or some manipulation of objects. Finally, Biology students used 6 (12%) strategies more significantly than did Computer Science students.

The results yielded that Computer Science students used the strategy “I look for words in my own language that are similar to new words in English” more significantly than did English majors, and they used 6 (12%) strategies more significantly than did Biology majors.

In summary, the findings indicated that there were qualitative and quantitative differences in the use of individual strategies where major field of study was concerned. These differences can be highlighted in the preparation of materials for different departments.

In contrast, the results indicated that there were some similarities in the use of strategies at the individual level with regard to major field of study as illustrated in Table 4.7.

TABLE 4.7

Equality of Means Between the Use of Strategies and Different Major Fields of Study (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I connect the sound of a new English word and an image or picture of the word to help me remember the word	Between Groups	4.907	3	1.636	.923	.430
	Within Groups	460.533	260	1.771		
	Total	465.439	263			
I remember new English words or phrases by remembering their location on the page or on a board.	Between Groups	4.731	3	1.577	1.567	.198
	Within Groups	261.629	260	1.006		
	Total	266.360	263			
I say or write new English words several times	Between Groups	3.319	3	1.106	.833	.477
	Within Groups	345.166	260	1.328		
	Total	348.485	263			
I first skim an English passage (read over the passage quickly) then go back and read carefully	Between Groups	9.594	3	3.198	2.039	.109
	Within Groups	407.735	260	1.568		
	Total	417.330	263			
To understand unfamiliar English words, I make guesses	Between Groups	1.761	3	.587	.441	.724
	Within Groups	346.205	260	1.332		
	Total	347.966	263			
When I can't think of a word during a conversation in English, I use gestures	Between Groups	3.920	3	1.307	.794	.498
	Within Groups	428.076	260	1.646		
	Total	431.996	263			
I read English without looking up every new word	Between Groups	11.216	3	3.739	2.367	.071
	Within Groups	410.602	260	1.579		

TABLE 4.7

Equality of Means Between the Use of Strategies and Different Major Fields of Study (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Total	421.818	263			
If I cannot think of an English word, I use a word or phrase that means the same thing	Between Groups	4.368	3	1.456	1.377	.250
	Within Groups	274.890	260	1.057		
	Total	279.258	263			
I try to relax whenever I feel afraid of using English	Between Groups	3.719	3	1.240	.782	.505
	Within Groups	411.974	260	1.585		
	Total	415.693	263			
I give myself a reward or treat when I do well in English	Between Groups	9.606	3	3.202	1.459	.226
	Within Groups	570.515	260	2.194		
	Total	580.121	263			
I talk to someone else about how I feel when I am learning English	Between Groups	8.050	3	2.683	1.676	.173
	Within Groups	416.314	260	1.601		
	Total	424.364	263			
I ask for help from English speakers	Between Groups	11.037	3	3.679	2.042	.108
	Within Groups	468.402	260	1.802		
	Total	479.439	263			
I try to learn about the culture of English speakers	Between Groups	5.711	3	1.904	.990	.398
	Within Groups	499.830	260	1.922		
	Total	505.542	263			

Table 4.7 indicated that all the F-values are not statistically significant at the 0.05 level as the computed F-ratio is less than 2.63. Thus, there were no significant differences in

the means of the above strategies used by the EFL learners with regard to major field of study.

4.2.2 At the Category Level

Analysis of the data obtained from the SILL at the category level, using descriptive statistics is summarized in the following table. The results indicated significant differences in the means of the strategy categories used by the EFL learners with regard to major field of study. Table 4.8 shows the mean scores of the strategy categories used by EFL students according to different major fields of study.

TABLE 4.8

Mean Scores of Strategy Categories Used by EFL Students According to Different Major Fields of Study
(See table 4.4, page 113 for strategies covered in each part)

Major field	Part A Memory	Part B Cognitive	Part C Compensation	Part D Meta-cognitive	Part E Affective	Part F Social
Medicine	3.5	3.6	3.4	4.1	3.5	3.5
English Language	3.0	3.5	3.4	3.9	3.2	3.2
Biology	2.9	3.0	3.5	3.3	2.8	2.9
Computer Science	2.8	3.1	3.1	3.6	2.9	3.1

Table 4.8 shows that Medical students reported the highest use of all strategy categories except for “Compensating for missing knowledge” which was used at a medium level. English majors used two of the categories at a high level and the rest at a medium level. Computer Science majors ranked third in terms of frequency of usage, where most of the categories were used at a medium level, except for “Organizing and evaluating your learning” which was used at a high level and finally, the least frequent categories were used by Biology majors, who reported a medium use of all the categories, except for “Compensating for missing knowledge” which was used at a high level.

Another analysis using ANOVA as illustrated in Table 4.9 shows that EFL students employed different categories of strategies with different major fields of study.

TABLE 4.9

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Remembering more effectively	Between Groups	15.381	3	5.127	15.869	.000
	Within Groups	84.003	260	.323		
	Total	99.384	263			
Using all your mental processes	Between Groups	17.726	3	5.909	19.648	.000
	Within Groups	78.191	260	.301		
	Total	95.918	263			
Compensating for missing Knowledge	Between Groups	3.458	3	1.153	2.911	.035
	Within Groups	102.981	260	.396		
	Total	106.439	263			
Organizing and evaluating your learning	Between Groups	27.863	3	9.288	25.296	.000
	Within Groups	95.463	260	.367		
	Total	123.326	263			
Managing your emotions	Between Groups	14.051	3	4.684	11.921	.000
	Within Groups	102.150	260	.393		
	Total	116.201	263			
Learning with others	Between Groups	9.965	3	3.322	5.515	.001
	Within Groups	156.589	260	.602		
	Total	166.554	263			

Table 4.9 shows significant differences in the means of the EFL students with regard to major field of study at the category level. The results indicated that the computed F-ratio exceeds 2.63; therefore, it is statistically significant at the 0.05 level. The post-hoc Scheffe test as illustrated in Table 4.10 specifies where significant differences lay.

TABLE 4.10

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	**(I) Major**	**(J) Major**				**Lower Bound**	**Upper Bound**
Remembering more effectively	Medicine	English Language	.51(*)	.11	.000	.22	.81
		Biology	.62(*)	.10	.000	.33	.90
		Computer Science	.74(*)	.12	.000	.41	1.07
	English Language	Medicine	-.51(*)	.11	.000	-.81	-.22
		Biology	.10	8.69E-02	.707	-.14	.35
		Computer Science	.23	.11	.205	-7.01E-02	.52
	Biology	Medicine	-.62(*)	.10	.000	-.90	-.33
		English Language	-.10	8.69E-02	.707	-.35	.14
		Computer Science	.12	.10	.696	-.17	.41
	Computer Science	Medicine	-.74(*)	.12	.000	-1.07	-.41
		English Language	-.23	.11	.205	-.52	7.01E-02
		Biology	-.12	.10	.696	-.41	.17
Using all your mental processes	Medicine	English Language	.15	.10	.546	-.14	.43
		Biology	.64(*)	9.90E-02	.000	.36	.92
		Computer Science	.50(*)	.11	.000	.18	.82
	English Language	Medicine	-.15	.10	.546	-.43	.14
		Biology	.49(*)	8.38E-02	.000	.26	.73

TABLE 4.10

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	**(I) Major**	**(J) Major**				**Lower Bound**	**Upper Bound**
		Computer Science	.35(*)	.10	.008	6.62E-02	.64
	Biology	Medicine	-.64(*)	9.90E-02	.000	-.92	-.36
		English Language	-.49(*)	8.38E-02	.000	-.73	-.26
		Computer Science	-.14	9.90E-02	.566	-.42	.14
	Computer Science	Medicine	-.50(*)	.11	.000	-.82	-.18
		English Language	-.35(*)	.10	.008	-.64	-6.62E-02
		Biology	.14	9.90E-02	.566	-.14	.42
Compensating for missing Knowledge	Medicine	English Language	-3.59E-02	.12	.992	-.36	.29
		Biology	-.12	.11	.775	-.44	.20
		Computer Science	.21	.13	.450	-.16	.58
	English Language	Medicine	3.59E-02	.12	.992	-.29	.36
		Biology	-8.37E-02	9.62E-02	.860	-.35	.19
		Computer Science	.25	.12	.207	-7.80E-02	.58
	Biology	Medicine	.12	.11	.775	-.20	.44
		English Language	8.37E-02	9.62E-02	.860	-.19	.35
		Computer Science	.33(*)	.11	.037	1.35E-02	.65

TABLE 4.10

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	**(I) Major**	**(J) Major**				**Lower Bound**	**Upper Bound**
	Computer Science	Medicine	-.21	.13	.450	-.58	.16
		English Language	-.25	.12	.207	-.58	7.80E-02
		Biology	-.33(*)	.11	.037	-.65	-1.35E-02
Organizing and evaluating your learning	Medicine	English Language	.16	.11	.570	-.16	.47
		Biology	.81(*)	.11	.000	.50	1.12
		Computer Science	.51(*)	.13	.001	.15	.87
	English Language	Medicine	-.16	.11	.570	-.47	.16
		Biology	.65(*)	9.26E-02	.000	.39	.91
		Computer Science	.35(*)	.11	.022	3.50E-02	.67
	Biology	Medicine	-.81(*)	.11	.000	-1.12	-.50
		English Language	-.65(*)	9.26E-02	.000	-.91	-.39
		Computer Science	-.30	.11	.060	-.61	8.38E-03
	Computer Science	Medicine	-.51(*)	.13	.001	-.87	-.15
		English Language	-.35(*)	.11	.022	-.67	-3.50E-02
		Biology	.30	.11	.060	-8.38E-03	.61

TABLE 4.10

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	**(I) Major**	**(J) Major**				**Lower Bound**	**Upper Bound**
Managing your emotions	Medicine	English Language	.28	.12	.126	-4.75E-02	.61
		Biology	.63(*)	.11	.000	.31	.95
		Computer Science	.51(*)	.13	.002	.14	.88
	English Language	Medicine	-.28	.12	.126	-.61	4.75E-02
		Biology	.35(*)	9.58E-02	.004	8.37E-02	.62
		Computer Science	.23	.12	.264	-9.44E-02	.56
	Biology	Medicine	-.63(*)	.11	.000	-.95	-.31
		English Language	-.35(*)	9.58E-02	.004	-.62	-8.37E-02
		Computer Science	-.12	.11	.765	-.44	.20
	Computer Science	Medicine	-.51(*)	.13	.002	-.88	-.14
		English Language	-.23	.12	.264	-.56	9.44E-02
		Biology	.12	.11	.765	-.20	.44
Learning with others	Medicine	English Language	.35	.14	.116	-5.32E-02	.75
		Biology	.56(*)	.14	.001	.17	.96
		Computer Science	.45	.16	.055	-6.07E-03	.90

TABLE 4.10

Significant Variation in the Use of Strategy Categories and Major Fields of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	English Language	Medicine	-.35	.14	.116	-.75	5.32E-02
		Biology	.21	.12	.370	-.12	.54
		Computer Science	9.84E-02	.14	.925	-.31	.50
	Biology	Medicine	-.56(*)	.14	.001	-.96	-.17
		English Language	-.21	.12	.370	-.54	.12
		Computer Science	-.11	.14	.887	-.51	.28
	Computer Science	Medicine	-.45	.16	.055	-.90	6.07E-03
		English Language	-9.84E-02	.14	.925	-.50	.31
		Biology	.11	.14	.887	-.28	.51
* The mean difference is significant at the .05 level.							

Table 4.10 shows significant variations in the use of strategy categories in relation to major field of study. Medical students reported the highest use of the memory strategy category "Remembering more effectively" and this was due to the large amount of terminology they had to memorize in their study; thus it was easy for them to transfer the use of memory strategies to learning English. This extensive use of the memory strategy category might show that Medical students are aware of the importance of this category for language learning. It indicated that they know well how to enter, store and retrieve information. Also, Medical majors used the social strategy category "Learning

with others" more significantly than did Biology students. In addition to that, both Medical and English majors reported the use of the following cognitive and meta-cognitive strategy categories "Using all your mental process" and "Organizing and evaluating your learning" more frequently than did the Biology and Computer Science students. The use of more cognitive and meta-cognitive strategies by the Medical and English majors can be attributed to the students' need to self organization as well as deep processing, forming and revising internal mental models to receive and produce the language. Finally, Biology majors reported higher use of the strategy category, "Compensating for missing knowledge" than did Computer Science students. Maybe this was due to Biology majors' limited exposure to the English language as the language of instruction at the Biology Department is Arabic.

4.2.3 Overall Strategy Use

ANOVA was used to determine the differences in the overall strategy use of the EFL learners according to major field of study. The results as illustrated in Table 4.11 indicated that the computed F-ratio exceeds 2.63; therefore, all the F-values are statistically significant at the 0.05 level. Thus, there were significant differences in the means of the EFL students' overall strategy use with different major fields of study. The post-hoc Scheffe test as illustrated in Table 4.12 specifies where significant differences lay.

TABLE 4.11

Variation in the Means of EFL Students' Overall Strategy Use With Different Major Fields of Study

ANOVA Overall					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	10.278	3	3.426	17.630	.000
Within Groups	50.527	260	.194		
Total	60.806	263			

TABLE 4.12

Variation in the Means of EFL Students' Overall Strategy Use With Different Major Fields of Study- Post Hoc Tests (cont'd)

Multiple Comparisons Dependent Variable: Overall Scheffe						
		Mean Difference (I-J)	**Std. Error**	**Sig.**	**95% Confidence Interval**	
(I) Major	**(J) Major**				**Lower Bound**	**Upper Bound**
Medicine	English Language	.24(*)	8.16E-02	.041	6.23E-03	.47
	Biology	.52(*)	7.96E-02	.000	.30	.75
	Computer Science	.49(*)	9.19E-02	.000	.23	.75
English Language	Medicine	-.24(*)	8.16E-02	.041	-.47	-6.23E-03
	Biology	.29(*)	6.74E-02	.001	9.81E-02	.48
	Computer Science	.25(*)	8.16E-02	.025	2.18E-02	.48
Biology	Medicine	-.52(*)	7.96E-02	.000	-.75	-.30
	English Language	-.29(*)	6.74E-02	.001	-.48	-9.81E-02
	Computer Science	-3.63E-02	7.96E-02	.976	-.26	.19

TABLE 4.12

Variation in the Means of EFL Students' Overall Strategy Use With Different Major Fields of Study- Post Hoc Tests (cont'd)

Multiple Comparisons Dependent Variable: Overall Scheffe						
		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Major	(J) Major				Lower Bound	Upper Bound
Computer Science	Medicine	-.49(*)	9.19E-02	.000	-.75	-.23
	English Language	-.25(*)	8.16E-02	.025	-.48	-2.18E-02
	Biology	3.63E-02	7.96E-02	.976	-.19	.26
* The mean difference is significant at the .05 level.						

Tables 4.11 and 4.12 show that there are significant variations in the overall strategy use in relation to major field of study. The results showed that Medical majors reported the highest mean scores in the use of overall strategy (mean: 3.6), followed by English majors (mean: 3.4), then both Computer Science and Biology majors (mean: 3.1) who received the minimum mean scores. Furthermore, when the key for understanding the averages proposed by Oxford (1990) (See page103) was applied to the data, Medical majors reported high use of overall strategy (i.e. they used the strategies "Always" or "Almost Always"); while English, Biology and Computer Science majors reported medium use (i.e. they used the strategies "Sometimes"). The reason for Medical majors recording the highest mean score in the use of overall strategy may be due to the high academic grade required for entry into the Medical Department. Another possible explanation is that the intensive specialized courses given to Medical majors require students to use a wide range of strategies to cope with their studies and thus they transfer the use of these strategies to learning English.

4.3 The Influence of Year level on the Choice of Language Learning Strategies

4.3.1 At the Individual Level

Descriptive analysis of the data obtained from the SILL reported that there was some agreement as well as some differences in the means of EFL students' strategy use with regard to year level. Table 4.13 illustrates the strategy used at a high level by first year undergraduate students that received medium use by second year undergraduate students.

TABLE 4.13

Type, Mean Score and Level of the Most Frequent Individual Strategies Used by First Year Undergraduate Students That Received Medium Use by Second Year Undergraduate Students

Descriptive Statistics					
Strategy	Type	1st Year		2nd Year	
		Mean Score	Level	Mean Score	Level
I try not to translate word-for- word	Cognitive	3.7	High	3.1	Medium

Table 4.13 shows that first year undergraduates "Usually" do not use the strategy of "Word-for-word translations" while second year undergraduates use this strategy "Sometimes". The data obtained from observing first year students yielded similar results as the students never used the strategy of word for word translations in the nine lessons observed. On the other hand, the data obtained from interviewing 32 students; 16 students from the first year and 16 students from the second year, indicated that 13 (81.3%) out of 16 first year students and 12 (75%) out of 16 second year students, used to translate word for word to understand any passage. It can be understood from the triangulation of the data obtained from the SILL, observations and interviews that

students were not encouraged to use the strategy of "Word for word translation" in the classroom but still they used it when studying alone outside the classroom.

On the contrary, differences are apparent in the use of some strategies; first year students showed medium use of some strategies while second year students showed a high level of using these strategies. Table 4.14 lists such differences.

TABLE 4.14

Type, Mean Score and Level of the Most Frequent Individual Strategies Used by Second Year Undergraduate Students That Received Medium Use by First Year Undergraduate Students

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I think of relationships between what I already know and new things I learn in English	Memory	3.1	Medium	3.5	High
I remember a new English word by making a mental picture of a situation in which the word might be used	Memory	3.3	Medium	3.5	High
I watch English language TV shows spoken in English	Cognitive	3.3	Medium	3.7	High
I try to find patterns in English	Cognitive	2.5	Medium	3.5	High
To understand unfamiliar English words, I make guesses	Compensation	3.4	Medium	3.6	High
I make up words if I do not know the right ones in English	Compensation	2.9	Medium	3.5	High
I try to find as many ways as I can to use my English	Meta-cognitive	3.3	Medium	3.7	High

Table 4.14 shows that second year undergraduates more frequently relate their background knowledge with new knowledge, make guesses and make up new words in a high level, watch English language TV shows to improve their English and practise their English whenever possible, unlike first year undergraduates who used the above strategies less frequently.

The data gathered from the observation revealed that the most frequent strategies used by first year students were guessing to understand unfamiliar English words 12 (9.16%), and making up words if they did not know the right ones in English 9 (6.87%). These findings might indicate that teachers try their best in encouraging students to guess and make up words instead of using dictionaries when they are stuck with difficult words. Furthermore, the data obtained from the observation yielded different results as first year students indicated that they used the strategy of "Making a mental picture of a situation to remember new words" least frequently 3 (2.29%) .However, the finding obtained from the SILL is more reliable; making a mental picture is a mental strategy that cannot be observed except when the teacher directly instructs students to use this strategy.

Likewise, there were some variations in the use of strategies; while first year undergraduates used some strategies at a medium level, second year undergraduates used them at a low level and vice versa as illustrated in Tables 4.15 and 4.16.

TABLE 4.15

Type, Mean Score and Level of the Least Frequent Individual Strategies Used by Second Year Undergraduate Students That Received Medium Use by First Year Undergraduate Students

Descriptive Statistics					
Strategy	Type	1st Year		2nd Year	
		Mean Score	Level	Mean Score	Level
I use rhymes to remember new English words	Memory	2.8	Medium	2.4	Low
I physically act out new English words	Memory	2.9	Medium	2.4	Low

TABLE 4.16

Type, Mean Score and Level of the Least Frequent Individual Strategies Used by First Year Undergraduate Students That Received Medium Use by Second Year Undergraduate Students

Descriptive Statistics					
Strategy	Type	1st Year		2nd Year	
		Mean Score	Level	Mean Score	Level
I read for pleasure in English	Cognitive	2.4	Low	2.6	Medium
I write notes, messages, letters, or reports in English	Cognitive	2.4	Low	2.7	Medium
I make summaries of information that I hear or read in English	Cognitive	2.4	Low	2.6	Medium
I try to learn about the culture of English speakers	Social	2.4	Low	2.5	Medium

Tables 4.15 and 4.16 show that first year students learn new English words "Sometimes" by using rhymes and physically acting out these words. On the other hand, second year students "Generally do not use" the above strategies in learning new

vocabulary. The data obtained from the interviews indicated that 15 (93.8) out of 16 first year students and all of the 16 (100%) second year students do not use rhymes or physically acting out the new words, rather they use repetition most often to remember new English words. Furthermore, the data obtained from the SILL indicated that second year students can write summaries or messages and letters in English and they are interested in reading for pleasure in English and in reading about the culture of English speakers; while first year undergraduate students "Generally" do not use these strategies. The data obtained from the observation yielded similar results as first year students never used the strategy of learning about the culture of English speakers. Furthermore, they used the strategies of writing notes and messages 4 (3.05%) and making summaries 6 (4.58%) least frequently. Similarly, the data obtained from the interviews indicated that all of the 16 (100%) first year students do not read for pleasure in English and only 2 (12.5) out of 16 second year students read for pleasure in English. The infrequent use of this strategy indicated that students should be encouraged to develop the strategy of "Reading for pleasure in English" as it may help in improving the students' reading skill.

Although, there were some differences in the use of some individual strategies in relation to year level, there was also some agreement as illustrated in Table 4.17. The analysis indicated that the following strategies were most frequently used at a high level by both first and second year students.

TABLE 4.17

Type and Mean Score of the Most Frequent Individual Strategies Used by Both First and Second Year Undergraduate Students (cont'd)

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I connect the sound of a new English word and an image or picture of the word to help me remember the word	Memory	3.9	High	3.6	High
I remember new English words or phrases by remembering their location on the page or on a board.	Memory	4.3	High	4.1	High
I say or write new English words several times	Cognitive	3.7	High	3.8	High
I try to talk like native English speakers	Cognitive	3.8	High	3.7	High
I first skim an English passage, then go back and read carefully	Cognitive	3.9	High	3.8	High
I look for words in my own language that are similar to new words in English	Cognitive	4.0	High	3.8	high
I find the meaning of an English word by dividing it into parts that I understand	Cognitive	3.8	High	4.3	High
When I cannot think of a word during a conversation in English , I use gestures	Compensation	3.5	High	3.7	High
If I cannot think of an English word, I use a word or phrase that means the same thing	Compensation	4.0	High	4.1	High
I notice my English mistakes and use that information to help me do better	Meta-cognitive	4.1	High	4.1	High

TABLE 4.17

Type and Mean Score of the Most Frequent Individual Strategies Used by Both First and Second Year Undergraduate Students (cont'd)

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I pay attention when someone is speaking English	Meta-cognitive	4.3	High	4.6	High
I try to find out how to be a better learner of English	Meta-cognitive	4.6	High	4.4	High
I have clear goals for improving my English skills	Meta-cognitive	3.8	High	3.7	High
I think about my progress in learning English	Meta-cognitive	4.1	High	4.3	High
I try to relax whenever I feel afraid of using English	Affective	3.5	High	3.5	High
I encourage myself to speak English even when I am afraid of making a mistake	Affective	3.5	High	3.6	High
I talk to someone else about how I feel when I am learning English	Affective	3.9	High	3.7	High
If I do not understand something in English, I ask the other person to slow	Social	3.9	High	3.8	High

Table 4.17 shows that both first and second year undergraduates used the above strategies most frequently. In other words, they used them "Always" or "Almost Always". Most of these strategies were cognitive and meta-cognitive which received equal attention followed by affective, next, memory and compensation and finally, social. The data obtained from the observation yielded similar results; 22 (16.79%) first year students indicated that they pay attention most frequently, and 9 (6.87%) use words that mean the same when they do not remember a word. Similarly, the data obtained

from the interviews indicated that 15 (93.8%) out of 16 first year students and 14 (87.5%) out of 16 second year students use the strategy of “Repetition” to remember new English words. Furthermore, all of the 16 (100%) first year students and 14 (87.5%) second year students indicated that they use both of gestures and words and phrases that have the same meaning when they are stuck with some words. Finally, 14 (87.5%) out of 16 first year students and all of the 16 (100%) second year students indicated that they are interested in improving their English language proficiency. However, the observational method does not provide adequate data on the learners’ strategies used, as language learning strategies are generally internal or mentalistic processes. The data obtained from observing first year students contradicted the data obtained from the SILL. The observational data indicated that first year students used skimming, learnt from their mistakes, asked others to slow down and used gestures least often. Based on the personal communication of the researcher with the language instructors, the researcher found that students were not encouraged to use gestures to compensate obstacles to communication; rather they were encouraged to use other compensation strategies such as using other words that mean the same thing.

A medium use of some individual strategies by both first and second year undergraduate students is reported in Table 4.18. This table shows the type, mean score and level of each strategy used.

TABLE 4.18

Type and Mean Score of the Strategies Used at a Medium Level by Both First and Second Year Undergraduate Students (cont'd)

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I use new English words in a sentence so I can remember them	Memory	2.8	Medium	2.7	Medium
I review English lessons often	Memory	3.2	Medium	2.9	Medium
I practise the sounds of English	Cognitive	3.4	Medium	3.4	Medium
I use the English words I know in different ways	Cognitive	3.0	Medium	3.1	Medium
I start conversations in English	Cognitive	2.7	Medium	2.8	Medium
I read English without looking up every new word	Compensation	2.7	Medium	3.1	Medium
I try to guess what the other person will say next in English	Compensation	3.3	Medium	3.3	Medium
I plan my schedule so I will have enough time to study English	Meta-cognitive	2.8	Medium	2.6	Medium
I look for people I can talk to in English	Metacognitve	3.1	Medium	3.2	Medium
I look for opportunities to read as much as possible in English	Meta-cognitive	2.8	Medium	2.8	Medium
I give myself a reward or treat when I do well in English	Affective	2.8	Medium	2.6	Medium

TABLE 4.18

Type and Mean Score of the Strategies Used at a Medium Level by Both First and Second Year Undergraduate Students (cont'd)

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I notice if I am tense or nervous when I am studying or using English	Affective	2.8	Medium	3.2	Medium
I ask English speakers to correct me when I talk	Social	3.4	Medium	3.1	Medium
I practise English with other students	Social	2.7	Medium	2.8	Medium
I ask for help from English speakers	Social	3.4	Medium	3.4	Medium
I ask questions in English	Social	3.3	Medium	3.1	Medium

Table 4.18 shows that both first and second year undergraduates used the above strategies "Sometimes". Most of these strategies were of the social type followed by the cognitive and meta-cognitive types and finally, the memory, compensation and affective types which received equal attention. Data obtained from the observation revealed that first year students used the following strategies least often: "Start a conversation in English" 4 (3.05%), "Try to guess what the other person will say next in English" 5 (3.82%), "Ask for help from English speakers" 2 (1.53%), and finally, "Ask questions in English" 3 (2.29%). These findings contradicted the data obtained from the SILL which state that the students used these strategies at a medium level. However the data based on the observation was inadequate to identify learners' mental strategies, besides the students had few opportunities to engage in active learning with observable strategies because the classes were teacher directed.

The least frequently used individual strategies by both first and second year undergraduates are displayed in Table 4.19 with the mean score of each strategy.

TABLE 4.19

Type and Mean Score of the Least Frequent Individual Strategies Used by both First and Second Year Undergraduate Students

Descriptive Statistics					
Strategy	**Type**	**1st Year**		**2nd Year**	
		Mean Score	**Level**	**Mean Score**	**Level**
I use flashcards to remember new English words	Memory	1.6	Low	1.6	Low
I write down my feelings in a language learning diary	Affective	1.6	Low	2.1	Low

Table 4.19 shows that the least popular strategies used by both first and second year undergraduates were "I use flashcards to remember new English words" and "I write down my feelings in a language learning diary".

In summary, the findings indicated that out of the 50 strategies that are included in the SILL, first year undergraduates used 19 (38%) strategies most frequently, 25 (50%) strategies at a medium level and 6 (12%) strategies least frequently. On the other hand, second year undergraduates used 25 (50%) strategies most frequently, 21 (42%) strategies were used at a medium level and 4 (8%) strategies were used least frequently. In other words, second year undergraduates used strategies more frequently than did first year undergraduates. These findings might indicate that as students progress in their language learning, their language learning strategy uses increase.

Based on the analysis of the data obtained from the SILL at the individual item level using ANOVA, Table 4.20 shows that there was significant relationship between the use of strategies and the year level.

TABLE 4.20

Significant Variation in the Use of Strategies at the Individual Item Level and Year Level by EFL Undergraduate Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I think of relationships between what I already know and new things I learn in English	Between Groups	5.152	1	5.152	4.109	.044
	Within Groups	328.481	262	1.254		
	Total	333.633	263			
I use rhymes to remember new English words	Between Groups	9.341	1	9.341	5.208	.023
	Within Groups	469.897	262	1.794		
	Total	479.239	263			
I physically act out new English words	Between Groups	18.136	1	18.136	8.442	.004
	Within Groups	562.860	262	2.148		
	Total	580.996	263			
I remember new English words or phrases by remembering their location on the page or on a board.	Between Groups	4.368	1	4.368	4.368	.038
	Within Groups	261.992	262	1.000		
	Total	266.360	263			
I watch English language TV shows spoken in English	Between Groups	11.746	1	11.746	5.761	.017
	Within Groups	534.160	262	2.039		
	Total	545.905	263			
I write notes, messages, letters, or reports in English	Between Groups	8.082	1	8.082	4.946	.027
	Within Groups	428.085	262	1.634		
	Total	436.167	263			
I look for words in my own language that are similar to new words in English	Between Groups	5.568	1	5.568	4.171	.042
	Within Groups	349.792	262	1.335		
	Total	355.360	263			
I try to find patterns in	Between Groups	64.188	1	64.188	40.430	.000

TABLE 4.20

Significant Variation in the Use of Strategies at the Individual Item Level and Year Level by EFL Undergraduate Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
English	Within Groups	415.960	262	1.588		
	Total	480.148	263			
I find the meaning of an English word by dividing it into parts that I understand	Between Groups	13.336	1	13.336	9.871	.002
	Within Groups	353.993	262	1.351		
	Total	367.330	263			
I try not to translate word-for-word	Between Groups	27.419	1	27.419	16.047	.000
	Within Groups	447.672	262	1.709		
	Total	475.091	263			
I make up new words if I do not know the right ones in English	Between Groups	27.655	1	27.655	15.308	.000
	Within Groups	473.300	262	1.806		
	Total	500.955	263			
I read English without looking up every new word	Between Groups	10.400	1	10.400	6.623	.011
	Within Groups	411.418	262	1.570		
	Total	421.818	263			
I try to find as many ways as I can to use my English	Between Groups	8.667	1	8.667	6.217	.013
	Within Groups	365.272	262	1.394		
	Total	373.939	263			
I pay attention when someone is speaking English	Between Groups	5.463	1	5.463	8.468	.004
	Within Groups	169.022	262	.645		
	Total	174.485	263			
I notice if I am tense or nervous when I am studying or using English	Between Groups	11.900	1	11.900	6.806	.010
	Within Groups	458.085	262	1.748		
	Total	469.985	263			
I write down my feelings in a language learning diary	Between Groups	17.379	1	17.379	12.548	.000
	Within Groups	362.860	262	1.385		
	Total	380.239	263			

Table 4.20 shows that there were significant differences at the individual item level in the means of EFL students with regard to year level. Results indicated that the computed F-ratio exceeds the 3.87 and is therefore statistically significant.

Although there were some significant differences in the use of some strategies and year level, there were also some similarities. Table E4 (See Appendix E) shows the similarities in the use of strategies by EFL students with different year level. The results showed that the F-values are not statistically significant at the 0.05 level. Thus, there were no significant differences in the means of most of EFL students' strategy use with regard to year level.

4.3.2 At the Category Level

Descriptive statistical analysis of the SILL categories used by EFL first and second year undergraduates indicated some variation and similarities. Tables 4.21 and 4.22 show the mean score, rank and level of each strategy category of both first and second year undergraduates.

TABLE 4.21

Mean Score, Rank and Level of Strategy Categories of First Year Undergraduate Students

Part	Strategy Category	Mean Score	Rank	Level
D	Organizing and evaluating your learning	3.6	1	High
C	Compensating for missing knowledge	3.3	2	Medium
B	Using all your mental processes	3.2	3	Medium
F	Learning with others	3.2	3	Medium
A	Remembering more effectively	3.1	4	Medium
E	Managing your emotions	3.0	5	Medium

Table 4.21 shows that first year undergraduates are meta-cognitive strategy users, they learn best by organizing and evaluating their learning. All the rest of the categories

received equal attention by first year students such as “Compensating for missing knowledge” (Compensation), followed by “Using all your mental processes” (Cognitive) and “Learning with others” (Social); then “Remembering more effectively” (Memory) and finally, “Managing your emotions” (Affective). The low score in the affective area compared to higher result in cognitive strategy use would suggest that first year students are more thinking oriented rather than feeling-oriented in their style. They make decisions based on logic and analysis.

Data based on the observation revealed nearly similar results to that obtained from the SILL; First year students used the strategy category of “Compensating for missing knowledge” 40 (30.53%) more than the strategy category of “Using all your mental processes” 29 (22.14%).In addition, the data obtained from the SILL indicated that first year students used the affective strategy category of “Managing your emotions”, least frequently and the observation data showed that it was not used at all. However it must be pointed out that the affective strategy category is related to emotions that cannot be observed. Furthermore, the data gathered from observation indicated that both of the memory strategy category, “Remembering more effectively” 19 (14.50%) and the social strategy category, “Learning with others” 18 (13.74) were used nearly equally. The only difference was that the meta-cognitive strategy category, “Organizing and evaluating your learning” 25 (19.08%) was used less than both of the compensation 40 (30.53%) and cognitive strategy categories 29 (22.14%). This is contradictory to the SILL data which indicated that this meta-cognitive strategy category was used most frequently.

TABLE 4.22

Mean Score, Rank and Level of Strategy Categories of Second Year Undergraduate Students

Part	Strategy Category	Mean Score	Rank	Level
D	Organizing and evaluating your learning	3.7	1	High
C	Compensating for missing knowledge	3.5	2	High
B	Using all your mental processes	3.3	3	Medium
E	Managing your emotions	3.1	4	Medium
F	Learning with others	3.1	4	Medium
A	Remembering more effectively	2.9	5	Medium

Table 4.22 shows that second year undergraduate students used both "Organizing and evaluating your learning" (Meta-cognitive) and "Compensating for missing knowledge" (Compensation) strategy categories most frequently, followed by "Using all your mental processes" (Cognitive), then, "Managing your emotions" (Affective) and "Learning with others" (Social) and finally, the least frequent strategy category was "Remembering more effectively" (Memory). The low score in the use of memory strategy category may suggest that second year students should be trained to know how to store and retrieve information by making mental linkages, applying images and sounds or employing actions. All of these memory strategies are vital in language learning.

In summary, the findings indicated that both first and second year undergraduate students used the meta-cognitive strategy category "Organizing and evaluating your learning" most frequently. This indicated that both groups know well how to keep themselves on track by planning, setting goals and monitoring their progress. All the rest of the strategy categories were used at a medium level by both first and second year undergraduates except for the compensation strategy category "Compensating for

missing knowledge" which was used most frequently by second year undergraduates. Furthermore, the least used strategy category by first year undergraduates was the affective one "Managing your emotions" while second year students used "Remembering more effectively", the memory strategy category least often. However, the uses of both types: the affective and memory strategy categories are essential to language learning in offering continuous emotional support and providing the necessary intellectual tools.

Likewise, the ANOVA results in Table 4.23 indicated that there was no significant difference in the use of strategy categories and year level of the EFL undergraduates except for "Compensating for missing knowledge". This strategy category was used most frequently by second year undergraduates and this may be due to their extensive use of English. Second year undergraduates study much more specialized courses than first year students. Thus, they have to use the language a lot and make up for an inadequate repertoire of grammar and vocabulary.

TABLE 4.23

Similarities in the Use of Strategy Categories and Year Level by EFL Undergraduate Students

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Remembering more effectively	Between Groups	1.316	1	1.316	3.517	.062
	Within Groups	98.068	262	.374		
	Total	99.384	263			
Using all your mental processes	Between Groups	1.117	1	1.117	3.088	.080
	Within Groups	94.800	262	.362		
	Total	95.918	263			
Compensating for missing Knowledge	Between Groups	3.685	1	3.685	9.396	.002
	Within Groups	102.754	262	.392		
	Total	106.439	263			
Organizing and evaluating your learning	Between Groups	.256	1	.256	.544	.461
	Within Groups	123.071	262	.470		
	Total	123.326	263			
Managing your emotions	Between Groups	.775	1	.775	1.759	.186
	Within Groups	115.426	262	.441		
	Total	116.201	263			
Learning with others	Between Groups	.619	1	.619	.977	.324
	Within Groups	165.935	262	.633		
	Total	166.554	263			

The results indicated that students showed significant relationship between the use of "Compensating for missing knowledge" strategy category and the year level as the calculated F-ratio exceeds 3.87 at the 0.05 level. On the contrary, the results indicated that there were no significant relationship in the use of the rest of the strategy categories and the year level.

4.3.3 Overall Strategy Use

In determining the differences or similarities in the overall strategy use among the EFL undergraduates according to year level, the ANOVA results in Table 4.24 indicated that there were no significant differences between the means of the overall strategy use of the EFL undergraduates with the different year levels.

TABLE 4.24

Equality of Means of EFL Students' Overall Strategy Use With Different Year Levels

ANOVA Overall					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.164	1	.164	.708	.401
Within Groups	60.642	262	.231		
Total	60.806	263			

Table 4.24 shows that there were no statistically significant differences in the means of first year undergraduates (mean: 3.2) and second year undergraduates (mean: 3.3). On the other hand, according to the key to understand the averages proposed by Oxford (1990) (See page 103), both first and second year undergraduate students reported medium overall strategy use as their means were 3.2 and 3.3 respectively, which indicated that these overall strategies were used "Sometimes".

4.4 The Influence of Achievement Level on the Choice of Language Learning Strategies

In order to determine the relationship between the use of language learning strategy and language performance, the students' language performance was gauged by administering an achievement test on Saudi second year Biology undergraduates which included all the four skills- Listening, Speaking, Reading and Writing (See appendix F).

The SILL was distributed to the same students who took the achievement test. The data obtained from the SILL that measures the student's strategy use in terms of individual, overall and strategy categories was compared with the data obtained from the achievement test.

4.4.1 At the Individual Level

Descriptive statistical analysis of the data obtained from the SILL is summarized in Table E5 (See Appendix E). It illustrates the variation and similarities in the use of strategies at the individual level with regard to proficiency level, their mean scores, level and type.

The results showed that the most frequent individual strategies that were always used by the students with "Excellent" grade were "I pay attention when someone is speaking English", and "I try to find out how to be a better learner of English". Likewise, the students with "Very Good" grade used only one strategy "I try to find out how to be a better learner". On the other hand, the students with "Good" grade did not use any of the strategies "Always" or "Almost always". These findings indicated that paying attention in the classroom and evaluating one's own progress are the most important strategies students need in order to be excellent.

Table E5 (See Appendix E) also shows that the students with "Excellent" grade "Never" used the strategy "I use flashcards to remember new English words", but the students with "Good" grade "Never" used the other strategy "I write down my feelings in a language learning diary". On the contrary, the students with "Very Good" grade "Never" used both of the above strategies employed by the students with "Excellent" grade and the students with "Good" grade.

In summary, the findings indicated that out of the 50 strategies that were included in the SILL, the students with "Good" grade used 19 (38%) strategies (Usually), followed by the students with "Excellent" grade who used 16 (32%) strategies at a high level (i.e. Always or Usually) and finally, the students with "Very Good" grade who used 14 (28%) strategies most frequently (i.e. Always or Usually).

On the other hand, the students with "Excellent" grade used 26 (52%) strategies at a medium level (i.e. Sometimes Used), followed by the students with "Good" grade who used 24 (48%) strategies and finally, the students with "Very Good" grade used 23 (46%) strategies at the medium level.

The students with "Very Good" grade used 13 (26%) strategies least frequently, followed by the students with "Excellent" grade who used 8 (16%) strategies, and then the students with "Good" grade who used 7 (14%) strategies at a low level (i.e. Generally Not Used). Although the strategies that were never used by the undergraduates with "Excellent" and "Good" grades were different, they were still limited in number. On the other hand, the students with "Very Good" grade "Never" used a bigger number of strategies than either the students with "Good" grade or the students with "Excellent" grade. A possible explanation is that the differences in the use of strategies in relation to achievement level are influenced by the quality of the strategies used, not the quantity as it is confirmed by Reiss (1983) cited in Kaylani (1996). She suggests that the difference between successful and unsuccessful language learners is not so much the quantity but the quality of learning strategies used. Successful learners employ strategies that are appropriate to their age, stage of learning and purpose of learning the language.

Based on the analysis of the data obtained from the SILL at the individual item level, Saudi Biology students employed similar strategies in relation to their achievement test except with some strategies. The ANOVA results revealed that there were some significant differences in the use of language learning strategies at the individual level among the students with grades: “Excellent”, “Very Good”, and “Good”. Table 4.25 shows, F values, degree of freedom and significance level for each strategy.

TABLE 4.25

Strategies at the Individual Level Showing Variation by Proficiency Level

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I write notes, messages, letters, or reports in English	Between Groups	7.633	2	3.816	5.530	.006
	Within Groups	37.954	55	.690		
	Total	45.586	57			
When I can't think of a word during a conversation in English, I use gestures	Between Groups	14.844	2	7.422	4.317	.018
	Within Groups	94.553	55	1.719		
	Total	109.397	57			
I make up new words if I do not know the right ones in English	Between Groups	18.163	2	9.082	5.581	.006
	Within Groups	89.492	55	1.627		
	Total	107.655	57			
If I cannot think of an English word, I use a word or phrase that means the same thing	Between Groups	8.546	2	4.273	3.160	.050
	Within Groups	74.368	55	1.352		
	Total	82.914	57			
I try to relax whenever I feel afraid of using English	Between Groups	11.900	2	5.950	3.254	.046
	Within Groups	100.582	55	1.829		
	Total	112.483	57			
I write down my feelings in a language learning diary	Between Groups	4.914	2	2.457	3.283	.045
	Within Groups	41.155	55	.748		
	Total	46.069	57			
	Total	12.901	57			

Table 4.25 shows that there was some significant relationship between the use of individual strategies and proficiency level as the computed F-ratio is more than 3.23. The post-hoc Scheffe test as illustrated in Table 4.26 specifies where significant differences lay.

TABLE 4.26

Strategies at the Individual Level Showing Variation by Proficiency Level – Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
	Achievement Test		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I)	(J)				Lower Bound	Upper Bound
I write notes, messages, letters, or reports in English	Excellent	Very Good	.90(*)	.28	.008	.20	1.59
		Good	.75(*)	.30	.050	1.26E-03	1.49
	Very Good	Excellent	-.90(*)	.28	.008	-1.59	-.20
		Good	-.15	.25	.842	-.79	.49
	Good	Excellent	-.75(*)	.30	.050	-1.49	-1.26E-03
		Very Good	.15	.25	.842	-.49	.79
When I can't think of a word during a conversation in English, I use gestures	Excellent	Very Good	.99	.43	.082	-9.90E-02	2.09
		Good	-3.97E-02	.47	.996	-1.22	1.14
	Very Good	Excellent	-.99	.43	.082	-2.09	9.90E-02
		Good	-1.03(*)	.40	.044	-2.05	-2.27E-02
	Good	Excellent	3.97E-02	.47	.996	-1.14	1.22
		Very Good	1.03(*)	.40	.044	2.27E-02	2.05
I make up new words if I do not know the right ones in English	Excellent	Very Good	1.14(*)	.42	.032	7.90E-02	2.21
		Good	3.17E-02	.45	.998	-1.11	1.18
	Very Good	Excellent	-1.14(*)	.42	.032	-2.21	-7.90E-02
		Good	-1.11(*)	.39	.023	-2.10	-.13
	Good	Excellent	-3.17E-02	.45	.998	-1.18	1.11
		Very Good	1.11(*)	.39	.023	.13	2.10

TABLE 4.26

Strategies at the Individual Level Showing Variation by Proficiency Level – Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
	Achievement Test		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I)	(J)				Lower Bound	Upper Bound
I try to relax whenever I feel afraid of using English	Excellent	Very Good	.31	.45	.784	-.81	1.44
		Good	-.74	.48	.317	-1.95	.47
	Very Good	Excellent	-.31	.45	.784	-1.44	.81
		Good	-1.05(*)	.41	.048	-2.09	-8.04E-03
	Good	Excellent	.74	.48	.317	-.47	1.95
		Very Good	1.05(*)	.41	.048	8.04E-03	2.09
* The mean difference is significant at the .05 level.							

Table 4.26 shows that there were some significant differences between the use of strategies at the individual level and proficiency level. The students with "Excellent" grade reported the use of the strategy "I write notes, messages, letters or reports in English" more than did the students with "Very Good" and "Good" grades. Furthermore, they used the strategy "I make up words if I do not know the right ones in English" more frequently than did the students with "Very Good" grade. Finally, the students with "Good" grade used the following strategies more than did the students with "Very Good" grade: "When I can not think of a word during a conversation in English, I use gestures", "I make up new words if I do not know the right ones in English" and "I try to relax whenever I feel afraid of using English". These findings might indicate that writing notes, messages, letters or reports in English are very important for students in order to be excellent.

4.4.2 At the Category Level

Descriptive statistics reported that students with "Excellent" grade used the compensation strategy category most (mean:3.6), followed by the meta-cognitive strategy category (mean:3.4), the cognitive strategy category (mean:3.2), the social strategy category (mean:3.1), the memory strategy category (mean:3.0) and finally, the affective strategy category (mean:2.9). The low score of the affective strategy category reported by students with "Excellent" grade does not necessarily deemphasize the importance of these strategies to language learning. The infrequent use of these strategies maybe because students are not familiar with paying attention to their own feelings as part of the language learning process.

Likewise, students with "Very Good" grade preferred the same categories of strategies used by the students with "Excellent" grade, in the same order, except for the meta-cognitive strategy category, which was used most frequently by the students with "Very Good" grade. According to the students with "Very Good" grade, the meta-cognitive strategy category (mean: 3.3) was used most frequently, followed by the compensation strategy category (mean: 3.2), then the cognitive (mean: 3.0), next, the social and memory strategy categories (mean: 2.9 for each) and finally, affective strategy category (mean: 2.8) which was used least often.

Like the students with "Excellent" grade, the students with "Good" grade used the compensation strategy category (mean: 3.6) most frequently followed by the meta-cognitive strategy category (mean: 3.4), but they differ in the ranking of other strategy categories such as the social, memory, and affective ones (mean: 3.2 for each) and finally the cognitive strategy category (mean: 3.1) which was used least often. The unpopularity of the cognitive strategy category by students with "Good" grade indicated

that the students were not aware of the importance of certain strategies to language learning such as practice, reasoning, analyzing, summarizing, taking notes, and transferring information.

In general, the compensation and meta-cognitive strategy categories were popular among all the students with different levels of proficiency. It is natural for EFL students to make greater use of compensation strategies as these can help them guess the meaning of what they have heard or read or help them remain in the conversation despite their limited grammatical and vocabulary knowledge. Moreover, EFL students used to take charge of their learning, organizing, planning and evaluating their progress in language learning. The affective strategy category was recorded as the least frequently used except among students with "Good" grade. These students used the cognitive strategy category least often. These results indicated that the students can be excellent even if they could not manage their emotions. On the other hand, they may get a lower grade if they do not use their mental process. Furthermore, both the students with "Excellent" and "Very Good" grades used almost the same strategy categories.

In examining the relationship between proficiency and language learning strategy use, ANOVA was used as illustrated in Table 4.27.

TABLE 4.27

Similarities in the Use of Strategy Categories in Relation to the Achievement Level

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Remembering more effectively	Between Groups	.503	2	.251	1.028	.365
	Within Groups	13.449	55	.245		
	Total	13.952	57			
Using all your mental process	Between Groups	.189	2	9.431E-02	.237	.790
	Within Groups	21.865	55	.398		
	Total	22.054	57			
Compensation for missing knowledge	Between Groups	1.932	2	.966	2.300	.110
	Within Groups	23.107	55	.420		
	Total	25.039	57			
Organizing and evaluating your learning	Between Groups	7.477E-02	2	3.739E-02	.075	.928
	Within Groups	27.566	55	.501		
	Total	27.641	57			
Managing your emotions	Between Groups	2.276	2	1.138	3.002	.058
	Within Groups	20.848	55	.379		
	Total	23.125	57			
Learning with others	Between Groups	.763	2	.381	.655	.523
	Within Groups	32.017	55	.582		
	Total	32.780	57			

Table 4.27 shows no significant differences in the use of strategy categories and students' English language achievement level. The computed F-ratio is less than 3.23. Thus, it is statistically insignificant.

4.4.3 Overall Strategy Use

The analysis of the data obtained from the SILL, and the students' results in the English language achievement test, revealed that Saudi undergraduates employed similar overall strategy, with regard to differences in the English language achievement levels, as illustrated in Table 4.28.

TABLE 4.28

Similarities in the Overall Strategy Use in Relation to Achievement Level

ANOVA Overall					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.642	2	.321	1.441	.246
Within Groups	12.259	55	.223		
Total	12.901	57			

Table 4.28 shows no significance differences between the overall strategy use and proficiency level. Furthermore, according to the key to understand the averages proposed by Oxford (1990) (See page 103), students reported medium use of overall strategy with regard to differences in the achievement level. Thus, the findings may indicate that the relationship between overall strategy use and achievement level was influenced by the quality of the strategies and not the quantity.

4.5 The Language Learning Strategies Associated With the Four Language Skills

This section discusses the language learning strategies that were associated with each of the four language skills. The data obtained from the observation by the use of observation scale is shown in Table 4.29. This observation scale lists the frequencies

and percentages of each strategy used by EFL students with each of the four language components, listening, speaking, reading and writing.

TABLE 4.29

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	Memory strategy category: 14.50%								
1	I think of relationships between what I already know and new things I learn in English					3	2.29	3	2.29
2	I use new English words in a sentence so I can remember them							10	7.63
3	I connect the sound of a new English word and an image or picture of the word to help me remember the word								
4	I remember a new English word by making a mental picture of a situation in which the word might be used			3	2.29				
5	I use rhymes to remember new English words								
6	I use flashcards to remember new English words								
7	I physically act out								

TABLE 4.29

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	new English words								
8	I review English lessons often								
9	I remember new English words or phrases by remembering their location on the page or on a board.								
	Cognitive strategy category: 22.14%								
10	I say or write new English words several times			3	2.29			5	7.63
11	I try to talk like native English speakers								
12	I practise the sounds of English.								
13	I use the English words I know in different ways								
14	I start conversations in English			4	3.05				
15	I write paragraphs, notes, letters, or reports in English					4	3.05		
16	I first skim an English passage (read over the passage quickly) then go back and read carefully							3	2.29

TABLE 4.29

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
17	I look for words in my own language that are similar to new words in English								
18	I try to find patterns in English			4	3.05				
19	I find the meaning of an English word by dividing it into parts that I understand								
20	I translate word-for-word								
21	I make summaries of information and analyse expressions	3	2.29					3	2.29
	Compensation strategy category: 30.53%								
22	To understand unfamiliar English words, I make guesses	2	1.53					10	7.63
23	When I can't think of a word during a conversation in English, I use gestures			5	3.82				
24	I make up new words if I do not know the right ones in English			5	3.82	4	3.05		
25	I read English with								

TABLE 4.29

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	looking up every new word								
26	I try to guess what the other person will say next in English	1	0.76					4	3.05
27	If I cannot think of an English word, I use a word or phrase that means the same thing			5	3.82	4	3.05		
	Meta-cognitive strategy category: 19.08%								
28	I try to find as many ways as I can to use my English								
29	I notice my English mistakes and use that information to help me do better					3	2.29		
30	I pay attention when someone is speaking English	6	4.58	6	4.58	3	2.29	7	5.34
31	I look for people I can talk to in English								
	Social strategy category: 13.74%								
32	If I do not understand something in English, I ask the other person to slow down or say it again	3	2.29	2	1.53				

TABLE 4.29

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
33	I ask English speakers to correct me when I talk								
34	I practise English with other students			4	3.05			4	3.05
35	I ask for help from English speakers					2	1.53		
36	I ask questions in English.			1	0.76	1	0.76	1	0.76
37	I try to learn about the culture of English speakers								
	Total 131=100%	**15**	**11.45**	**42**	**32.06**	**24**	**18.32**	**50**	**38.17**

4.5.1 Listening Strategies in Foreign Language Acquisition

EFL students used the following variety of listening strategies (for examples of classroom activities that include the use of these strategies see Appendix D):

1. The cognitive strategy of "Creating structure for input and output" was used by summarizing information students hear in English, analyzing expressions and reasoning.
2. The meta-cognitive strategy of "Centring learning" was used by paying attention.
3. The compensation strategy of "Guessing intelligently" was used by using linguistic and other clues to understand unfamiliar English words, and to know what the other person will say next in English.

4. The social strategy of “Asking questions” was used by asking for clarification or verification.

The data based on the observation indicated that the strategy used most frequently with the listening skill was to pay attention when someone is speaking in English 6 (4.58%). The data based on the SILL supports this finding as students reported that they used this strategy at a high level. This result is realistic as students have to pay a lot of attention to understand any listening practice; they need to listen more carefully to be able to differentiate the pronunciation of words, stresses, accents and labels.

4.5.2 Speaking Strategies in Foreign Language Acquisition

EFL students used the following variety of speaking strategies (for examples of classroom activities that include the use of these strategies see Appendix D):

1. The cognitive strategy of “Practising” in English was used by recognizing, using formulas and patterns and by repeating.
2. The meta-cognitive strategy of “Centring learning” was used by paying attention.
3. The compensation strategy of “Overcoming limitations in speaking” was employed by using gestures, coining words and using a circumlocution or synonym.
4. The social strategies of “Asking questions” and “Cooperating with others” were used by asking for clarification or verification, and by cooperating with peers.
5. The memory strategy of “Creating mental linkages” was used by associating and elaborating.

The data based on the observation revealed that the strategies most frequently used with the speaking skill were “I pay attention when someone is speaking English” 6 (4.58%), “If I cannot think of an English word, I use a word or phrase that means the same thing” 5 (3.82%), “When I cannot think of a word during a conversation in English I use gestures” 5 (3.82%), “I make up new words if I do not know the right ones in English” 5 (3.82%). The data obtained from the SILL yielded the same results as all of the strategies above were used at a high level except the last one, “Making up words” which was used at a medium level. In addition, the data obtained from the interviews also yielded the same results as all of the 16 (100%) first year students used words or phrases that have the same meaning when they did not remember a word while speaking and they used a lot of gestures as well. Thus, consciousness is important in learning English as a foreign language, students have to pay a lot of attention in order to learn how to speak. Furthermore, the extensive use of gestures by first year students means that a lot of effort is needed to develop the students’ vocabulary, so that they may reduce the use of this strategy.

4.5.3 Writing Strategies in Foreign Language Acquisition

EFL students used the following variety of writing strategies (for examples of classroom activities that include the use of these strategies see Appendix D):

1. The cognitive strategy of “Practising” was used by writing guided paragraphs, notes, or reports in English.
2. The meta-cognitive strategies of “Evaluating learning” and “Centring learning” were used by self evaluating and paying attention.
3. The compensation strategy of “Overcoming limitations in writing” was used by coining words and using a circumlocution or synonym.

4. The social strategies of “Asking questions” and “Cooperating with others” were used by asking questions for clarification and cooperating with proficient users of the new language.
5. The memory strategy of “Creating mental linkage” was used by associating and elaborating.

The data based on the observation indicated that the strategies most frequently used with the writing skill were: “I write guided notes, and reports in English” 4 (3.05%), “I make up new words if I do not know the right ones in English” 4 (3.05%), and “If I cannot think of an English word, I use a word or phrase that means the same thing” 4 (3.05%). The data based on the SILL indicated that first year students used the strategy of “Writing notes, messages or reports in English” at a low level. This result may be due to the use of this strategy with the writing skill only. On the other hand, both of the other two strategies “Making up words” and “Using words or phrases that mean the same thing” were used by first year students in both writing and speaking skills. “Making up words” was used at a medium level while “Using words or phrases that mean the same thing” was used at a high level. These findings are convincing as students have to produce the target language in writing and speaking, so they need to make up words and use words or phrases that mean the same thing.

4.5.4 Reading Strategies in Foreign Language Acquisition

EFL students used the following variety of reading strategies (for examples of classroom activities that include the use of these strategies see Appendix D):

1. The cognitive strategy of “Practicing” was used by repeating, getting the idea quickly by skimming and scanning, creating structure for input and output by

summarizing and finally cognitive strategies were used by analysing expressions.

2. The meta-cognitive strategy of "Centring learning" was used by paying attention.
3. The compensation strategy of "Guessing intelligently" was used by using linguistic and other clues.
4. The social strategies of "Asking questions" and "Cooperating with others" were used by asking questions for clarification or verification and by cooperating with peers.
5. The memory strategy of "Creating mental linkages" was used by placing new words into a context" and reviewing well.

Finally, the data obtained from the observation revealed that the strategies most frequently used with reading were "Making guesses to understand unfamiliar words" 12 (9.16%) and "Using English words in sentences to remember them" 10 (7.63%). These strategies received medium use by first year students based on the data obtained from the SILL. On the other hand, the data obtained from the interviews revealed that 15 (93.8%) out of 16 students used the strategy of "Repetition" to memorize new English words and only 1 (6.3%) student used rhymes. This might indicate that students were encouraged to use words in sentences in the classrooms, but when they study by themselves, they use the strategy of "Repetition".

In general, the data obtained from the observation revealed that first year students used the strategy of "Paying attention when someone is speaking English" with all the skills and most frequently with reading. These findings are supported by the SILL data which indicated that first year students used this strategy at a high level. These findings give an

implication that consciousness is important in learning a foreign language, and in using the strategies. The data obtained from the SILL indicated that first year students used the following strategies at a medium level: “To understand unfamiliar English words I make guesses” and “I use new English words in a sentence so I can remember them”. The data based on the observation revealed that first year students used them most frequently and especially with the reading skill. This means that the students were encouraged to guess the meaning of unfamiliar words in the classroom. This can help them refrain from turning to the dictionary immediately when they are stuck with some difficult words in reading and other skills. First year students practised using new words in sentences to remember them and not in isolation. They were trained to use the language communicatively.

According to the data obtained from the observation, two other strategies were used most frequently: “I make up new words if I do not know the right one in English” 9 (6.87%), and “If I cannot think of an English word, I use a word or phrase that means the same thing” 9 (6.87%). These two strategies were used more frequently with speaking than with writing. The data obtained from the SILL and interviews yielded the same results in that first year students always try to compensate obstacles to communication by using words or phrases that have the same meaning, but they differ in that students sometimes make up new words if they were stuck with difficult words.

The data based on the observation revealed that first year students used the following strategies least frequently: “I ask for help from English speakers” 2 (1.53%), which was used with the writing skill only, “I ask questions in English” 3 (2.29%) which was used with all the skills equally except listening, the strategy of “ I remember a new English word by making a mental picture of a situation in which the word might be used”

3 (2.29%), which was used with the speaking skill only; “I notice my English mistakes and use that information to help me do better” 3 (2.29%)which was used with the writing skill only. The data based on the SILL revealed that first year students used the same above strategies at a medium level, except the strategy of “Using mistakes to do better”, which was used at a high level. These differences may be because some of the strategies were unobservable ones such as: “Making a mental picture of a situation”, and, “Using own mistakes to do better”.

Moreover, most of the strategies observed were used with the reading skill 50 (38.17%), followed by the speaking 42 (32.06%), then the writing 24 (18.32%) and finally the listening 15 (11.45%). These findings indicated that the students should be trained to use as many of the strategies as possible to improve their reading and speaking skills. However, the writing and speaking skills may require the use of several mental strategies that cannot be observed.

In summary, this section focuses on identifying and diagnosing first year students’ strategies and their application to the four language skills. The observation technique was used as an instrument to collect the data supplemented with the SILL and interviews. However, class observations yielded limited information about the use of learning strategies because classes tended to be teacher directed and students had few opportunities to engage in active learning with observable strategies. Generally, there were some specific strategies used with each skill; furthermore, there were some general strategies used by the EFL learners with all skills. The following chapter will discuss the major findings generated from the data analysis and will suggest areas for further research.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.0 Overview

This chapter presents a discussion of the results of the study in relation to previous studies of the same nature and draws conclusion from the study undertaken. The study specified the English language learning strategies used by female EFL undergraduate students. It also investigated the relationship of language learning strategies with two variables: major field of study and performance level in the English language, and these will be discussed in detail below. Finally, the study yielded information about strategies used in each of the four skills; listening, speaking, reading, and writing.

As such the findings provided answers to research questions 1, 2, 3 and 4 and are divided into the following four components:

1. Description of the EFL learning strategies.
2. The influence of major field of study on the choice of language learning strategies.
3. The influence of the performance level in the English language on the choice of language learning strategies.
4. The language learning strategies associated with the four language skills.

5.1 Description of the EFL Learning Strategies Used by Female Undergraduates

Research Question 1: Of the fifty learning strategies outlined under the Strategy Inventory for Language Learning (Oxford, 1990), which are the main strategies used by female EFL undergraduates?

EFL students employed a variety of language learning strategies with some strategies utilized more frequently than others. That variety of language learning strategies has been specified and is divided under the following three headings:

1. At the individual level.
2. At the category level.
3. Overall strategy use.

5.1.1 At the Individual Level

The data obtained from the SILL and interviews indicated that language learning, according to EFL students depends mostly upon meta-cognitive strategies. Students take responsibility for their learning themselves. They may have an urgent need in learning English as it is necessary for their career. They plan their learning activity in advance, manipulate the incoming information in a way that enhances learning, and check how well they learn by self evaluation.

This is in line with Krashen's theory of learning as a conscious process, whereby the EFL learners in this study showed that they depend on conscious attention to the learning process. They listen to people speaking English, learn from their mistakes and seize every opportunity to use the language. On the other hand, in support of the behaviouristic approach, which emphasizes that language learning is a process of habit formation and repetition, EFL students indicated that they practise the language through repetition and imitation of native speakers' speech. Furthermore, EFL students develop comprehension by using skimming and scanning strategies. They rely on their first language to understand the second language, look for words in their first language that are similar to new words in English, and divide long words into parts they understand. However, according to the proponents of the Direct Method, using an approach which

makes few references to students' native language is preferable; the use of mother tongue prevents the learner from thinking in English and spoils the students' fluency of speech. The EFL undergraduates are communicative learners in that they like to learn the language by watching English shows spoken in English.

Furthermore, language learning, according to EFL students depends upon mental effort by the learner. The data revealed that EFL students remember words by connecting the sound of a new English word to an image or picture of the word, or by remembering their locations on the page or on the board. They are able to recall the word by seeing it and often reflecting their first encounter with it. Consequently, EFL students must have written directions if they are to function well in the classroom.

Compensation and affective strategies received equal attention by the EFL learners. They use compensation strategies to overcome obstacles to communication. They use an alternative form of expression for the intended meaning. They rely on the second language resources to get the meaning across without falling back on the first language. They make intelligent guesses and finally, they use gestures if they could not think of a word during a conversation. The EFL learners are aware of the importance of using affective strategies in the process of language learning. They manage their emotions by lowering their anxiety through using physical relaxation techniques. Also EFL students keep their spirits up as they try to comprehend and produce the language by taking risks wisely even if they are afraid of making mistakes.

Finally, as the EFL learners are motivated to learn a second language, they use the social strategy of learning through communication and social interaction with others by asking others to slow down or repeat something when they do not understand it.

The findings support the results of the study conducted by Green and Oxford (1995) which state that female undergraduates use the following strategies significantly:

1. Review English lessons often. (Memory)
2. Connect words and locations. (Memory)
3. Skim, and then read carefully. (Cognitive)
4. Seek first language words similar to second language words.(Cognitive)
5. Make summaries of information. (Cognitive)
6. Use gestures when stuck for a word. (Compensation)
7. Try to find out about language learning. (Meta-cognitive)
8. Think about their progress in learning.(Meta-cognitive)
9. Notice when they are tense or nervous. (Affective)
10. Ask other person to slow down or repeat. (Social)

Likewise the findings of the present study also support Ehrman and Oxford (1989) results. They reported that females showed a significant advantage for four sets of strategies:

1. General strategies: previewing lessons, skimming the reading passage before reading in detail, and checking one's own performance.
2. Authentic language use: seeking native speakers with whom to talk.
3. Searching for and communicating meaning: guessing when complete information is not available and finding alternative ways to express meaning.
4. Self-management strategies: correcting own written errors, encouraging oneself, considering one's own progress, planning for future language tasks and identifying goals.

On the other hand, results of the present study contradict the findings presented by Green and Oxford (1995) which say that female undergraduates use the following strategies at a high level "Use flashcards to remember new words", "Give self reward for doing well", "Ask to be corrected when talking" and "Ask for help from English speakers". The present study showed that these strategies were used at a medium or low level by the female EFL undergraduates. This might be due to the seriousness of Saudi female students in learning a new language; they may feel that using flashcards is a waste of time. They also do not ask to be corrected when talking maybe because they feel that they are not fluent in speaking English due to the EFL environment, or they may feel that error correction interferes with communication. The idea of giving oneself a reward for doing well was not considered by the students. However, it could have a positive impact on the course of their language learning (Oxford, 1990). Thus, a lot of attention should be paid to encourage Saudi female students to learn English with a sense of fun and to practise speaking English more. Furthermore, the strategy of "Watch TV shows spoken in English" which was used least often by females according to Green and Oxford (1995) was used at a high level in the present study. An explanation to this result maybe because of the local customs in Saudi Arabia as most Saudis, especially the females, spend their leisure time at home. Consequently, females have a good opportunity of watching TV shows spoken in English which may help in being successful learners (Green and Oxford, 1995).

Furthermore, the findings do not support the results presented by Ehrman and Oxford (1989) which say that EFL students use the following strategies significantly: "Initiating conversations in the new language", and "Reading authentic, natural texts". The findings of the present study seem realistic, as Saudi students face difficulty in speaking fluently, as well as in reading authentic text; therefore, they usually do not initiate

conversations in English, and prefer to read simplified versions of the story rather than to read the original genuine material. Again, extra effort is needed to improve the students' ability to read authentic texts that could develop their communicative competence.

In general, the most frequent individual strategies used were cognitive and meta-cognitive strategies, followed by compensation and affective strategies, then, memory strategies and finally social strategies. The strategies used at a low level were memory and affective ones. It is clear that EFL students in this study realize how essential it is to practise. They prefer to learn by reasoning and analyzing. They supervise and manage their language learning; they control their own cognition by planning what they want to do, by checking how the planning is going and then by evaluating how it went. These findings contradict results reported by O'Malley and Chamot (1990) which indicate that foreign language students at all levels reported using far more cognitive strategies than meta-cognitive ones. The results of the present study also contradict the findings of Touba (1992) cited in Oxford (1996) who illustrates that EFL learners reported far more meta-cognitive and memory strategies than cognitive ones. The results support the findings of a study conducted on ESL students by Oxford, Talbott and Halleck (1990) which state that ESL students use social, meta-cognitive, cognitive and compensation strategies highly. Furthermore, the findings of the present study support the findings of Ai (1996) who states that the most common strategies used by ESL students were cognitive ones, but they differ in the use of meta-cognitive strategies as ESL students used them least often, whereas, EFL students used them most frequently. Finally, the findings of the present study support Mingyuan's (2000) finding on ESL students that says memory strategies were used least often. In general, it is apparent that cognitive

and meta-cognitive strategies are typically found to be the most popular strategies with EFL language learners.

5.1.2 At the Category Level

The data revealed that EFL students used the meta-cognitive strategy category at a high level. This indicated that EFL students learn best by "Organizing and evaluating their learning" all of the rest of categories received nearly equal attention. Thus, EFL students are able to use greater meta-cognitive control over their learning. They are very organized. They set realistic goals for themselves and make plans for their learning in terms of time and materials.

The above findings contradict the findings of Yang (1996). She investigated the learning strategies of 68 EFL undergraduates and found that students commonly used the compensation strategy category most often, followed by affective, then meta-cognitive and finally the memory strategy category received the least attention. It is realistic to find EFL students using a lot of compensation strategies to overcome the breakdown in communication due to their limited exposure to the English language, but at the same time, as the EFL students in the present study are very motivated to learn the English language; this motivation encourages them to use a lot of meta-cognitive strategies to plan and organize their learning well.

Finally, Kaylani (1996) added that male students used fewer categories of strategies than females. However, the present study is unable to further comment on this since its sample is confined to females only. Thus a further research is suggested on this area.

5.1.3 Overall Strategy Use

The female EFL undergraduate students in the present study reported medium overall strategy use. Therefore, there is an urgent need to implement a learning strategy instruction that has a powerful impact on language learning. Students should be informed about the ways of using strategies in several language tasks and how to transfer strategies from task to task.

5.2 The Influence of Major Field of Study on the Choice of Language Learning Strategies

Research Question 2: Does the female EFL undergraduates' major field of study influence their choice of language learning strategies?

5.2.1 At the Individual Level

Analysis of the responses in the SILL and the interviews was able to specify the English language learning strategies used by the female EFL undergraduates in the four major fields of study: Medicine, English language, Biology, and Computer Science.

The findings showed that students in all major fields of study mentioned use the following strategies at a high level. However, Biology majors reported using them less frequently than the others but still they are used at a high level.

1. They connect the sound with an image or picture. (Memory)
2. They connect the words and locations. (Memory)
3. They repeat the new words several times. (Cognitive)
4. They skim, and then read carefully. (Cognitive)

5. They find words in the first language that are similar to new words in English. (Cognitive)
6. They divide long words into parts they understand. (Cognitive)
7. They use words or phrases that have the same meanings. (Compensation)
8. They learn from their mistakes. (Meta-cognitive)
9. They pay attention to English speech. (Meta-cognitive)
10. They think of their progress in learning English. (Meta-cognitive)
11. They share their feelings about language learning with peers.(Affective)
12. They ask other people to slow down or repeat. (Social)

Results also showed that the most frequent individual strategies that were used by Medical and English majors were "I try to find out how to be a better learner of English", "I pay attention when someone is speaking English" and "I think about my progress in learning English". Although Biology majors reported using the first two strategies that were employed by Medical and English majors; "I try to find out how to be a better learner of English" and "I pay attention when someone is speaking English", less frequently, they still however used them at a high level. On the other hand, Computer Science majors used only the strategy of "I pay attention when someone is speaking English" most frequently. In other words, the Medical and English majors know well how to regulate their learning by planning, monitoring and evaluating their learning activities. These findings are convincing to the researcher as both of the Medical and English majors may be accustomed to employing these strategies in their study, as they take extensive theoretical courses that require a great deal of planning and preparation, while Computer Science students take many practical courses that need less planning and preparation. Thus it is easy for Medical majors to transfer the use of meta-cognitive strategies to learning English.

On the other hand, the findings showed that the students in all major fields of study reported low use of the strategy "I use flashcards to remember new English words". Perhaps students may feel that using flashcards is only suitable for children, but Oxford (1990) discusses their positive impact on language learning.

Furthermore, English majors reported the least frequently used strategies of "I use rhymes to remember new English words", "I physically act out new English words", and "I write down my feelings in a language learning diary". In other words, English majors learn new vocabulary by "Repetition". They generally do not like to learn by having fun such as using rhymes or physically acting out new English words. However, a pleasant environment can reduce anxiety and thus leads to second language acquisition (Krashen, 1982).

Furthermore, as the medium of instruction in the Biology Department is Arabic, students are not so motivated to learn English or make an effort to use it outside the classroom. They generally do not read English for pleasure or practise the English language. They are not anxious to know about the culture of English speakers, or write their feelings in a language learning diary. Although, writing notes, messages or reports in English and making summaries are very important in the development of writing skill, Biology majors reported using these strategies at a low level.

Similarly, Computer Science students used some strategies at a low level. The researcher believes that the low level in the use of some strategies could be attributed to the students' busy timetable and the length of time students spend in front of the computer. They generally do not use fun in memorizing new English words such as using rhymes or physically acting out new English words rather, they use association

and repetition. They do not like to write their feelings in a language learning diary rather, they discuss their feelings with their friends. They do not read for pleasure in English and do not even like to know about the culture of English speakers. They do not have the courage to start a conversation in English and they are not encouraged to find patterns in English. Finally, if they are stuck with some words, they generally do not make up words rather, they use a word that means the same.

In general, besides the qualitative differences in the use of individual strategies with regard to major field of study, there were significant quantitative differences. Medical students reported the use of 8 (16%) strategies more frequently than the students in all the other majors. On the other hand, they reported the use of 25 (50%) strategies more frequently than Biology students and 11 (22%) strategies more often than Computer Science students and only 1 (2%) strategy was used more frequently than English majors.

Also, English Language students showed some significant variation in the use of individual strategies and major field of study. They reported the use of 17 (34%) strategies more frequently than the Biology and 7 (14%) strategies more often than the Computer Science and only 1 (2%) strategy was used more frequently than Medical majors.

Similarly, to a certain extent, Biology and Computer Science students reported some variation in the use of strategies and major field of study. Biology students used 6 (12%) strategies more frequently than Computer Science students and vice versa. They both used one strategy more often than English majors and finally Biology students reported the use of 1 (2%) strategy more frequently than Medical students.

5.2.2 At the Category Level

Medical majors reported the highest use of the meta-cognitive strategy category, followed by the cognitive one, then, the memory, affective and social strategy categories which received equal attention and finally the compensating strategy category that was used least often. These results revealed that Medical students tend to learn English through focusing, planning and evaluating their learning. They are motivated as they have urgent needs in English because of professional reasons. They consider practising, analysing, reasoning and summarizing as essential in learning English. They strive to reach acceptable proficiency. Medical students are used to employ memory strategies to remember a large amount of new terminologies necessary for their career as doctors; consequently, transferring the use of these strategies in learning English is easy for them. They are good learners. They do not find a need to use compensating strategies to overcome limitations in the comprehension or production of the English language.

Similarly, English majors used the meta-cognitive strategy category most often, followed by the cognitive, then the compensating, next both the affective and social strategy categories, which received equal attention and finally, the memory strategy category that was used least often. Like Medical students, English majors know well how to organize their learning and evaluate it. They learn by practising. They tend to reason out the new language. They construct a formal model in their minds based on analysis and comparison; they create general rules and revise those rules when new information is available. This process of generating rules is extremely valuable. Although memory strategies can be powerful contributions to language learning, English Language students rarely reported using these strategies; it might be that students are unaware of how often they actually employ memory strategies.

On the other hand, Biology students used the compensating strategy category most often, followed by the meta-cognitive, then the cognitive, next both the memory and social strategy categories which received equal attention and finally the affective strategy category that was used least often. The extensive use of the compensation strategy category by Biology students is due to the low scoring required in the enrolment in the Biology Department. So, students usually are somehow not so successful in English language learning. The affective factors related to foreign language learning are emotions, self-esteem, empathy, anxiety, attitude and motivation. These affective factors are one of the most important influences on students' language learning success or failure. The limited use of the affective strategy category by Biology students is likely due to the fact that the language of instruction in this department is Arabic. Biology students are therefore not so motivated to learn the English language.

Finally, Computer Science students used the meta-cognitive strategy category most frequently, followed by the cognitive, social and compensating strategy categories that received equal attention, then the affective strategy category and finally the memory strategy category that was used least frequently. The findings revealed that Computer Science students learn by organizing, evaluating and planning their learning. They are similar to the Medical and English majors in that they all consider cognitive strategies as essential in learning a new language. Again, the memory strategy category is rarely used. It might be that Computer Science students simply do not use memory strategies very much in their study as most of them are literate in using computer and most of the computer terminologies are known to them. Thus, it is not easy for them to start using these memory strategies in learning English.

In sum, there were some differences in the use of strategy categories and major field of study. Although, Medical, English and Computer Science majors reported the highest use of the meta-cognitive strategy category, Biology majors reported the use of the compensating strategy category as highest. Both Medical and English Language students used the cognitive strategy categories "Using all your mental processes" and the meta-cognitive strategy category of "Organizing and evaluating your learning" more than students in the other major fields of study. The use of more cognitive and meta-cognitive strategy categories by the Medical and English majors may show that students in these departments are responsible for their learning, they are aware of the importance of self organization, deep processing, forming and revising the internal models in order to receive and produce the language. Furthermore, Medical students used the memory strategy category "Remembering more effectively" more than the students in all the other major fields of study. Also, they used the social strategy category "Learning with others" more than Biology students. Finally, Biology students used the compensation strategy category "Compensating for missing knowledge" more than Computer Science students.

These findings appear to be in accordance with Dai (1989) results as there are some variation in the use of the meta-cognitive strategy category between English majors and other major fields of study such as Computer Science and Biology majors.

Furthermore, the findings are consistent with the results of Touba (1992) who provided evidence that English majors used meta-cognitive strategies most frequently, but they differed in the use of memory and cognitive strategies as some used them most frequently and others used them least often. An explanation might be that students are unaware of how often they actually do employ these strategies.

5.2.3 Overall Strategy Use

Medical students reported the highest overall strategy use, followed by English majors, and the least frequently overall strategy use was reported by Computer Science and Biology majors. The findings indicated that Medical students develop many strategies to a high level themselves in order to cope with their studies. As Medical students were the best in learning the English language in the University, one of the factors that may have a positive impact on the course of the students' language learning behaviour is perhaps using this large number of strategies. On the other hand, Biology and Computer Science students reported the least frequent use of strategies. It might be that studying in the Biology and Computer Science Departments do not require operating many strategies such as studying in the Medical or the English language Departments. Thus students cannot transfer the use of strategies to learning English as they are not accustomed to using them in their study. In general, training students to employ a wide range of strategies may help them become more conscious of strategy use and more adept at employing appropriate strategies.

5.3 The Influence of Performance Level on the Choice of Language Learning Strategies

Research Question 3: Does the female EFL undergraduates' performance level in the English language influence their choice of language learning strategies?

Two types of analyses were used to determine the relationship between the use of language learning strategies and language performance:

1. The influence of year level on the choice of language learning strategies.
2. The influence of achievement level on the choice of language learning strategies.

5.3.1 The Influence of Year Level on the Choice of Language Learning Strategies

5.3.1.1 At the Individual Level

The findings obtained from the SILL and interviews indicated that both first and second year undergraduate students used the following strategies at a high frequency level:

1. Connect the sound with an image or picture. (Memory)
2. Connect words and locations. (Memory)
3. Repeat new words several times. (Cognitive)
4. Imitate native speakers' speech. (Cognitive)
5. Skim before reading carefully. (Cognitive)
6. Connect new words in second language with similar words in the first language. (Cognitive)
7. Divide long words into parts that they understand. (Cognitive)
8. Use gestures when stuck for a word. (Compensation)
9. Make up new words that have the same meaning. (Compensation)
10. Learn from their mistakes. (Meta-cognitive)
11. Pay attention to English speech. (Meta-cognitive)
12. Think of their progress in learning English. (Meta-cognitive)
13. Have clear goals for improving English skills. (Meta-cognitive)
14. Relax when they are afraid of using English. (Affective)
15. Encourage themselves to speak English. (Affective)
16. Share their feelings about language learning with their friends. (Affective)
17. Ask other person to slow down or repeat. (Social)

Thus, results showed that both first and second year students are visually oriented as they make mental images to help them remember words or help them connect words with locations. They can recall the word when they see it and always think back to the first encounter with it. With reference to the behaviouristic learning theory, the findings indicated that both first and second year students learn the language through a process of repetition; thus using the pattern drill activity is required. In order to become proficient speakers of the English language, the students try to speak like native speakers. In reading and listening comprehension, both first and second year students tend to get the idea quickly by taking the top-down approach. Getting the general message before going into all the details is an important strategy to develop comprehension (Jordan, 1997). In addition, the students always look for Arabic equivalents when they learn new English words. However, using an approach that makes few references to their native language is perhaps more preferable. Both first and second year students try to compensate for limitations in speaking by using gestures; they enjoy face to face communication to help them get their message across. This indicated that the students' vocabulary should be enhanced so that they do not have to resort to the use of gestures too much. They also make up words to overcome limitations in speaking and writing. Making up words indicates that the students are capable of developing a strategy to get their message across even at the risk of making errors. This strategy is used to keep the flow of the conversation going rather than hesitating while looking for the right words and thus slowing down communication.

Both first and second year students showed that they are meta-cognitive strategy users. They take responsibility for their learning themselves because they may have urgent needs in learning English, due to the demands of their profession. So they organize and plan their learning by paying attention and delaying speech production to focus on

listening. They set goals and objectives for improving their English skills. Both first and second year students know how to control their emotions and attitudes about language learning. They lower their anxiety through using physical relaxation techniques. They encourage themselves to speak English even when they are afraid of making mistakes. The first and second year students are aware of their feelings and discuss them with other students. However, the use of all of these affective strategies could have a positive impact on the course of their language learning. Low anxiety appears to be conducive to second language acquisition (Krashen, 1982). Finally, cooperating with other people is essential in language learning, both first and second year students never hesitate to ask their teacher to slow down or repeat when they do not understand. This social strategy is very helpful to the students in getting closer to the intended meaning and thus aids comprehension; it also indicates interest and involvement (Oxford, 1990).

On the other hand, second year students used other strategies at a high level:

1. Connect new knowledge with previous one. (Memory)
2. Connect a word with a mental picture of a situation in which the word might be used.(Memory)
3. Learn by watching TV shows spoken in English. (Cognitive)
4. Try to find patterns in English. (Cognitive)
5. Use their English in different ways. (Cognitive)
6. Make guesses.(Compensation)
7. Make up words.(Compensation)

In other words, second year students interact with the material to be learned by manipulating it mentally. They make relationship between what they already know and new things in English. They also make mental images to help them remember words.

They invest their free time by using a useful strategy to develop both comprehension and productions, such as watching English films. Analyzing and reasoning strategies are used by second year students. They feel secure when certain patterns can be found. Second year students are aware of how important it is to use the English language. They appreciate such type of activities. Finally, second year students use the strategy of guessing intelligently in reading and listening. The use of this strategy is probably more effective in understanding the meaning of any message. In order to overcome limitations in speaking and writing, second year students make up words to get their message across. They feel it is more important to keep the flow of conversation going rather than to hesitate while looking for the right words.

The above findings support the results of O'Malley and Chamot (1990) in stating that intermediate level students relied most on inferencing; on the other hand, they differ in reporting that students at the beginner level relied most on repetition. According to the findings of the present study, both first and second year students used repetition at a high level. Although the strategy of repetition might not sound creative, it can still be used in innovative ways with other tactics such as clustering and concept maps and can always include some degree of meaningful understanding.

Results showed that first year EFL students used cognitive strategies most, followed by meta-cognitive, next, affective, then compensation as well as memory and finally social. On the other hand, second year EFL students reported the highest use of cognitive strategies, followed by compensation, as well as meta-cognitive, next memory then affective and finally, the least frequently used strategies were the social ones.

In general, most of the strategies used by both levels were the cognitive ones. These findings were supported by O'Malley et al. (1985). On the other hand, the least frequently used strategies were the social ones and these findings again were supported by O'Malley and Chamot (1990). Furthermore, EFL second year students reported greater use of cognitive, compensation, and memory strategies than first year students. These findings contradict O'Malley et al.'s (1985) who provided evidence that intermediate level students use meta-cognitive strategies more than beginner level students. This difference in the findings of the present study and O'Malley et al.'s in the use of meta-cognitive strategies can be attributed to the increased motivation to learn English nowadays. This motivation encourages both first and second year students, in the present study, to plan, monitor and evaluate language learning in order to become successful learners.

5.3.1.2 At the Category Level

The data obtained from the SILL reported that both first and second year EFL students used the meta-cognitive strategy category at a high level. This indicated that both first and second year students take responsibilities for their learning themselves. They are responsible for much of the planning, organizing and evaluating of their learning process. They use meta-cognitive strategies effectively and independently because they know that these strategies play an essential role in the process of their learning. Furthermore, second year students used another strategy category at a high level which was "Compensating for missing knowledge". This might be due to the great exposure to the English language. Students compensate for limitations in speaking and writing by developing certain strategies to get their message across.

In general, second year students used the strategy categories more frequently than first year students, and this finding is supported by Green and Oxford (1995) who provided evidence that pre-basic students used compensation, meta-cognitive, and social strategy groups less than intermediate or basic students.

5.3.1.3 Overall Strategy Use

The findings reported that there were no differences in the overall strategy use between first and second year EFL students; both used the overall strategy at a medium level. This indicated that there is a need to raise the students' awareness of the use of different strategies and train them to be independent learners.

5.3.2 The Influence of Achievement Level on the Choice of Language Learning Strategies

5.3.2.1 At the Individual Level

In examining the relationship between the use of language learning strategies and students' achievement level, results indicated that there were some significant differences at the individual item level.

Students with "Excellent" grade reported the use of the following strategies at a high level:

1. Connect the sound with an image or picture. (Memory)
2. Connect words and locations. (Memory)
3. Try to talk like native speakers. (Cognitive)
4. Skim before reading carefully. (Cognitive)
5. Divide long words into parts they understand. (Cognitive)

6. Try not to translate word-for-word. (Cognitive)
7. Make guesses. (Compensation)
8. Use gestures when stuck for a word. (Compensation)
9. Make up new words. (Compensation)
10. Use other words that mean the same. (Compensation)
11. Learn from their mistakes. (Meta-cognitive)
12. Pay attention to English speech. (Meta-cognitive)
13. Think about their progress in learning English. (Meta-cognitive)
14. Share their feelings with their friends about learning English. (Affective)
15. Ask other persons to slow down or repeat. (Social)

In other words, students in the higher proficiency group use different strategies than those in the lower proficiency one. They find that certain strategies are not helpful in learning English. In order to facilitate storage and retrieval of information, students with "Excellent" grade divide long words into parts they understand. They generate images and connect them to a sound or connect words and locations. They believe that they should speak like native speakers to be efficient learners. In learning reading and listening, students with "Excellent" grade use the top down approach which focuses on getting a general idea of the material first before going into the details. They skim quickly over the topic heading, look at the pictures, or diagrams, see whether there are questions or a summary at the end. They try not to translate word for word. Maybe they know that this strategy does not prepare them to use English for communication. Students with "Excellent" grade might know that practising a language is vital in learning any foreign language. Although, they were not so fluent, they used the language. They overcome limitations in speaking and writing by using gestures, making up new words and using words that mean the same. They make intelligent guesses by

using context clues, such as using the knowledge of word formation and looking at the surrounding context. Students with "Excellent" grade do not panic and get depressed when making mistakes. Rather, they know well how to use these mistakes to do better in language learning. In support of Krashen's view of learning as a conscious process, the EFL students in this study proved that they centre their learning by paying attention to English speech. They accurately evaluate their progress and find out how to improve their language learning. They can take their emotional temperature towards learning English and discuss their feelings with their friends. Expressing students' feelings about language learning can help in encouraging the students who have negative attitudes which may impede language learning progress. Finally, students with "Excellent" grade are very attentive; they do not like to miss any information. They ask others to slow down or repeat to make sure that something has been rightly understood. Thus, the achievement of the students can be enhanced by the development of a strategic awareness. The notion of awareness raising is important and deserves further attention.

On the other hand students with "Very Good" grade reported the use of the same strategies used by excellent students at a high level except the following strategies, which were used at a medium level by students with "Very Good" grade:

1. Use gestures when stuck for a word. (Compensation)
2. Make up new words. (Compensation)

Students with "Very Good" grade should develop the strategies that help them get their messages across even at the risk of making up words to keep the flow of conversations going.

Furthermore, they used another strategy at a high level which is “look for words in the first language that are similar to the new words in the second language”. This supports the theory of “interference” which states that students use previously acquired knowledge to facilitate a new language learning task, but in order to get an “Excellent” grade, students should make less references to their native language.

Finally, students with “Good” grade reported the use of the same strategies used by students with “Excellent” grade except the following:

1. Try to talk like native speakers. (Cognitive)
2. Make guesses. (Compensation)

Pearson (1988) reaches the same point when he states that poor language learners do not speak English unless it was unavoidable and they do not guess or work out meaning or general rules.

These results indicated that practising the language by talking like native speakers and guessing intelligently are very important strategies used in learning a foreign language. Students should be encouraged to make guesses by learning the most common word stems, prefixes and suffixes that help them analyze the meaning of many words. Students should know how to guess the meaning by looking carefully at the surrounding context.

On the other hand, students with “Good” grade used other strategies at a high level such as:

1. Act out new English words physically. (Memory)
2. Repeat new words several times.(Cognitive)

3. Look for words in the first language that means the same in the second language. (Cognitive)
4. Relax whenever they feel afraid of using English.(Affective)
5. Ask for help from English speakers.(Social)

In other words, students with "Good" grade are Kinesthetic; they find the strategy of physically acting out new words as a useful way to aid their learning. Although, using this strategy makes them laugh, they use it with some physical expressions. As English teaching focuses on rote memorization, students with "Good" grade consider repetition as a primary strategy to learn. They know how to control their emotions by using physical relaxation techniques which is an efficient strategy in the process of language learning. Because of their lack of familiarity with the new linguistic system, however, students rely extensively on their native language for supports. Finally, among the social strategies, students with "Good" grade used only one strategy which was asking for help from English speakers. Students should be encouraged to use other social strategies to become better language learners.

Other finding indicated that there was another difference in the use of strategies and achievement level. Students with "Excellent" grade used the strategy "I write notes, messages, letters or reports in English" more than students with "Very Good" and "Good" grades. In other words, writing notes, messages, and reports in English was a primary study strategy for students with "Excellent" grade. Students used writing notes to help them recall and summarize information. It is an active process where students have to be alert to the pattern of thought, its direction and its development, and they should distinguish between what is important and what is not. This active involvement in the learning process makes writing notes difficult and valuable.

5.3.2.2 At the Category Level

The findings indicated that students with "Excellent" grade used the compensation strategy category most followed by the meta-cognitive, then the cognitive, next the social, followed by the memory and finally, the affective strategy category that received the least attention.

On the other hand, students with "Very Good" grade reported the use of the meta-cognitive strategy category most frequently, followed by the compensation, then the cognitive, next, the memory and social strategy categories that received equal attention and finally the affective strategy category that received the least attention.

Finally, students with "Good" grade used the compensation strategy category most often, followed by the meta-cognitive, then the social, affective and memory strategy category that received equal attention and finally the cognitive strategy category which was used least often.

In general, the compensation and meta-cognitive strategy categories were popular among students with different grades. It is natural for EFL students to make greater use of compensation strategies as these can allow them to guess the meaning of what they have heard or read or allow them to get the message across despite their limited grammatical and vocabulary knowledge. The extensive use of the meta-cognitive strategy category indicated that students know well how to control and direct their cognitive process by arranging the physical environment to make learning easier.

5.3.2.3 Overall Strategy Use

The findings indicated that there were no differences in the overall strategy use in relation to proficiency level. In general, students with all grades mentioned used overall strategy at a medium level.

These findings contradict the results of Mingyuan (2000) who states that the more students use all the strategies, the more progress they make in their language proficiency. These results might be attributed to the students' lack of appropriate training in using language learning strategies, or to the education system which encourages cooperation in learning. As a result, students may not exert enough effort in employing learning strategies to compete with their peers. Another possible explanation is the large classes that give very limited opportunities to students to use learning strategies.

5.4 The Language Learning Strategies Associated With Each of the Four Language Skills

Research Question 4: Which English language learning strategies used by the female EFL undergraduates are associated with each of the four language skills?

In order to identify the language learning strategies that are applied to the four language skills, observation of nine lessons of female EFL undergraduates was used to collect the data and the SILL and interviews were used to triangulate it. Results reported that there were some specific strategies used with each skill as follows:

5.4.1 Listening Strategies in Foreign Language Acquisition

EFL students used the following variety of listening strategies:

1. The cognitive strategy of “Creating structure for input and output” was used by summarizing information students hear in English, analyzing expressions and reasoning.
2. The meta-cognitive strategy of “Centring learning” was used by paying attention.
3. The compensation strategy of “Guessing intelligently” was used by using linguistic and other clues to understand unfamiliar English words, and to know what the other person will say next in English.
4. The social strategy of “Asking questions” was used by asking for clarification or verification.

5.4.2 Speaking Strategies in Foreign Language Acquisition

EFL students used the following variety of speaking strategies:

1. The cognitive strategy of “Practising” in English was used by recognizing, using formulas and patterns and by repeating.
2. The meta-cognitive strategy of “Centring learning” was used by paying attention.
3. The compensation strategy of “Overcoming limitations in speaking” was employed by using gestures, coining words and using a circumlocution or synonym.
4. The social strategies of “Asking questions” and “Cooperating with others” were used by asking for clarification or verification, and by cooperating with peers.

5. The memory strategy of “Creating mental linkages” was used by associating and elaborating.

The above speaking strategies were mentioned in the list presented by O’Malley et al. (1988) to describe the language learning strategies that are associated with different speaking tasks. It was observed that EFL students used all of the compensation strategies to speak, and this is due to the limited amount of exposure to the English language. Furthermore, students rarely start a conversation; a possible explanation to this is that developing speaking readiness may take time.

5.4.3 Writing Strategies in Foreign Language Acquisition

EFL students used the following variety of writing strategies:

1. The cognitive strategy of “Practising” was used by writing guided paragraphs, notes, or reports in English.
2. The meta-cognitive strategies of “Evaluating learning” and “Centring learning” were used by self evaluating and paying attention.
3. The compensation strategy of “Overcoming limitations in writing” was used by coining words and using a circumlocution or synonym.
4. The social strategies of “Asking questions” and “Cooperating with others” were used by asking questions for clarification and cooperating with proficient users of the new language.
5. The memory strategy of “Creating mental linkage” was used by associating and elaborating.

It is apparent that students’ application of writing strategies was limited; they never used the strategies of note taking and summarizing. Furthermore, as the students

followed the product approach in learning writing, they were required to write sentences from linked substitution tables or fill in gaps in a text in which all the decisions about choice of content and organization have been made by the textbook writer. So, practising writing is limited to producing a paragraph.

5.4.4 Reading Strategies in Foreign Language Acquisition

EFL students used the following variety of reading strategies:

1. The cognitive strategy of "Practicing" was used by repeating, getting the idea quickly by skimming and scanning, creating structure for input and output by summarizing and finally cognitive strategies were used by analysing expressions.
2. The meta-cognitive strategy of "Centring learning" was used by paying attention.
3. The compensation strategy of "Guessing intelligently" was used by using linguistic and other clues.
4. The social strategies of "Asking questions" and "Cooperating with others" were used by asking questions for clarification or verification and by cooperating with peers.
5. The memory strategy of "Creating mental linkages" was used by placing new words into a context" and reviewing well.

The findings indicated that EFL students did not use some important reading strategies presented by Jordan (1997) such as the following:

1. Drawing inferences and conclusions.
2. Understanding graphic presentation.
3. Understanding text organization and linguistic aspect.

In sum, there seem to be some specific strategies used by the EFL learners with some language skills and some general strategies used with all the four language skills.

The strategy of "Centring students' learning" was used with the four language skills by paying attention directly or selectively, previewing the basic principles for an upcoming activity and linking these with what the learners already know. Furthermore, the EFL learners used the strategy of "Asking questions" with all the four language skills to make sure that something has been rightly understood. The strategy of "Overcoming limitation" was used by the EFL learners with all the four language skills but extensively with speaking skill by guessing intelligently, coining words, using mime or gestures. On the other hand, the EFL learners used the strategy of "Evaluating learning" through self monitoring and self evaluation to promote learning writing only. The reason for not using this strategy with speaking may have something to do with the difficulty in the assessment of speaking. In contrast, the EFL learners used the strategies of "Creating mental linkage" and "Cooperating" to facilitate the learning of writing, reading, and speaking. This can be explained in the effectiveness of the cooperative learning in the acquisition of writing, reading, and speaking skills more than individual learning. Finally, it should be kept in mind that there were still many mentalistic unobservable strategies used.

5.5 Conclusion

This section provides an overview of the results and draws conclusions from the study undertaken. It involves information that can benefit applied linguists, educational researchers, teacher trainers, course designers and language teachers who wish to apply research findings on EFL learning strategies to their classrooms and help students become more effective and independent learners. This section discusses some important

issues for further research and puts forth some suggestions that are related to using learning strategies in the classroom.

This study reaffirmed the importance of context, gender, major field of study, and English language performance level of the learners as factors explaining strategies a student uses in learning English.

Gender is the first factor discussed that influences the choice of language learning strategies. Although males and females study the same curriculum and use the same books at King Khalid University in Saudi Arabia, it is expected that there are differences in their use of strategies as suggested by previous studies. This exploratory study attempted to describe the English language learning strategies used by female undergraduates at the individual, category, and overall levels. Results from the present study, support the view that female students use specific strategies significantly. But applying some strategies significantly does not guarantee differences in the use of strategies according to gender. This issue needs future research.

Similarly, context proved to play an important role in the choice of language learning strategies. Several studies differentiate between learning English as a second and as a foreign language. The findings of these studies reached a conclusion that learning a language is better in a natural environment than in the classroom. Since English in Saudi Arabia has only a foreign language status officially, it is a required subject acquired in the English classroom. Thus being aware of the learner's strategies may aid foreign language learning.

At the individual level, the most popular strategies used by the Saudi EFL learners are cognitive and meta-cognitive ones. These learners know through trial and error that these strategies have powerful contribution to language learning. They realize how essential practice is through imitating native speakers' speech and repetition. Thus, teachers can use the pattern drill activity to meet students preferred learning strategies. At the same time EFL students showed that they are active learners; they like to reason and analyse, and they skim and scan a reading passage before going into the next level of comprehension. They always look for Arabic equivalents when they come across new English words. However, according to linguists and methodologists using an approach which makes few references to their native language is preferable. EFL students control their cognition by planning what they want to do, checking how the plan is going and then evaluating how well the product fits the intentions. They set goals, pay attention, and think about their progress. They do not panic when making mistakes rather, they learn from the mistakes to improve their English. However, the cognitive strategy of practising need to be activated by the EFL learners through reading as much as possible in English, writing notes, letters in English and making summaries. This cognitive strategy is necessary for both comprehension and production in the new language (Oxford, 1990). EFL students make up for limited knowledge by guessing the meaning of the new English words, using alternative forms of expression, and using gestures to convey meaning through the use of compensation strategies. They reportedly know through trial and error that the most important influences on language learning success or failure are the affective factors. They reduce their anxiety through using physical relaxation techniques and talking about their feelings on language learning to their friends. They encourage themselves by taking risks wisely even if they are afraid of making mistakes. However, EFL students can be trained to use other powerful affective strategies such as positive self- talk, and self reward. These strategies reduce

anxiety and help learners feel competent and do their learning tasks (Oxford, 1990). In addition, students should learn how to write down their feelings in a language learning diary. This strategy helps them improve their writing as they express their feelings. They also use the memory strategies in remembering new English words, such as connecting sounds to images, or by remembering the location of these words on the page or on the board. However, teachers can reinforce the use of other types of powerful strategies such as activating students' background knowledge or schematic knowledge to facilitate their comprehension processes. The Students can be asked to recall an event or a story; they can be asked to read the title or look at the picture and say what they know about the topic. Teachers can also encourage their students to review their lessons. During short, regularly spaced periods of review, students can refresh their memory and bring themselves up to date. In order for new items to enter long-term memory, teachers can encourage active involvement on the part of the learner. Swain (1985) cited in Cook (1993) points out that successful language learning needs more than comprehensible input rather it needs successful management of classroom interaction. In other words a learner who has activated the new information by using it will be more likely to retain it than a learner who has simply heard or read the item and seen a translation. Teachers can ask students to use the new words in sentences, physically act them or use rhymes. Finally, EFL students use social strategies such as asking others to slow down when they do not understand something. Raising students' awareness of the use of other social strategies is a must. EFL students can be trained to ask questions in English. The lesson should not be tightly controlled by the teacher asking all the questions, students can work in pairs, one asks a question and the other gives the answer. The EFL learners should also be encouraged to learn about the culture of English speakers. They should learn to tolerate different cultures or different points of view and at the same time, they should develop the kinds of analytical and critical

skills if the material is not Islamic in context. Finally, EFL students have to practise English with other students, and ask English speakers for correction.

On the other hand, at the category level, EFL students indicated that they learn best by organizing and evaluating their learning (Meta-cognitive). In general, students reported medium overall strategy use. This result suggests that other learning strategies should be activated. Thus, in the foreign language context, students have to work hard, prepare and monitor their progress in order to succeed in learning the language. Furthermore, they need to learn using new strategies that facilitate the process of their English language learning and be more autonomous rather than be just recipients. Teachers can provide adequate motivation to enhance learners' use of different cognitive, memory, compensation, social and affective strategies. Furthermore, the results suggest a need for offering well-designed language strategy training to foreign language learners. Teachers can help students to recognize the power of consciously using language learning strategies to make learning faster, easier, more effective and more fun. Students can be taught how to use strategies, practise them and to transfer them to new tasks. Thus, raising the teachers' as well as the students' awareness of the use of different learning strategies is a must.

Regarding the relationship between the use of learning strategies at an individual level and major field of study, additional results from the present study specified the English language learning strategies used by EFL students with four major fields of study, Medicine, English Language, Computer Science and Biology. Results indicated that there were some differences in the use of strategies at the individual item level with regard to major field of study. Although, Medical majors share most of the strategies with English majors, they reported the use of some strategies more frequently than the

strategies used by students in all the other major fields of study. An explanation to this result might be the high score required for enrolment in the Department of Medicine. In other words, all Medical majors are academically the best at King Khalid University. They work very hard and use different types of learning strategies to cope with their study. On the other hand Biology majors reported the least use of strategies. This result might be due to the lack of motivation to use English as the language of instruction in this department is Arabic. Finally, the strategy of "I pay attention when someone is speaking English" was used most frequently by all students across different major fields of study. This might indicate that language learning is a conscious process. On the other hand, the strategy "I use flashcards to remember new English words" was generally not used by all students across different major fields of study. However, using this strategy is very useful in remembering the new target language, with the new word written on one side and the definition written on the other (Oxford, 1990).

Further results on the relationship of language learning strategies with major field of study indicated that Medical, English and Computer Science majors used the meta-cognitive strategy category most often followed by the cognitive one. On the other hand, Biology majors used the compensating strategy category as highest followed by the meta-cognitive one. These results indicated that it is essential for Medical, English and Computer Science majors to have greater meta-cognitive control over their language learning; they should be more organized, they should be able to set realistic goals for themselves and make plans for their learning in terms of time and materials. On the other hand, it is convincing to find that Biology majors used a wide range of compensation strategies to overcome the breakdown in communications. This is due to their limited exposure to the English language as mentioned earlier that the language of instruction in the Biology Department is Arabic. Similarly, results indicated that

Medical students used the memory strategy category “Remembering more effectively” more than the students in all the other major fields of study. Maybe this is due to their experience in using memory strategies in the study of Medical courses which contain a large number of new terminologies and thus it is easy for them to transfer the use of these memory strategies to learning English. Both Medical and English Language students used the cognitive strategy category “Using all your mental Processes” and the meta-cognitive “Organising and evaluating your learning” more than students in all other major fields of study. This indicated that Medical and English majors have to follow certain processes to facilitate second language learning; they have to know how to practise, reason out the new language, create general rules, revise these rules when new information is available and plan, organize and evaluate their learning consistently. Finally, Biology majors used the compensation strategy category “Compensating for missing Knowledge” more than Computer Science majors. This is perhaps due to the limited exposure to the English language of Biology students.

In determining the differences and similarities in the overall strategy use of the EFL undergraduates according to major fields of study, Medical students reported the highest use of overall strategy while the Computer Science and Biology students, reported the use of overall strategy least often. It might be that studying Medicine in English requires operating many strategies unlike studying Computer Science and Biology. Thus it is easy for Medical students to transfer the strategies used in the study of Medicine to the study of the English language. Further research is suggested to cross validate results of the present study and to include more major fields of study.

Regarding the relationship between strategy used at the individual level and the year level of the students, results revealed that first and second year students share most of

the strategies. Furthermore, both of these groups learn best through the use of cognitive strategies. On the other hand, second year students reported higher use of cognitive, compensation and memory strategies than did first year students. In other words, second year students appeared to be active strategy users as their exposure to the English language is more than that of first year students, they have to employ a wide range of strategies to cope with their studies.

At the category level, both first and second year students reported that they learn best by "Organizing and evaluating their learning" (Meta-cognitive). They both have the abilities to take charge of their learning, organizing, setting goals and evaluating. In general, there were no significant differences in the overall strategy use between the first and second year students as both used this overall strategy at a medium level. This indicated that students should be trained to use different types of strategies effectively and teachers should be trained in strategy instruction and assessment.

Additional results confirm the conclusion that language learning strategies are related to language proficiency. At the individual level, the findings indicated that there are some qualitative differences in the use of strategies with regard to proficiency level. The proficient learners do not necessarily use more strategies but different and more appropriate ones. Compensation and meta-cognitive strategy categories were popular among students with different grades. In general, students reported no differences in the overall strategy use with regard to proficiency level; all students with all grades used the overall strategy at a medium level. This result might be attributed to the large classes that give very limited opportunities for students to use learning strategies. Again, students' awareness of the use of different strategies should be raised. Teachers should encourage the use of strategies and transferring them to different situations.

Class observations of first year students supplemented with questionnaires and interviews yielded some information about the language learning strategies that were associated with the four language skills. The findings specify the English language learning strategies used with each skill and how some strategies could be used with all skills. EFL students used specific cognitive strategies with each skill. Both reading and listening comprehension are interactive processes; the EFL first year students used cognitive strategies in summarizing information they heard or read and in analysing expressions. Similarly, EFL students used the cognitive strategies in the speaking class through using formulas and patterns and through repeating. The cognitive strategies were used as well in the writing class by writing guided paragraphs, notes or reports in English. On the other hand, the results indicated that the meta-cognitive strategy of "Paying attention" is crucial in language learning with all of the skills. In addition, the strategy of "Evaluating learning" through self monitoring and self evaluating was used to promote learning writing only. Because of the limited linguistic knowledge of EFL students, they relied on guessing intelligently through using linguistic and non-linguistic clues to understand the input. On the other hand, EFL students used the compensation strategies of "Coining words" and "Using circumlocution" with the writing skill and extensively with the speaking skill. The social strategy of "Asking questions" appeared to be crucial for EFL students in mastering all of the four language skills; it helps students to make sure that something has been rightly understood. In addition, EFL students relied on the social strategy of "Cooperating with others" in the learning of reading, writing and speaking. Finally, the memory strategies of "Creating mental linkages" were used with all of the skills except listening. The reason for not using these memory strategies with listening is may be attributed to the invisibility of the mental strategies. The extensive use of compensation strategies in speaking merits special attention. There are three main features related to the choice and use of compensation

strategies. One is probably a general problem of the EFL learners and can be solved over time with the development of overall language proficiency. The second feature, which is of some concern, is the traditional methodology of teaching English where classes tended to be teacher directed. The pedagogical implication here is to teach English following a communicative approach where the initiation of the interaction goes both ways, from lecturer to students and from students to lecturer, rather than considering the teacher as an authority in the classroom. The third feature can be the curriculum that does not focus on oral production skills. Thus, the students do not regularly engage in complex language activities such as social communication or classroom oral presentations. However, there are many drawbacks in using the observational method in collecting the data as the mental strategies are unobservable; furthermore, classes are teacher directed, and students have limited opportunities to engage in active learning with observable strategies.

In summation, identifying the learning strategies used by the female EFL undergraduates can benefit learners, lecturers and researchers. Learners will be aware of their learning strategy preferences and thus develop other strategies to accomplish various language tasks. Teachers can incorporate the findings into classroom teaching and material preparation. Finally researchers can use the findings to support or contradict the results of previous studies and thus provide a comprehensive insight about the following: the strategies used in the EFL context, the strategies used with different major fields of study, the strategies used with different performance levels, and finally the strategies used with different language skills.

5.6 Recommendations for EFL Teachers

As it is indicated in the present study, EFL students reported medium overall strategy use and there is a strong relationship between the use of language learning strategies and the two variables: major field of study and English language performance level. Strategy training should be conducted in classrooms to help students become autonomous L2 learners outside the classroom where much L2 learning occurs.

The following four step model for training the EFL students to use language learning strategies is recommended:

1. After selecting the strategies used by EFL students based on their major field of study and performance level as indicated in the previous chapter, teachers can design activities that focus on the use of these preferred strategies by EFL students and develop other activities that introduce new strategies to students. It is suggested that these activities are integrated in the language teaching programme and are accompanied by handouts. These handouts describe the way of using the strategies and the suitable time for using them.
2. The next step is awareness training, the training on raising learners' consciousness of the existence of language learning strategies and their values. Students can be introduced to the concept of learning strategies in a fun and motivating way and not in a lecturing format. Students can enhance their knowledge of strategies by becoming conscious users of various strategies.
3. The third step is the intensive language learning strategy training. It involves practising a number of strategies that are suitable for the particular language level of the students and for their major fields of study. Teachers can combine the strategy training with regular class teaching. Students can be taught on how

to transfer strategies to new learning contexts and how to evaluate the success of their strategies used.

4. Evaluating strategy training is the last step. Teachers assess whether the strategies have been deployed effectively by the learners. This step helps in the improvement of strategy training.

In conclusion, teachers should have in mind three important considerations in the design of strategy training programme: the students' needs, the available resources (e.g. time, money, materials and availability of teacher trainers) and the feasibility of providing this kind of instruction.

5.7 Suggested Areas for Further Research

Future studies might consider the following directions:

1. The relationship between learning strategies and gender needs to be further inspected.
2. Although the present study focused on the strategies of good language learners, strategies of poor language learners could also be further explored. This might help in the explanation of the relationship between the use of learning strategy and proficiency level.
3. No investigation has been done on the strategies used in the first language of the Arabs. This could be a suggested area for future research to determine which strategies transfer most readily and which ones do not.
4. The relationship between learning strategy and students' year level needs further research to include strategies used by third and fourth year students.

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APPENDIX A

STRATEGY INVENTORY FOR LANGUAGE LEARNING

(SILL)

By Rebecca Oxford, (1990)

Directions

This form of the STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL) is used to investigate the English language learning strategies used by Malaysian undergraduate students and its relationship to gender. Please read each statement and tick the response that tells **how true of you** the statement is.

1 = Never true of me
2 = Usually not true of me (the statement is true less than half the time)
3 = Somewhat true of me (the statement is true of you about half the time)
4 = Usually true of me (the statement is true more than half the time)
5 = Always true of me
Student's background information. **Please use a tick √ for your response**.
Student Number _____ Age _____ Sex: Male ☐ Female ☐
Major _____
Year of Study _____
Nationality _____

	Part A	**1** **Never** true of me	**2** **Usually not** true of me	**3** **Somewhat** true of me	**4** **Usually** true of me	**5** **Always** true of me
1	I think of relationships between what I already know and new things I learn in English					
2	I use new English words in a sentence so I can remember them					
3	I connect the sound of a new English word and an image or picture of the word to help me					

	Part A	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
	remember the word					
4	I remember a new English word by making a mental picture of a situation in which the word might be used					
5	I use rhymes to remember new English words					
6	I use flashcards to remember new English words					
7	I physically act out new English words					
8	I review English lessons often					
9	I remember new English words or phrases by remembering their location on the page or on a board.					

	Part B	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
10	I say or write new English words several times					
11	I try to talk like native English speakers					
12	I practise the sounds of English.					
13	I use the English words I know in different ways					

	Part B	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
14	I start conversations in English					
15	I watch English language TV shows spoken in English					
16	I read for pleasure in English					
17	I write notes, messages, letters, or reports in English					
18	I first skim an English passage (read over the passage quickly) then go back and read carefully					
19	I look for words in my own language that are similar to new words in English					
20	I try to find patterns in English					
21	I find the meaning of an English word by dividing it into parts that I understand					
22	I try not to translate word-for-word					
23	I make summaries of information that I hear or read in English					

	Part C	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
24	To understand unfamiliar English words, I make guesses					
25	When I can't think of a word during a conversation in English, I use gestures					
26	I make up new words if I do not know the right ones in English					
27	I read English without looking up every new word					
28	I try to guess what the other person will say next in English					
29	If I cannot think of an English word, I use a word or phrase that means the same thing					

	Part D	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
30	I try to find as many ways as I can to use my English					
31	I notice my English mistakes and use that information to help me do better					
32	I pay attention when someone is speaking English					

33	I try to find out how to be a better learner of English					
34	I plan my schedule so I will have enough time to study English					
35	I look for people I can talk to in English					
36	I look for opportunities to read as much as possible in English					
37	I have clear goals for improving my English skills					
38	I think about my progress in learning English					

	Part E	**1** **Never** true of me	**2** **Usually not** true of me	**3** **Somewhat** true of me	**4** **Usually** true of me	**5** **Always** true of me
39	I try to relax whenever I feel afraid of using English					
40	I encourage myself to speak English even when I am afraid of making a mistake					
41	I give myself a reward or treat when I do well in English					
42	I notice if I am tense or nervous when I am studying or using English					
43	I write down my feelings in a language learning diary					

	Part E	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
44	I talk to someone else about how I feel when I am learning English					

	Part F	1 **Never** true of me	2 **Usually not** true of me	3 **Somewhat** true of me	4 **Usually** true of me	5 **Always** true of me
45	If I do not understand something in English, I ask the other person to slow down or say it again					
46	I ask English speakers to correct me when I talk					
47	I practise English with other students					
48	I ask for help from English speakers					
49	I ask questions in English.					
50	I try to learn about the culture of English speakers					

APPENDIX B

INTERVIEW CHECKLIST

Students were asked to voice their opinion on each of the following:

1. Students' interest in improving their proficiency in the English language.
2. Strategies used for memorizing new words.
3. Strategies used to overcome obstacles to communication.
4. Strategies used in understanding any reading passage.
5. Students' interest in reading for pleasure in English.

Major Field of Study	Year Level	Motivation	Memory & cognitive Strategies	Compensation Strategies	Comprehension Strategies	Reading For Pleasure in English
Medicine	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
Medicine	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Medicine	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Medicine	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
English Language	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
English Language	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
English Language	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
English Language	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x

Major Field of Study	Year Level	Motivation	Memory & cognitive Strategies	Compensation Strategies	Comprehension Strategies	Reading For Pleasure in English
Computer Science	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	1	x	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	1	√	Use rhymes	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
Biology	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	1	x	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	1	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Medicine	2	√	Put the new words in sentences	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Medicine	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	√
Medicine	2	√	Put the new words in sentences	Use gestures and mime and use a word that has the same meaning	Skim the passage	√
Medicine	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
English Language	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
English Language	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
English Language	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x

Major Field of Study	Year Level	Motivation	Memory & cognitive Strategies	Compensation Strategies	Comprehension Strategies	Reading For Pleasure in English
English Language	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
Computer Science	2	√	Repetition	Use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	2	√	Repetition	Use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Computer Science	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim the passage	x
Biology	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x
Biology	2	√	Repetition	Use gestures and mime and use a word that has the same meaning	Skim then translate word for word to understand a passage in English	x

APPENDIX C

OBSERVATION SCALE

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	Memory strategy category								
1	I think of relationships between what I already know and new things I learn in English								
2	I use new English words in a sentence so I can remember them								
3	I connect the sound of a new English word and an image or picture of the word to help me remember the word								
4	I remember a new English word by making a mental picture of a situation in which the word might be used								
5	I use rhymes to remember new English words								
6	I use flashcards to remember new English words								

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
7	I physically act out new English words								
8	I review English lessons often								
9	I remember new English words or phrases by remembering their location on the page or on a board.								
	Cognitive strategy category								
10	I say or write new English words several times								
11	I try to talk like native English speakers								
12	I practise the sounds of English.								
13	I use the English words I know in different ways								
14	I start conversations in English								
15	I write paragraphs, notes, letters, or reports in English								
16	I first skim an English passage (read over the passage quickly) then go back and read carefully								

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
17	I look for words in my own language that are similar to new words in English								
18	I try to find patterns in English								
19	I find the meaning of an English word by dividing it into parts that I understand								
20	I try not to translate word-for-word								
21	I make summaries of information and analyse expressions								
	Compensation strategy category								
22	To understand unfamiliar English words, I make guesses								
23	When I can't think of a word during a conversation in English, I use gestures								
24	I make up new words if I do not know the right ones in English								
25	I read English without looking up								

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	every new word								
26	I try to guess what the other person will say next in English								
27	If I cannot think of an English word, I use a word or phrase that means the same thing								
	Meta-cognitive strategy category								
28	I try to find as many ways as I can to use my English								
29	I notice my English mistakes and use that information to help me do better								
30	I pay attention when someone is speaking English								
31	I look for people I can talk to in English								
	Social strategy category								
32	If I do not understand something in English, I ask the other person to slow down or say it again								
33	I ask English speakers to correct								

The Language Learning Strategies Used With the Four Language Skills (cont'd)

		Listening		Speaking		Writing		Reading	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	me when I talk								
34	I practise English with other students								
35	I ask for help from English speakers								
36	I ask questions in English.								
37	I try to learn about the culture of English speakers								
	Total								

APPENDIX D

SAMPLES OF OBSERVED CLASSROOM ACTIVITIES

Part 1: Listening Activities in Foreign Language Acquisition

EFL students used the following listening strategies, either by themselves or they were instructed to use them by their teacher.

Type of Activity	Classroom Activity	Learning Strategy
Students' taught strategies	Students were asked to look at a picture in their book and guess what they were going to listen to.	Predicting
	Students arranged sentences according to a tape recording to show the sequence of events. They also were asked to listen to the tape recording and answer comprehension questions.	Analysing expressions and reasoning
	Students were asked to listen carefully twice to the tape recording and then answer true/false and open ended questions, they were also asked to listen and fill in the gaps or complete the sentences with missing words.	Paying attention
	Sometimes, students were asked to summarize the main points of a tape recording while listening to it, at other times they summarized the main ideas on their own to help them answer comprehension questions.	Summarizing
	Students were asked to listen to the description of the main parts of a jet plane and label these parts in boxes provided. In another activity students were asked to choose from words provided missing words in the recording.	Guessing
Students' learning strategies	Students asked the instructor to replay the tape recording for a third time. They also asked their instructor to give them more time to answer the questions.	Asking questions

Part 2: Speaking Activities in Foreign Language Acquisition

EFL students used the following speaking strategies, either by themselves or they were instructed to use them by their teacher.

Type of Activity	Classroom Activity	Learning Strategy
Students' taught strategies	Students were asked to practise some formulas and patterns such as: Hello, is that ----------? Hello, this is --------. Could I speak to ----------, please? Could I leave a message, please? Where do you come from? Where are you staying? How long are you staying? Do you like it here?	Practising by using formulas and patterns
	Students were asked to imagine and act out conversations in different situations such as greeting, apologizing and answering phone calls. They had to think of suitable expressions to use in these situations.	Using imagery
	Students were asked to practise the conversation in pairs.	Cooperating with peers
	Students were asked to have conversations on, how to telephone and answer phone calls, how to apologize and how to greet each other	Starting conversations
	Students were asked to pay attention to the new expressions and repeat them.	Paying attention and repeating
Students' learning strategies	Students sought correction by asking "Is it right to ask, where do you stay? Instead of where are you staying?" they also sought clarification by asking the instructor or their classmates to repeat the question or the sentence.	Asking Questions
	Some students used physical motion in place of expressions to indicate meanings such as: one student was describing her friend's hair but she did not know the word "curly", so she made gestures describing the word. Another student wanted to say "we fold the paper" but did not know the word "fold" so she took a piece of paper and said we do like this and she folded it.	Using gestures

Type of Activity	Classroom Activity	Learning Strategy
	Students coined words to communicate their ideas such as: one student said, “tooth doctor” instead of “dentist”. Another student said, “the covering of the face” instead of “the mask”. Other one said the “male chicken” for a “rooster”. One student said “call again” instead of “call back”, and finally one student said, “could you please repeat it again” instead of “could you please say it again”.	Coining words
	One student was describing the process of cooking a Saudi dish, she said we add salt and “what we use to make the meat smells nice”. She used circumlocution to describe the word “spices”. Another student said instead of the word “cabbage” “the vegetable which is round and has large green leaves”. Other student was describing a picture of a baby; she said “he is moving the way babies move” instead of “crawling”. Other student used synonym to get her meaning across by saying “I am sorry so much” instead of “I am very sorry”. Finally, one student said while practising answering the phone “stay” instead of the word “wait”.	Using circumlocution or synonym

Part 3: Writing Activities in Foreign Language Acquisition

EFL students used the following writing strategies, either by themselves or they were instructed to use them by their teacher.

Type of Activity	Classroom Activity	Learning Strategy
Students' taught strategies	Asking students to exchange their note books and correct each others' paragraphs and mark them. In another activity, the instructor wrote some of the students' mistakes on the board and asked what was wrong with the sentences.	Evaluating
	The instructor asked the students to group the signal words and use them to organize the process of making a chocolate sundae.	Associating and elaborating
	Students were asked to pay attention to the paragraph written on the board by one of the students and correct it. They were also asked to pay attention to their paragraphs and check if they include the topic sentence and conclusion.	Paying attention
	In one activity, students wrote a paragraph on how to plan a party, in another activity they were asked to write a paragraph describing a picture in their book. They were also asked to read a dialogue, and then complete the notes and to read a newspaper article and write a report on it.	Practising
Students' learning strategies	Students asked the instructor about the meaning of some words they did not know such as "kernel" and "fudge".	Getting help
	One student wrote, "the market has moving stairs" instead of "escalators". Other student wrote, "cleaning powder" instead of "detergent". Another one said, "we remove the covering of the potatoes", instead of "we peel the potatoes". Finally one student wrote, the car "passed over" the man, instead of "run over the man".	Coining words
	One student could not come up with the word "raisin", she said "dried grape". Another student wrote on the board, "mix the sugar in the water" instead of "dissolve the sugar in the water". Another one wrote "my small bag" instead of "my purse". Finally, one student said "we heard the sound of the police car, instead of "we heard the police siren".	Using synonym
	One student asked the instructor, "how many supporting sentences do we have to write?"	Asking questions

Part 4: Reading Activities in Foreign Language Acquisition

EFL students used the following reading strategies, either by themselves or they were instructed to use them by their teacher.

Type of Activity	Classroom Activity	Learning Strategy
Students' taught strategies	Students were asked some questions that helped them review the previous lesson, and predict the topic of the new lesson such as "In the last lecture, we talked about Suraqah Ibn Malik; who can tell me his story?" Then the instructor said, "Today, we will talk about Abdullah Ibn Salaam; what do you know about him?" The students were encouraged to guess by asking "Who was the man who wore the bracelets of Kusra?" Students used predicting in guessing what will be the topic of the next paragraph as well or how will the story end.	Reviewing and predicting
	Students were asked to read the text and answer comprehension and multiple-choice questions.	Skimming & scanning
	Students were asked to guess the meaning of new vocabulary items by using linguistic and other clues. They were also asked to guess and fill in the blanks with suitable words that completed the sentences or match the words with their meanings.	Guessing
	Students were asked to summarize the story of Abdullah Ibn Salam as homework.	Summarizing
	The instructor explained new vocabulary items by placing them into a context such as "Provision is supplies of food and stores", "Devotion is strong affection". Similarly, the students were asked to use the new words in sentences.	Placing new words into a context
	Some students were asked to read short paragraphs loudly while the others were paying attention and listening. Students were also asked to pay attention to the sequence of events in the reading passage. They were asked to pay attention to the words that describe the author's opinion and the tone of the text.	Paying attention
	Students were asked to work with a partner to answer comprehension questions and to fill in the blanks with suitable words that completed the sentences.	Cooperating with peers
	Students were asked to repeat difficult new words several times.	Repeating
	Students were asked to state the tone of the text, and recognize the climax in the story, and the words that described the author's opinion.	Analysing expressions and reasoning

Type of Activity	Classroom Activity	Learning Strategy
Students' learning strategies	One of the students asked the instructor "can we say Fatima and I are contemporaries at the university?"	Asking questions

APPENDIX E

SUPPLEMENTARY TABLES

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
I think of relationships between what I already know and new things I learn in English	Medicine	46	3.96	High
	English Language	80	3.50	High
	Biology	92	3.03	Medium
	Computer Science	46	3.09	Medium
	Total	264	3.34	
I use new English words in a sentence so I can remember them	Medicine	46	3.65	High
	English Language	80	3.00	Medium
	Biology	92	2.17	Low
	Computer Science	46	2.54	Medium
	Total	264	2.75	
I connect the sound of a new English word and an image or picture of the word to help me remember the word	Medicine	46	3.72	High
	English Language	80	3.63	High
	Biology	92	3.91	High
	Computer Science	46	3.59	High
	Total	264	3.73	
I remember a new English word by making a mental picture of a situation in which the word might be used	Medicine	46	3.91	High
	English Language	80	3.48	High
	Biology	92	2.99	Medium
	Computer Science	46	3.65	High
	Total	264	3.41	
I use rhymes to remember new English words	Medicine	46	3.48	High
	English Language	80	2.35	Low
	Biology	92	2.70	Medium
	Computer Science	46	1.98	Low

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Total	264	2.60	
I use flashcards to remember new English words	Medicine	46	2.39	Low
	English Language	80	1.61	Low
	Biology	92	1.39	Low
	Computer Science	46	1.26	Low
	Total	264	1.61	
I physically act out new English words	Medicine	46	2.93	Medium
	English Language	80	2.38	Low
	Biology	92	3.02	Medium
	Computer Science	46	2.17	Low
	Total	264	2.66	
I review English lessons often	Medicine	46	3.76	High
	English Language	80	3.18	Medium
	Biology	92	2.73	Medium
	Computer Science	46	2.85	Medium
	Total	264	3.06	
I remember new English words or phrases by remembering their location on the page or on a board.	Medicine	46	4.07	High
	English Language	80	4.14	High
	Biology	92	4.38	High
	Computer Science	46	4.09	High
	Total	264	4.20	
I say or write new English words several times	Medicine	46	3.89	High
	English Language	80	3.81	High
	Biology	92	3.61	High
	Computer Science	46	3.83	High
	Total	264	3.76	
I try to talk like native English speakers	Medicine	46	4.33	High
	English Language	80	4.09	High

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Biology	92	3.21	Medium
	Computer Science	46	3.54	High
	Total	264	3.73	
I practise the sounds of English.	Medicine	46	3.61	High
	English Language	80	3.60	High
	Biology	92	3.11	Medium
	Computer Science	46	3.52	High
	Total	264	3.42	
I use the English words I know in different ways	Medicine	46	3.78	High
	English Language	80	3.38	Medium
	Biology	92	2.53	Medium
	Computer Science	46	2.93	Medium
	Total	264	3.08	
I start conversations in English	Medicine	46	3.04	Medium
	English Language	80	3.16	Medium
	Biology	92	2.51	Medium
	Computer Science	46	2.28	Low
	Total	264	2.76	
I watch English language TV shows spoken in English	Medicine	46	3.87	High
	English Language	80	4.03	High
	Biology	92	2.78	Medium
	Computer Science	46	3.54	High
	Total	264	3.48	
I read for pleasure in English	Medicine	46	3.07	Medium
	English Language	80	2.84	Medium
	Biology	92	2.05	Low
	Computer Science	46	2.33	Low
	Total	264	2.52	

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
I write notes, messages, letters, or reports in English	Medicine	46	3.52	High
	English Language	80	2.85	Medium
	Biology	92	1.90	Low
	Computer Science	46	2.54	Medium
	Total	264	2.58	
I first skim an English passage (read over the passage quickly) then go back and read carefully	Medicine	46	4.04	High
	English Language	80	3.71	High
	Biology	92	3.67	High
	Computer Science	46	4.13	High
	Total	264	3.83	
I look for words in my own language that are similar to new words in English	Medicine	46	4.11	High
	English Language	80	3.63	High
	Biology	92	3.80	High
	Computer Science	46	4.26	High
	Total	264	3.88	
I try to find patterns in English	Medicine	46	3.28	Medium
	English Language	80	3.55	High
	Biology	92	2.84	Medium
	Computer Science	46	2.41	Low
	Total	264	3.06	High
I find the meaning of an English word by dividing it into parts that I understand	Medicine	46	4.09	High
	English Language	80	4.19	High
	Biology	92	4.29	High
	Computer Science	46	3.46	High
	Total	264	4.08	
I try not to translate word-for-word	Medicine	46	3.48	High
	English Language	80	3.44	Medium
	Biology	92	3.57	High

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Computer Science	46	2.72	High
	Total	264	3.36	
I make summaries of information that I hear or read in English	Medicine	46	2.89	Medium
	English Language	80	2.66	Medium
	Biology	92	2.14	Low
	Computer Science	46	2.50	Medium
	Total	264	2.49	
To understand unfamiliar English words, I make guesses	Medicine	46	3.39	Medium
	English Language	80	3.61	High
	Biology	92	3.52	High
	Computer Science	46	3.43	Medium
	Total	264	3.51	
When I can't think of a word during a conversation in English, I use gestures	Medicine	46	3.54	High
	English Language	80	3.63	High
	Biology	92	3.70	High
	Computer Science	46	3.35	Medium
	Total	264	3.59	
I make up new words if I do not know the right ones in English	Medicine	46	2.63	Medium
	English Language	80	3.48	High
	Biology	92	3.73	High
	Computer Science	46	2.26	Low
	Total	264	3.20	
I read English without looking up every new word	Medicine	46	2.80	Medium
	English Language	80	2.73	Medium
	Biology	92	2.91	Medium
	Computer Science	46	3.33	Medium
	Total	264	2.91	
I try to guess what the other person	Medicine	46	3.80	High

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
will say next in English	English Language	80	3.10	Medium
	Biology	92	3.39	Medium
	Computer Science	46	2.74	Medium
	Total	264	3.26	
If I cannot think of an English word, I use a word or phrase that means the same thing	Medicine	46	4.26	High
	English Language	80	4.11	High
	Biology	92	3.90	High
	Computer Science	46	4.04	High
	Total	264	4.05	
I try to find as many ways as I can to use my English	Medicine	46	3.85	High
	English Language	80	3.95	High
	Biology	92	3.21	Medium
	Computer Science	46	3.04	Medium
	Total	264	3.52	
I notice my English mistakes and use that information to help me do better	Medicine	46	4.33	High
	English Language	80	4.30	High
	Biology	92	3.99	High
	Computer Science	46	3.67	High
	Total	264	4.09	
I pay attention when someone is speaking English	Medicine	46	4.61	High
	English Language	80	4.53	High
	Biology	92	4.23	High
	Computer Science	46	4.46	High
	Total	264	4.42	
I try to find out how to be a better learner of English	Medicine	46	4.85	High
	English Language	80	4.56	High
	Biology	92	4.27	High
	Computer Science	46	4.35	High

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Total	264	4.47	
I plan my schedule so I will have enough time to study English	Medicine	46	3.22	Medium
	English Language	80	3.05	Medium
	Biology	92	2.03	Low
	Computer Science	46	2.70	Medium
	Total	264	2.66	
I look for people I can talk to in English	Medicine	46	4.07	High
	English Language	80	3.36	Medium
	Biology	92	2.41	Low
	Computer Science	46	3.17	Medium
	Total	264	3.12	
I look for opportunities to read as much as possible in English	Medicine	46	3.43	Medium
	English Language	80	3.11	Medium
	Biology	92	2.32	Low
	Computer Science	46	2.83	Medium
	Total	264	2.84	
I have clear goals for improving my English skills	Medicine	46	4.02	High
	English Language	80	4.03	High
	Biology	92	3.21	Medium
	Computer Science	46	4.00	High
	Total	264	3.73	
I think about my progress in learning English	Medicine	46	4.50	High
	English Language	80	4.55	High
	Biology	92	3.92	High
	Computer Science	46	4.07	High
	Total	264	4.24	
I try to relax whenever I feel afraid of using English	Medicine	46	3.70	High
	English Language	80	3.46	High

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Biology	92	3.43	Medium
	Computer Science	46	3.30	Medium
	Total	264	3.47	
I encourage myself to speak English even when I am afraid of making a mistake	Medicine	46	4.35	High
	English Language	80	3.65	High
	Biology	92	3.17	Medium
	Computer Science	46	3.28	Medium
	Total	264	3.54	
I give myself a reward or treat when I do well in English	Medicine	46	2.93	Medium
	English Language	80	2.73	Medium
	Biology	92	2.48	Medium
	Computer Science	46	2.93	Medium
	Total	264	2.71	
I notice if I am tense or nervous when I am studying or using English	Medicine	46	3.63	High
	English Language	80	3.23	Medium
	Biology	92	2.63	Medium
	Computer Science	46	2.76	Medium
	Total	264	3.01	
I write down my feelings in a language learning diary	Medicine	46	2.48	Medium
	English Language	80	2.01	Low
	Biology	92	1.51	Low
	Computer Science	46	1.89	Low
	Total	264	1.90	
I talk to someone else about how I feel when I am learning English	Medicine	46	3.67	High
	English Language	80	4.01	High
	Biology	92	3.74	High
	Computer Science	46	3.52	High
	Total	264	3.77	

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
If I do not understand something in English, I ask the other person to slow down or say it again	Medicine	46	3.89	High
	English Language	80	3.66	High
	Biology	92	4.12	High
	Computer Science	46	3.57	High
	Total	264	3.84	
I ask English speakers to correct me when I talk	Medicine	46	3.61	High
	English Language	80	3.21	Medium
	Biology	92	2.88	Medium
	Computer Science	46	3.52	High
	Total	264	3.22	
I practise English with other students	Medicine	46	3.54	High
	English Language	80	2.78	Medium
	Biology	92	2.28	Low
	Computer Science	46	2.78	Medium
	Total	264	2.74	
I ask for help from English speakers	Medicine	46	3.76	High
	English Language	80	3.50	High
	Biology	92	3.23	Medium
	Computer Science	46	3.22	Medium
	Total	264	3.40	
I ask questions in English	Medicine	46	3.70	High
	English Language	80	3.28	Medium
	Biology	92	2.95	Medium
	Computer Science	46	3.00	Medium
	Total	264	3.19	
I try to learn about the culture of English speakers	Medicine	46	2.63	Medium
	English Language	80	2.60	Medium
	Biology	92	2.30	Low

TABLE E1

Mean Score and Level of Individual Strategies With Regard to Major Field of Study (cont'd)

Descriptive Statistics				
		N	**Mean**	**Level**
	Computer Science	46	2.35	Low
	Total	**264**	**2.46**	

TABLE E2

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I think of relationships between what I already know and new things I learn in English	Between Groups	31.165	3	10.388	8.930	.000
	Within Groups	302.467	260	1.163		
	Total	333.633	263			
I use new English words in a sentence so I can remember them	Between Groups	74.931	3	24.977	16.865	.000
	Within Groups	385.065	260	1.481		
	Total	459.996	263			
I remember a new English word by making a mental picture of a situation in which the word might be used	Between Groups	30.970	3	10.323	6.256	.000
	Within Groups	429.026	260	1.650		
	Total	459.996	263			
I use rhymes to remember new English words	Between Groups	59.104	3	19.701	12.192	.000
	Within Groups	420.135	260	1.616		
	Total	479.239	263			
I use flashcards to remember new English words	Between Groups	38.088	3	12.696	12.661	.000
	Within Groups	260.727	260	1.003		
	Total	298.814	263			
I physically act out new English words	Between Groups	32.877	3	10.959	5.198	.002
	Within Groups	548.120	260	2.108		
	Total	580.996	263			
I review English lessons often	Between Groups	35.844	3	11.948	10.710	.000
	Within Groups	290.061	260	1.116		
	Total	325.905	263			
I try to talk like native English speakers	Between Groups	53.378	3	17.793	11.954	.000
	Within Groups	386.985	260	1.488		
	Total	440.364	263			
I practise the sounds	Between Groups	13.619	3	4.540	2.716	.045

TABLE E2

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
of English.	Within Groups	434.548	260	1.671		
	Total	448.167	263			
I use the English words I know in different ways	Between Groups	58.202	3	19.401	12.477	.000
	Within Groups	404.283	260	1.555		
	Total	462.485	263			
I start conversations in English	Between Groups	32.850	3	10.950	6.484	.000
	Within Groups	439.116	260	1.689		
	Total	471.966	263			
I watch English language TV shows spoken in English	Between Groups	75.673	3	25.224	13.947	.000
	Within Groups	470.233	260	1.809		
	Total	545.905	263			
I read for pleasure in English	Between Groups	43.411	3	14.470	9.733	.000
	Within Groups	386.529	260	1.487		
	Total	429.939	263			
I write notes, messages, letters, or reports in English	Between Groups	88.956	3	29.652	22.204	.000
	Within Groups	347.211	260	1.335		
	Total	436.167	263			
I look for words in my own language that are similar to new words in English	Between Groups	14.806	3	4.935	3.768	.011
	Within Groups	340.554	260	1.310		
	Total	355.360	263			
I try to find patterns in English	Between Groups	45.315	3	15.105	9.032	.000
	Within Groups	434.833	260	1.672		
	Total	480.148	263			
I find the meaning of an English word by dividing it into parts that I understand	Between Groups	23.001	3	7.667	5.789	.001
	Within Groups	344.329	260	1.324		
	Total	367.330	263			
I try not to translate word-for-word	Between Groups	23.990	3	7.997	4.609	.004
	Within Groups	451.101	260	1.735		

TABLE E2

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
	Total	475.091	263			
I make summaries of information that I hear or read in English	Between Groups	20.978	3	6.993	4.360	.005
	Within Groups	417.007	260	1.604		
	Total	437.985	263			
I make up new words if I do not know the right ones in English	Between Groups	87.211	3	29.070	18.268	.000
	Within Groups	413.743	260	1.591		
	Total	500.955	263			
I try to guess what the other person will say next in English	Between Groups	29.744	3	9.915	6.657	.000
	Within Groups	387.222	260	1.489		
	Total	416.966	263			
I try to find as many ways as I can to use my English	Between Groups	39.215	3	13.072	10.154	.000
	Within Groups	334.724	260	1.287		
	Total	373.939	263			
I notice my English mistakes and use that information to help me do better	Between Groups	14.990	3	4.997	4.921	.002
	Within Groups	264.007	260	1.015		
	Total	278.996	263			
I pay attention when someone is speaking English	Between Groups	5.959	3	1.986	3.064	.029
	Within Groups	168.526	260	.648		
	Total	174.485	263			
I try to find out how to be a better learner of English	Between Groups	11.551	3	3.850	5.745	.001
	Within Groups	174.264	260	.670		
	Total	185.814	263			
I plan my schedule so I will have enough time to study English	Between Groups	62.729	3	20.910	16.975	.000
	Within Groups	320.267	260	1.232		
	Total	382.996	263			
I look for people I can talk to in English	Between Groups	91.916	3	30.639	20.415	.000
	Within Groups	390.205	260	1.501		
	Total	482.121	263			

TABLE E2

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I look for opportunities to read as much as possible in English	Between Groups	47.559	3	15.853	12.810	.000
	Within Groups	321.759	260	1.238		
	Total	369.318	263			
I have clear goals for improving my English skills	Between Groups	39.435	3	13.145	8.460	.000
	Within Groups	404.004	260	1.554		
	Total	443.439	263			
I think about my progress in learning English	Between Groups	21.394	3	7.131	7.838	.000
	Within Groups	236.572	260	.910		
	Total	257.966	263			
I encourage myself to speak English even when I am afraid of making a mistake	Between Groups	46.363	3	15.454	10.767	.000
	Within Groups	373.178	260	1.435		
	Total	419.542	263			
I notice if I am tense or nervous when I am studying or using English	Between Groups	37.513	3	12.504	7.518	.000
	Within Groups	432.472	260	1.663		
	Total	469.985	263			
I write down my feelings in a language learning diary	Between Groups	30.327	3	10.109	7.511	.000
	Within Groups	349.911	260	1.346		
	Total	380.239	263			
If I do not understand something in English, I ask the other person to slow down or say it again	Between Groups	13.299	3	4.433	3.500	.016
	Within Groups	329.333	260	1.267		
	Total	342.633	263			
I ask English speakers to correct me when I talk	Between Groups	21.751	3	7.250	3.789	.011
	Within Groups	497.507	260	1.913		
	Total	519.258	263			
I practise English with other students	Between Groups	49.125	3	16.375	12.101	.000
	Within Groups	351.841	260	1.353		
	Total	400.966	263			

TABLE E2

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I ask questions in English	Between Groups	19.488	3	6.496	4.847	.003
	Within Groups	348.417	260	1.340		
	Total	367.905	263			

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I think of relationships between what I already know and new things I learn in English	Medicine	English Language	.46	.20	.158	-.11	1.02
		Biology	.92(*)	.19	.000	.38	1.47
		Computer Science	.87(*)	.22	.002	.24	1.50
	English Language	Medicine	-.46	.20	.158	-1.02	.11
		Biology	.47(*)	.16	.048	3.43E-03	.93
		Computer Science	.41	.20	.235	-.15	.97
	Biology	Medicine	-.92(*)	.19	.000	-1.47	-.38
		English Language	-.47(*)	.16	.048	-.93	-3.43E-03
		Computer Science	-5.43E-02	.19	.994	-.60	.49
	Computer Science	Medicine	-.87(*)	.22	.002	-1.50	-.24
		English Language	-.41	.20	.235	-.97	.15
		Biology	5.43E-02	.19	.994	-.49	.60
I use new English words in a sentence so I can remember them	Medicine	English Language	.65(*)	.23	.041	1.85E-02	1.29
		Biology	1.48(*)	.22	.000	.86	2.10
		Computer Science	1.11(*)	.25	.000	.39	1.82
	English Language	Medicine	-.65(*)	.23	.041	-1.29	-1.85E-02

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I remember a new English word by making a mental picture of a situation in which the word might be used	Biology	Computer Science	.46	.23	.252	-.18	1.09
		Medicine	-1.48(*)	.22	.000	-2.10	-.86
		English Language	-.83(*)	.19	.000	-1.35	-.30
		Computer Science	-.37	.22	.421	-.99	.25
	Computer Science	Medicine	-1.11(*)	.25	.000	-1.82	-.39
		English Language	-.46	.23	.252	-1.09	.18
		Biology	.37	.22	.421	-.25	.99
	Medicine	English Language	.44	.24	.337	-.23	1.11
		Biology	.92(*)	.23	.001	.27	1.58
		Computer Science	.26	.27	.814	-.49	1.01
	English Language	Medicine	-.44	.24	.337	-1.11	.23
		Biology	.49	.20	.109	-6.67E-02	1.04
		Computer Science	-.18	.24	.906	-.85	.49
	Biology	Medicine	-.92(*)	.23	.001	-1.58	-.27
		English Language	-.49	.20	.109	-1.04	6.67E-02
		Computer Science	-.66(*)	.23	.045	-1.32	-1.03E-02

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	Computer Science	Medicine	-.26	.27	.814	-1.01	.49
		English Language	.18	.24	.906	-.49	.85
		Biology	.66(*)	.23	.045	1.03E-02	1.32
I use rhymes to remember new English words	Medicine	English Language	1.13(*)	.24	.000	.47	1.79
		Biology	.78(*)	.23	.010	.14	1.43
		Computer Science	1.50(*)	.27	.000	.75	2.25
	English Language	Medicine	-1.13(*)	.24	.000	-1.79	-.47
		Biology	-.35	.19	.369	-.89	.20
		Computer Science	.37	.24	.477	-.29	1.03
	Biology	Medicine	-.78(*)	.23	.010	-1.43	-.14
		English Language	.35	.19	.369	-.20	.89
		Computer Science	.72(*)	.23	.022	7.15E-02	1.36
	Computer Science	Medicine	-1.50(*)	.27	.000	-2.25	-.75
		English Language	-.37	.24	.477	-1.03	.29
		Biology	-.72(*)	.23	.022	-1.36	-7.15E-02
I use flashcards to remember	Medicine	English Language	.78(*)	.19	.001	.26	1.30
		Biology	1.00(*)	.18	.000	.49	1.51

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
new English words		Computer Science	1.13(*)	.21	.000	.54	1.72
	English Language	Medicine	-.78(*)	.19	.001	-1.30	-.26
		Biology	.22	.15	.555	-.21	.65
		Computer Science	.35	.19	.310	-.17	.87
	Biology	Medicine	-1.00(*)	.18	.000	-1.51	-.49
		English Language	-.22	.15	.555	-.65	.21
		Computer Science	.13	.18	.914	-.38	.64
	Computer Science	Medicine	-1.13(*)	.21	.000	-1.72	-.54
		English Language	-.35	.19	.310	-.87	.17
		Biology	-.13	.18	.914	-.64	.38
I physically act out new English words	Medicine	English Language	.56	.27	.230	-.20	1.32
		Biology	-8.70E-02	.26	.991	-.82	.65
		Computer Science	.76	.30	.100	-9.10E-02	1.61
	English Language	Medicine	-.56	.27	.230	-1.32	.20
		Biology	-.65(*)	.22	.039	-1.27	-2.22E-02
		Computer Science	.20	.27	.905	-.55	.96
	Biology	Medicine	8.70E-02	.26	.991	-.65	.82

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	.65(*)	.22	.039	2.22E-02	1.27
		Computer Science	.85(*)	.26	.016	.11	1.59
	Computer Science	Medicine	-.76	.30	.100	-1.61	9.10E-02
		English Language	-.20	.27	.905	-.96	.55
		Biology	-.85(*)	.26	.016	-1.59	-.11
I review English lessons often	Medicine	English Language	.59(*)	.20	.031	3.59E-02	1.14
		Biology	1.03(*)	.19	.000	.50	1.57
		Computer Science	.91(*)	.22	.001	.29	1.53
	English Language	Medicine	-.59(*)	.20	.031	-1.14	-3.59E-02
		Biology	.45	.16	.056	-7.61E-03	.90
		Computer Science	.33	.20	.425	-.22	.88
	Biology	Medicine	-1.03(*)	.19	.000	-1.57	-.50
		English Language	-.45	.16	.056	-.90	7.61E-03
		Computer Science	-.12	.19	.942	-.66	.42
	Computer Science	Medicine	-.91(*)	.22	.001	-1.53	-.29
		English Language	-.33	.20	.425	-.88	.22

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		Biology	.12	.19	.942	-.42	.66
I try to talk like native English speakers	Medicine	English Language	.24	.23	.773	-.40	.87
		Biology	1.12(*)	.22	.000	.50	1.74
		Computer Science	.78(*)	.25	.025	6.68E-02	1.50
	English Language	Medicine	-.24	.23	.773	-.87	.40
		Biology	.88(*)	.19	.000	.36	1.41
		Computer Science	.54	.23	.124	-9.12E-02	1.18
	Biology	Medicine	-1.12(*)	.22	.000	-1.74	-.50
		English Language	-.88(*)	.19	.000	-1.41	-.36
		Computer Science	-.34	.22	.506	-.96	.28
	Computer Science	Medicine	-.78(*)	.25	.025	-1.50	-6.68E-02
		English Language	-.54	.23	.124	-1.18	9.12E-02
		Biology	.34	.22	.506	-.28	.96
I use the English words I know in different ways	Medicine	English Language	.41	.23	.375	-.24	1.06
		Biology	1.25(*)	.23	.000	.62	1.88
		Computer Science	.85(*)	.26	.015	.12	1.58
	English Language	Medicine	-.41	.23	.375	-1.06	.24
		Biology	.84(*)	.19	.000	.31	1.38

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I start conversations in English		Computer Science	.44	.23	.305	-.21	1.09
	Biology	Medicine	-1.25(*)	.23	.000	-1.88	-.62
		English Language	-.84(*)	.19	.000	-1.38	-.31
		Computer Science	-.40	.23	.365	-1.04	.23
	Computer Science	Medicine	-.85(*)	.26	.015	-1.58	-.12
		English Language	-.44	.23	.305	-1.09	.21
		Biology	.40	.23	.365	-.23	1.04
	Medicine	English Language	-.12	.24	.970	-.80	.56
		Biology	.53	.23	.164	-.13	1.19
		Computer Science	.76	.27	.051	-1.64E-03	1.52
	English Language	Medicine	.12	.24	.970	-.56	.80
		Biology	.65(*)	.20	.014	9.26E-02	1.21
		Computer Science	.88(*)	.24	.004	.20	1.56
	Biology	Medicine	-.53	.23	.164	-1.19	.13
		English Language	-.65(*)	.20	.014	-1.21	-9.26E-02
		Computer Science	.23	.23	.814	-.43	.89
	Computer Science	Medicine	-.76	.27	.051	-1.52	1.64E-03

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	-.88(*)	.24	.004	-1.56	-.20
		Biology	-.23	.23	.814	-.89	.43
I watch English language TV shows spoken in English	Medicine	English Language	-.16	.25	.942	-.86	.54
		Biology	1.09(*)	.24	.000	.40	1.77
		Computer Science	.33	.28	.717	-.46	1.12
	English Language	Medicine	.16	.25	.942	-.54	.86
		Biology	1.24(*)	.21	.000	.66	1.82
		Computer Science	.48	.25	.293	-.22	1.18
	Biology	Medicine	-1.09(*)	.24	.000	-1.77	-.40
		English Language	-1.24(*)	.21	.000	-1.82	-.66
		Computer Science	-.76(*)	.24	.022	-1.44	-7.75E-02
	Computer Science	Medicine	-.33	.28	.717	-1.12	.46
		English Language	-.48	.25	.293	-1.18	.22
		Biology	.76(*)	.24	.022	7.75E-02	1.44
I read for pleasure in English	Medicine	English Language	.23	.23	.797	-.41	.86
		Biology	1.01(*)	.22	.000	.39	1.63
		Computer Science	.74(*)	.25	.040	2.37E-02	1.45
	English	Medicine	-.23	.23	.797	-.86	.41

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	Language	Biology	.78(*)	.19	.001	.26	1.31
		Computer Science	.51	.23	.165	-.12	1.15
	Biology	Medicine	-1.01(*)	.22	.000	-1.63	-.39
		English Language	-.78(*)	.19	.001	-1.31	-.26
		Computer Science	-.27	.22	.677	-.89	.35
	Computer Science	Medicine	-.74(*)	.25	.040	-1.45	-2.37E-02
		English Language	-.51	.23	.165	-1.15	.12
		Biology	.27	.22	.677	-.35	.89
I write notes, messages, letters, or reports in English	Medicine	English Language	.67(*)	.21	.021	7.00E-02	1.27
		Biology	1.62(*)	.21	.000	1.03	2.21
		Computer Science	.98(*)	.24	.001	.30	1.66
	English Language	Medicine	-.67(*)	.21	.021	-1.27	-7.00E-02
		Biology	.95(*)	.18	.000	.45	1.44
		Computer Science	.31	.21	.562	-.30	.91
	Biology	Medicine	-1.62(*)	.21	.000	-2.21	-1.03
		English Language	-.95(*)	.18	.000	-1.44	-.45

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		Computer Science	-.64(*)	.21	.026	-1.23	-5.41E-02
	Computer Science	Medicine	-.98(*)	.24	.001	-1.66	-.30
		English Language	-.31	.21	.562	-.91	.30
		Biology	.64(*)	.21	.026	5.41E-02	1.23
		Biology	.46	.23	.256	-.18	1.09
I look for words in my own language that are similar to new words in English	Medicine	English Language	.48	.21	.159	-.11	1.08
		Biology	.30	.21	.539	-.28	.89
		Computer Science	-.15	.24	.939	-.82	.52
	English Language	Medicine	-.48	.21	.159	-1.08	.11
		Biology	-.18	.17	.789	-.67	.31
		Computer Science	-.64(*)	.21	.031	-1.23	-4.00E-02
	Biology	Medicine	-.30	.21	.539	-.89	.28
		English Language	.18	.17	.789	-.31	.67
		Computer Science	-.46	.21	.184	-1.04	.13
	Computer Science	Medicine	.15	.24	.939	-.52	.82
		English Language	.64(*)	.21	.031	4.00E-02	1.23
		Biology	.46	.21	.184	-.13	1.04

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I try to find patterns in English	Medicine	English Language	-.27	.24	.742	-.94	.41
		Biology	.45	.23	.305	-.21	1.10
		Computer Science	.87(*)	.27	.017	.11	1.63
	English Language	Medicine	.27	.24	.742	-.41	.94
		Biology	.71(*)	.20	.005	.16	1.27
		Computer Science	1.14(*)	.24	.000	.46	1.81
	Biology	Medicine	-.45	.23	.305	-1.10	.21
		English Language	-.71(*)	.20	.005	-1.27	-.16
		Computer Science	.42	.23	.350	-.23	1.08
	Computer Science	Medicine	-.87(*)	.27	.017	-1.63	-.11
		English Language	-1.14(*)	.24	.000	-1.81	-.46
		Biology	-.42	.23	.350	-1.08	.23
I find the meaning of an English word by dividing it into parts that I understand	Medicine	English Language	-.10	.21	.974	-.70	.50
		Biology	-.21	.21	.804	-.79	.38
		Computer Science	.63	.24	.078	-4.48E-02	1.31
	English Language	Medicine	.10	.21	.974	-.50	.70
		Biology	-.11	.18	.948	-.60	.39
		Computer Science	.73(*)	.21	.009	.13	1.33

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I try not to translate word-for-word	Biology	Medicine	.21	.21	.804	-.38	.79
		English Language	.11	.18	.948	-.39	.60
		Computer Science	.84(*)	.21	.001	.25	1.42
	Computer Science	Medicine	-.63	.24	.078	-1.31	4.48E-02
		English Language	-.73(*)	.21	.009	-1.33	-.13
		Biology	-.84(*)	.21	.001	-1.42	-.25
	Medicine	English Language	4.08E-02	.24	.999	-.65	.73
		Biology	-8.70E-02	.24	.987	-.76	.58
		Computer Science	.76	.27	.056	-1.20E-02	1.53
	English Language	Medicine	-4.08E-02	.24	.999	-.73	.65
		Biology	-.13	.20	.940	-.69	.44
		Computer Science	.72(*)	.24	.035	3.43E-02	1.41
	Biology	Medicine	8.70E-02	.24	.987	-.58	.76
		English Language	.13	.20	.940	-.44	.69
		Computer Science	.85(*)	.24	.006	.18	1.52
	Computer Science	Medicine	-.76	.27	.056	-1.53	1.20E-02

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	-.72(*)	.24	.035	-1.41	-3.43E-02
		Biology	-.85(*)	.24	.006	-1.52	-.18
I make summaries of information that I hear or read in English	Medicine	English Language	.23	.23	.813	-.43	.89
		Biology	.75(*)	.23	.014	.11	1.39
		Computer Science	.39	.26	.534	-.35	1.13
	English Language	Medicine	-.23	.23	.813	-.89	.43
		Biology	.52	.19	.067	-2.36E-02	1.07
		Computer Science	.16	.23	.923	-.50	.82
	Biology	Medicine	-.75(*)	.23	.014	-1.39	-.11
		English Language	-.52	.19	.067	-1.07	2.36E-02
		Computer Science	-.36	.23	.484	-1.00	.28
	Computer Science	Medicine	-.39	.26	.534	-1.13	.35
		English Language	-.16	.23	.923	-.82	.50
		Biology	.36	.23	.484	-.28	1.00
I make up new words if I do not know the right ones in English	Medicine	English Language	-.84(*)	.23	.005	-1.50	-.19
		Biology	-1.10(*)	.23	.000	-1.74	-.46
		Computer Science	.37	.26	.579	-.37	1.11

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	English Language	Medicine	.84(*)	.23	.005	.19	1.50
		Biology	-.25	.19	.632	-.80	.29
		Computer Science	1.21(*)	.23	.000	.56	1.87
	Biology	Medicine	1.10(*)	.23	.000	.46	1.74
		English Language	.25	.19	.632	-.29	.80
		Computer Science	1.47(*)	.23	.000	.83	2.11
	Computer Science	Medicine	-.37	.26	.579	-1.11	.37
		English Language	-1.21(*)	.23	.000	-1.87	-.56
		Biology	-1.47(*)	.23	.000	-2.11	-.83
I try to guess what the other person will say next in English	Medicine	English Language	.70(*)	.23	.023	6.89E-02	1.34
		Biology	.41	.22	.321	-.21	1.03
		Computer Science	1.07(*)	.25	.001	.35	1.78
	English Language	Medicine	-.70(*)	.23	.023	-1.34	-6.89E-02
		Biology	-.29	.19	.488	-.82	.23
		Computer Science	.36	.23	.467	-.27	1.00
	Biology	Medicine	-.41	.22	.321	-1.03	.21
		English Language	.29	.19	.488	-.23	.82
		Computer Science	.65(*)	.22	.035	3.21E-02	1.27

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	Computer Science	Medicine	-1.07(*)	.25	.001	-1.78	-.35
		English Language	-.36	.23	.467	-1.00	.27
		Biology	-.65(*)	.22	.035	-1.27	-3.21E-02
I try to find as many ways as I can to use my English	Medicine	English Language	-.10	.21	.971	-.69	.49
		Biology	.64(*)	.20	.022	6.48E-02	1.22
		Computer Science	.80(*)	.24	.010	.14	1.47
	English Language	Medicine	.10	.21	.971	-.49	.69
		Biology	.74(*)	.17	.000	.26	1.23
		Computer Science	.91(*)	.21	.000	.32	1.50
	Biology	Medicine	-.64(*)	.20	.022	-1.22	-6.48E-02
		English Language	-.74(*)	.17	.000	-1.23	-.26
		Computer Science	.16	.20	.889	-.41	.74
	Computer Science	Medicine	-.80(*)	.24	.010	-1.47	-.14
		English Language	-.91(*)	.21	.000	-1.50	-.32
		Biology	-.16	.20	.889	-.74	.41
I notice my English mistakes and	Medicine	English Language	2.61E-02	.19	.999	-.50	.55
		Biology	.34	.18	.332	-.18	.85

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
use that information to help me do better		Computer Science	.65(*)	.21	.024	6.09E-02	1.24
	English Language	Medicine	-2.61E-02	.19	.999	-.55	.50
		Biology	.31	.15	.256	-.12	.74
		Computer Science	.63(*)	.19	.011	.10	1.15
	Biology	Medicine	-.34	.18	.332	-.85	.18
		English Language	-.31	.15	.256	-.74	.12
		Computer Science	.32	.18	.393	-.20	.83
	Computer Science	Medicine	-.65(*)	.21	.024	-1.24	-6.09E-02
		English Language	-.63(*)	.19	.011	-1.15	-.10
		Biology	-.32	.18	.393	-.83	.20
I try to find out how to be a better learner of English	Medicine	English Language	.29	.15	.317	-.14	.71
		Biology	.58(*)	.15	.002	.16	.99
		Computer Science	.50(*)	.17	.037	1.96E-02	.98
	English Language	Medicine	-.29	.15	.317	-.71	.14
		Biology	.29	.13	.148	-6.14E-02	.64
		Computer Science	.21	.15	.572	-.21	.64
	Biology	Medicine	-.58(*)	.15	.002	-.99	-.16

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I plan my schedule so I will have enough time to study English	Computer Science	English Language	-.29	.13	.148	-.64	6.14E-02
		Computer Science	-7.61E-02	.15	.966	-.49	.34
		Medicine	-.50(*)	.17	.037	-.98	-1.96E-02
		English Language	-.21	.15	.572	-.64	.21
		Biology	7.61E-02	.15	.966	-.34	.49
	Medicine	English Language	.17	.21	.881	-.41	.75
		Biology	1.18(*)	.20	.000	.62	1.75
		Computer Science	.52	.23	.169	-.13	1.17
	English Language	Medicine	-.17	.21	.881	-.75	.41
		Biology	1.02(*)	.17	.000	.54	1.49
		Computer Science	.35	.21	.397	-.22	.93
	Biology	Medicine	-1.18(*)	.20	.000	-1.75	-.62
		English Language	-1.02(*)	.17	.000	-1.49	-.54
		Computer Science	-.66(*)	.20	.013	-1.23	-9.91E-02
	Computer Science	Medicine	-.52	.23	.169	-1.17	.13
		English Language	-.35	.21	.397	-.93	.22
		Biology	.66(*)	.20	.013	9.91E-02	1.23

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I look for people I can talk to in English	Medicine	English Language	.70(*)	.23	.024	6.49E-02	1.34
		Biology	1.65(*)	.22	.000	1.03	2.27
		Computer Science	.89(*)	.26	.008	.17	1.61
	English Language	Medicine	-.70(*)	.23	.024	-1.34	-6.49E-02
		Biology	.95(*)	.19	.000	.42	1.48
		Computer Science	.19	.23	.875	-.45	.83
	Biology	Medicine	-1.65(*)	.22	.000	-2.27	-1.03
		English Language	-.95(*)	.19	.000	-1.48	-.42
		Computer Science	-.76(*)	.22	.009	-1.38	-.14
	Computer Science	Medicine	-.89(*)	.26	.008	-1.61	-.17
		English Language	-.19	.23	.875	-.83	.45
		Biology	.76(*)	.22	.009	.14	1.38
I look for opportunities to read as much as possible in English	Medicine	English Language	.32	.21	.485	-.26	.90
		Biology	1.12(*)	.20	.000	.55	1.68
		Computer Science	.61	.23	.078	-4.40E-02	1.26
	English Language	Medicine	-.32	.21	.485	-.90	.26
		Biology	.80(*)	.17	.000	.32	1.28

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
I have clear goals for improving my English skills		Computer Science	.29	.21	.587	-.29	.87
	Biology	Medicine	-1.12(*)	.20	.000	-1.68	-.55
		English Language	-.80(*)	.17	.000	-1.28	-.32
		Computer Science	-.51	.20	.094	-1.08	5.44E-02
	Computer Science	Medicine	-.61	.23	.078	-1.26	4.40E-02
		English Language	-.29	.21	.587	-.87	.29
		Biology	.51	.20	.094	-5.44E-02	1.08
	Medicine	English Language	-3.26E-03	.23	1.000	-.65	.65
		Biology	.82(*)	.23	.005	.18	1.45
		Computer Science	2.17E-02	.26	1.000	-.71	.75
	English Language	Medicine	3.26E-03	.23	1.000	-.65	.65
		Biology	.82(*)	.19	.000	.28	1.35
		Computer Science	2.50E-02	.23	1.000	-.62	.67
	Biology	Medicine	-.82(*)	.23	.005	-1.45	-.18
		English Language	-.82(*)	.19	.000	-1.35	-.28
		Computer Science	-.79(*)	.23	.007	-1.43	-.16
	Computer Science	Medicine	-2.17E-02	.26	1.000	-.75	.71

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	-2.50E-02	.23	1.000	-.67	.62
		Biology	.79(*)	.23	.007	.16	1.43
I think about my progress in learning English	Medicine	English Language	-5.00E-02	.18	.994	-.55	.45
		Biology	.58(*)	.17	.012	9.14E-02	1.06
		Computer Science	.43	.20	.192	-.12	.99
	English Language	Medicine	5.00E-02	.18	.994	-.45	.55
		Biology	.63(*)	.15	.000	.22	1.04
		Computer Science	.48	.18	.059	-1.19E-02	.98
	Biology	Medicine	-.58(*)	.17	.012	-1.06	-9.14E-02
		English Language	-.63(*)	.15	.000	-1.04	-.22
		Computer Science	-.14	.17	.879	-.63	.34
	Computer Science	Medicine	-.43	.20	.192	-.99	.12
		English Language	-.48	.18	.059	-.98	1.19E-02
		Biology	.14	.17	.879	-.34	.63
I encourage myself to speak English even when I am afraid of	Medicine	English Language	.70(*)	.22	.021	7.40E-02	1.32
		Biology	1.17(*)	.22	.000	.57	1.78
		Computer Science	1.07(*)	.25	.001	.36	1.77

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
making a mistake	English Language	Medicine	-.70(*)	.22	.021	-1.32	-7.40E-02
		Biology	.48	.18	.083	-3.93E-02	.99
		Computer Science	.37	.22	.434	-.26	.99
	Biology	Medicine	-1.17(*)	.22	.000	-1.78	-.57
		English Language	-.48	.18	.083	-.99	3.93E-02
		Computer Science	-.11	.22	.969	-.72	.50
	Computer Science	Medicine	-1.07(*)	.25	.001	-1.77	-.36
		English Language	-.37	.22	.434	-.99	.26
		Biology	.11	.22	.969	-.50	.72
I notice if I am tense or nervous when I am studying or using English	Medicine	English Language	.41	.24	.411	-.27	1.08
		Biology	1.00(*)	.23	.000	.34	1.66
		Computer Science	.87(*)	.27	.016	.11	1.63
	English Language	Medicine	-.41	.24	.411	-1.08	.27
		Biology	.59(*)	.20	.030	3.98E-02	1.15
		Computer Science	.46	.24	.288	-.21	1.14
	Biology	Medicine	-1.00(*)	.23	.000	-1.66	-.34

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	-.59(*)	.20	.030	-1.15	-3.98E-02
		Computer Science	-.13	.23	.957	-.79	.52
	Computer Science	Medicine	-.87(*)	.27	.016	-1.63	-.11
		English Language	-.46	.24	.288	-1.14	.21
		Biology	.13	.23	.957	-.52	.79
I write down my feelings in a language learning diary	Medicine	English Language	.47	.21	.197	-.14	1.07
		Biology	.97(*)	.21	.000	.38	1.56
		Computer Science	.59	.24	.120	-9.37E-02	1.27
	English Language	Medicine	-.47	.21	.197	-1.07	.14
		Biology	.50(*)	.18	.048	2.60E-03	1.00
		Computer Science	.12	.21	.956	-.48	.73
	Biology	Medicine	-.97(*)	.21	.000	-1.56	-.38
		English Language	-.50(*)	.18	.048	-1.00	-2.60E-03
		Computer Science	-.38	.21	.350	-.97	.21
	Computer Science	Medicine	-.59	.24	.120	-1.27	9.37E-02
		English Language	-.12	.21	.956	-.73	.48

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		Biology	.38	.21	.350	-.21	.97
I ask English speakers to correct me when I talk	Medicine	English Language	.40	.26	.496	-.32	1.12
		Biology	.73(*)	.25	.039	2.54E-02	1.43
		Computer Science	8.70E-02	.29	.993	-.72	.90
	English Language	Medicine	-.40	.26	.496	-1.12	.32
		Biology	.33	.21	.483	-.26	.93
		Computer Science	-.31	.26	.692	-1.03	.41
	Biology	Medicine	-.73(*)	.25	.039	-1.43	-2.54E-02
		English Language	-.33	.21	.483	-.93	.26
		Computer Science	-.64	.25	.089	-1.34	6.16E-02
	Computer Science	Medicine	-8.70E-02	.29	.993	-.90	.72
		English Language	.31	.26	.692	-.41	1.03
		Biology	.64	.25	.089	-6.16E-02	1.34
I practise English with other students	Medicine	English Language	.77(*)	.22	.006	.16	1.37
		Biology	1.26(*)	.21	.000	.67	1.85
		Computer Science	.76(*)	.24	.022	7.83E-02	1.44

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
	English Language	Medicine	-.77(*)	.22	.006	-1.37	-.16
		Biology	.49	.18	.056	-8.01E-03	.99
		Computer Science	-7.61E-03	.22	1.000	-.61	.60
	Biology	Medicine	-1.26(*)	.21	.000	-1.85	-.67
		English Language	-.49	.18	.056	-.99	8.01E-03
		Computer Science	-.50	.21	.132	-1.09	9.11E-02
	Computer Science	Medicine	-.76(*)	.24	.022	-1.44	-7.83E-02
		English Language	7.61E-03	.22	1.000	-.60	.61
		Biology	.50	.21	.132	-9.11E-02	1.09
I ask questions in English	Medicine	English Language	.42	.21	.280	-.18	1.02
		Biology	.75(*)	.21	.006	.16	1.34
		Computer Science	.70(*)	.24	.042	1.64E-02	1.37
	English Language	Medicine	-.42	.21	.280	-1.02	.18
		Biology	.33	.18	.328	-.17	.83
		Computer Science	.27	.21	.649	-.33	.88
	Biology	Medicine	-.75(*)	.21	.006	-1.34	-.16

TABLE E3

Significant Variation in the Use of Strategies at the Individual Item Level With Regard to Major Field of Study by EFL Students - Post Hoc Tests (cont'd)

Multiple Comparisons Scheffe							
			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable	(I) Major	(J) Major				Lower Bound	Upper Bound
		English Language	-.33	.18	.328	-.83	.17
		Computer Science	-5.43E-02	.21	.995	-.64	.53
	Computer Science	Medicine	-.70(*)	.24	.042	-1.37	-1.64E-02
		English Language	-.27	.21	.649	-.88	.33
		Biology	5.43E-02	.21	.995	-.53	.64
* The mean difference is significant at the .05 level.							

TABLE E4

Equality of Means in the Use of Strategies by EFL Students With Different Year Levels (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I use new English words in a sentence so I can remember them	Between Groups	1.670	1	1.670	.955	.329
	Within Groups	458.326	262	1.749		
	Total	459.996	263			
I connect the sound of a new English word and an image or picture of the word to help me remember the word	Between Groups	6.621	1	6.621	3.781	.053
	Within Groups	458.818	262	1.751		
	Total	465.439	263			
I remember a new English word by making a mental picture of a situation in which the word might be used	Between Groups	2.803	1	2.803	1.606	.206
	Within Groups	457.193	262	1.745		
	Total	459.996	263			
I use flashcards to remember new English words	Between Groups	.267	1	.267	.234	.629
	Within Groups	298.547	262	1.139		
	Total	298.814	263			
I review English lessons often	Between Groups	2.301	1	2.301	1.863	.173
	Within Groups	323.604	262	1.235		
	Total	325.905	263			
I say or write new English words several times	Between Groups	.956	1	.956	.720	.397
	Within Groups	347.529	262	1.326		
	Total	348.485	263			
I try to talk like native English speakers	Between Groups	.114	1	.114	.068	.795
	Within Groups	440.250	262	1.680		
	Total	440.364	263			
I practise the sounds of English.	Between Groups	.244	1	.244	.143	.706
	Within Groups	447.922	262	1.710		
	Total	448.167	263			
I use the English words	Between Groups	1.000	1	1.000	.568	.452

TABLE E4

Equality of Means in the Use of Strategies by EFL Students With Different Year Levels (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I know in different ways	Within Groups	461.485	262	1.761		
	Total	462.485	263			
I start conversations in English	Between Groups	.440	1	.440	.244	.622
	Within Groups	471.526	262	1.800		
	Total	471.966	263			
I read for pleasure in English	Between Groups	1.188	1	1.188	.726	.395
	Within Groups	428.751	262	1.636		
	Total	429.939	263			
I first skim an English passage (read over the passage quickly) then go back and read carefully	Between Groups	.849	1	.849	.534	.466
	Within Groups	416.481	262	1.590		
	Total	417.330	263			
I make summaries of information that I hear or read in English	Between Groups	2.233	1	2.233	1.343	.248
	Within Groups	435.751	262	1.663		
	Total	437.985	263			
To understand unfamiliar English words, I make guesses	Between Groups	3.152	1	3.152	2.395	.123
	Within Groups	344.814	262	1.316		
	Total	347.966	263			
When I can't think of a word during a conversation in English, I use gestures	Between Groups	1.092	1	1.092	.664	.416
	Within Groups	430.904	262	1.645		
	Total	431.996	263			
I try to guess what the other person will say next in English	Between Groups	2.020E-03	1	2.020E-03	.001	.972
	Within Groups	416.964	262	1.591		
	Total	416.966	263			
If I cannot think of an English word, I use a word or phrase that means the same thing	Between Groups	2.841E-02	1	2.841E-02	.027	.870
	Within Groups	279.229	262	1.066		
	Total	279.258	263			

TABLE E4

Equality of Means in the Use of Strategies by EFL Students With Different Year Levels (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
I notice my English mistakes and use that information to help me do better	Between Groups	3.232E-02	1	3.232E-02	.030	.862
	Within Groups	278.964	262	1.065		
	Total	278.996	263			
I try to find out how to be a better learner of English	Between Groups	2.655	1	2.655	3.797	.052
	Within Groups	183.160	262	.699		
	Total	185.814	263			
I plan my schedule so I will have enough time to study English	Between Groups	2.005	1	2.005	1.378	.241
	Within Groups	380.992	262	1.454		
	Total	382.996	263			
I look for people I can talk to in English	Between Groups	.870	1	.870	.474	.492
	Within Groups	481.251	262	1.837		
	Total	482.121	263			
I look for opportunities to read as much as possible in English	Between Groups	1.263E-04	1	1.263E-04	.000	.992
	Within Groups	369.318	262	1.410		
	Total	369.318	263			
I have clear goals for improving my English skills	Between Groups	.121	1	.121	.072	.789
	Within Groups	443.318	262	1.692		
	Total	443.439	263			
I think about my progress in learning English	Between Groups	2.440	1	2.440	2.501	.115
	Within Groups	255.526	262	.975		
	Total	257.966	263			
I try to relax whenever I feel afraid of using English	Between Groups	1.818E-02	1	1.818E-02	.011	.915
	Within Groups	415.675	262	1.587		
	Total	415.693	263			
I encourage myself to speak English even	Between Groups	.749	1	.749	.468	.494
	Within Groups	418.793	262	1.598		

TABLE E4

Equality of Means in the Use of Strategies by EFL Students With Different Year Levels (cont'd)

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
when I am afraid of making a mistake	Total	419.542	263			
I give myself a reward or treat when I do well in English	Between Groups	1.699	1	1.699	.770	.381
	Within Groups	578.422	262	2.208		
	Total	580.121	263			
I talk to someone else about how I feel when I am learning English	Between Groups	3.112	1	3.112	1.936	.165
	Within Groups	421.251	262	1.608		
	Total	424.364	263			
If I do not understand something in English, I ask the other person to slow down or say it again	Between Groups	1.419	1	1.419	1.089	.298
	Within Groups	341.214	262	1.302		
	Total	342.633	263			
I ask English speakers to correct me when I talk	Between Groups	5.306	1	5.306	2.705	.101
	Within Groups	513.951	262	1.962		
	Total	519.258	263			
I practise English with other students	Between Groups	4.091E-02	1	4.091E-02	.027	.870
	Within Groups	400.925	262	1.530		
	Total	400.966	263			
I ask for help from English speakers	Between Groups	5.051E-02	1	5.051E-02	.028	.868
	Within Groups	479.389	262	1.830		
	Total	479.439	263			
I ask questions in English	Between Groups	2.475	1	2.475	1.774	.184
	Within Groups	365.431	262	1.395		
	Total	367.905	263			
I try to learn about the culture of English speakers	Between Groups	.138	1	.138	.071	.790
	Within Groups	505.404	262	1.929		
	Total	505.542	263			

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
I think of relationships between what I already know and new things I learn in English	Excellent	3.43	Medium	Memory
	Very Good	2.88	Medium	Memory
	Good	2.72	Medium	Memory
	Total	2.97		
I use new English words in a sentence so I can remember them	Excellent	2.57	Medium	Memory
	Very Good	2.23	Low	Memory
	Good	2.22	Low	Memory
	Total	2.31		
I connect the sound of a new English word and an image or picture of the word to help me remember the word	Excellent	4.43	High	Memory
	Very Good	3.96	High	Memory
	Good	3.83	High	Memory
	Total	4.03		
I remember a new English word by making a mental picture of a situation in which the word might be used	Excellent	2.36	Low	Memory
	Very Good	2.85	Medium	Memory
	Good	2.72	Medium	Memory
	Total	2.69		
I use rhymes to remember new English words	Excellent	2.71	Medium	Memory
	Very Good	2.65	Medium	Memory
	Good	3.33	Medium	Memory
	Total	2.88		
I use flashcards to remember new English words	Excellent	1.36	Low	Memory
	Very Good	1.35	Low	Memory
	Good	1.89	Low	Memory
	Total	1.52		
I physically act out new English words	Excellent	3.00	Medium	Memory
	Very Good	3.31	Medium	Memory
	Good	4.00	Medium	Memory

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
	Total	3.45		
I review English lessons often	Excellent	3.07	Medium	Memory
	Very Good	2.73	Medium	Memory
	Good	3.33	Medium	Memory
	Total	3.00		
I remember new English words or phrases by remembering their location on the page or on a board.	Excellent	4.43	High	Memory
	Very Good	4.42	High	Memory
	Good	4.28	High	Memory
	Total	4.38		
I say or write new English words several times	Excellent	3.43	Medium	Cognitive
	Very Good	3.19	Medium	Cognitive
	Good	3.89	High	Cognitive
	Total	3.47		
I try to talk like native English speakers	Excellent	3.86	High	Cognitive
	Very Good	3.50	High	Cognitive
	Good	3.06	Medium	Cognitive
	Total	3.45		
I practise the sounds of English.	Excellent	3.21	Medium	Cognitive
	Very Good	3.38	Medium	Cognitive
	Good	3.39	Medium	Cognitive
	Total	3.34		
I use the English words I know in different ways	Excellent	2.50	Medium	Cognitive
	Very Good	2.38	Low	Cognitive
	Good	2.89	Medium	Cognitive
	Total	2.57		
I start conversations in English	Excellent	2.79	Medium	Cognitive
	Very Good	2.81	Medium	Cognitive

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
	Good	2.83	Medium	Cognitive
	Total	2.81		
I watch English language TV shows spoken in English	Excellent	3.21	Medium	Cognitive
	Very Good	2.54	Medium	Cognitive
	Good	2.67	Medium	Cognitive
	Total	2.74		
I read for pleasure in English	Excellent	2.50	Medium	Cognitive
	Very Good	2.00	Low	Cognitive
	Good	1.83	Low	Cognitive
	Total	2.07		
I write notes, messages, letters, or reports in English	Excellent	2.36	Low	Cognitive
	Very Good	1.46	Low	Cognitive
	Good	1.61	Low	Cognitive
	Total	1.72		
I first skim an English passage (read over the passage quickly) then go back and read carefully	Excellent	3.64	High	Cognitive
	Very Good	3.58	High	Cognitive
	Good	3.94	High	Cognitive
	Total	3.71		
I look for words in my own language that are similar to new words in English	Excellent	3.43	Medium	Cognitive
	Very Good	3.96	High	Cognitive
	Good	3.61	High	Cognitive
	Total	3.72		
I try to find patterns in English	Excellent	2.86	Medium	Cognitive
	Very Good	2.77	Medium	Cognitive
	Good	2.72	Medium	Cognitive
	Total	2.78		
I find the meaning of an	Excellent	3.57	High	Cognitive

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
English word by dividing it into parts that I understand	Very Good	4.42	High	Cognitive
	Good	4.33	High	Cognitive
	Total	4.19		
I try not to translate word-for-word	Excellent	4.29	High	Cognitive
	Very Good	4.27	High	Cognitive
	Good	4.17	High	Cognitive
	Total	4.24		
I make summaries of information that I hear or read in English	Excellent	2.71	Medium	Cognitive
	Very Good	2.08	Low	Cognitive
	Good	2.22	Low	Cognitive
	Total	2.28		
To understand unfamiliar English words, I make guesses	Excellent	3.64	High	Compensation
	Very Good	3.65	High	Compensation
	Good	3.44	Medium	Compensation
	Total	3.59		
When I can't think of a word during a conversation in English, I use gestures	Excellent	4.07	High	Compensation
	Very Good	3.08	Medium	Compensation
	Good	4.11	High	Compensation
	Total	3.64		
I make up new words if I do not know the right ones in English	Excellent	4.14	High	Compensation
	Very Good	3.00	Medium	Compensation
	Good	4.11	High	Compensation
	Total	3.62		
I read English without looking up every new word	Excellent	2.50	Medium	Compensation
	Very Good	3.00	Medium	Compensation
	Good	2.56	Medium	Compensation
	Total	2.74		

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
I try to guess what the other person will say next in English	Excellent	3.14	Medium	Compensation
	Very Good	3.31	Medium	Compensation
	Good	3.22	Medium	Compensation
	Total	3.24		
If I cannot think of an English word, I use a word or phrase that means the same thing	Excellent	4.14	High	Compensation
	Very Good	3.38	Medium	Compensation
	Good	4.17	High	Compensation
	Total	3.81		
I try to find as many ways as I can to use my English	Excellent	3.43	Medium	Meta-cognitive
	Very Good	3.15	Medium	Meta-cognitive
	Good	2.83	Medium	Meta-cognitive
	Total	3.12		
I notice my English mistakes and use that information to help me do better	Excellent	4.14	High	Meta-cognitive
	Very Good	4.12	High	Meta-cognitive
	Good	4.39	High	Meta-cognitive
	Total	4.21		
I pay attention when someone is speaking English	Excellent	4.50	High	Meta-cognitive
	Very Good	4.12	High	Meta-cognitive
	Good	4.00	High	Meta-cognitive
	Total	4.17		
I try to find out how to be a better learner of English	Excellent	4.50	High	Meta-cognitive
	Very Good	4.62	High	Meta-cognitive
	Good	4.39	High	Meta-cognitive
	Total	4.52		
I plan my schedule so I will have enough time to study English	Excellent	1.86	Low	Meta-cognitive
	Very Good	1.96	Low	Meta-cognitive
	Good	2.61	Medium	Meta-cognitive

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
	Total	2.14		
I look for people I can talk to in English	Excellent	2.64	Medium	Meta-cognitive
	Very Good	2.31	Low	Meta-cognitive
	Good	2.56	Medium	Meta-cognitive
	Total	2.47		
I look for opportunities to read as much as possible in English	Excellent	2.29	Low	Meta-cognitive
	Very Good	2.27	Low	Meta-cognitive
	Good	2.56	Medium	Meta-cognitive
	Total	2.36		
I have clear goals for improving my English skills	Excellent	3.14	Medium	Meta-cognitive
	Very Good	3.35	Medium	Meta-cognitive
	Good	3.11	Medium	Meta-cognitive
	Total	3.22		
I think about my progress in learning English	Excellent	3.71	High	Meta-cognitive
	Very Good	3.92	High	Meta-cognitive
	Good	4.11	High	Meta-cognitive
	Total	3.93		
I try to relax whenever I feel afraid of using English	Excellent	3.43	Medium	Affective
	Very Good	3.12	Medium	Affective
	Good	4.17	High	Affective
	Total	3.52		
I encourage myself to speak English even when I am afraid of making a mistake	Excellent	3.36	Medium	Affective
	Very Good	3.23	Medium	Affective
	Good	3.22	Medium	Affective
	Total	3.26		
I give myself a reward or treat when I do well in	Excellent	2.43	Low	Affective
	Very Good	2.65	Medium	Affective

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
English	Good	3.33	Medium	Affective
	Total	2.81		
I notice if I am tense or nervous when I am studying or using English	Excellent	2.07	Low	Affective
	Very Good	2.19	Low	Affective
	Good	3.06	Medium	Affective
	Total	2.43		
I write down my feelings in a language learning diary	Excellent	1.93	Low	Affective
	Very Good	1.23	Low	Affective
	Good	1.28	Low	Affective
	Total	1.41		
I talk to someone else about how I feel when I am learning English	Excellent	3.86	High	Affective
	Very Good	4.08	High	Affective
	Good	4.17	High	Affective
	Total	4.05		
If I do not understand something in English, I ask the other person to slow down or say it again	Excellent	4.07	High	Social
	Very Good	4.23	High	Social
	Good	4.39	High	Social
	Total	4.24		
I ask English speakers to correct me when I talk	Excellent	2.71	Medium	Social
	Very Good	2.96	Medium	Social
	Good	3.28	Medium	Social
	Total	3.00		
I practise English with other students	Excellent	2.50	Medium	Social
	Very Good	2.19	Low	Social
	Good	2.56	Medium	Social
	Total	2.38		
I ask for help from	Excellent	3.14	Medium	Social

TABLE E5

Mean Score, Level and Type of Individual Strategies With Regard to Proficiency Level (cont'd)

Descriptive				
Strategy	**grade**	**Mean**	**level**	**type**
English speakers	Very Good	3.15	Medium	Social
	Good	3.56	High	Social
	Total	3.28		
I ask questions in English	Excellent	3.43	Medium	Social
	Very Good	3.04	Medium	Social
	Good	3.17	Medium	Social
	Total	3.17		
I try to learn about the culture of English speakers	Excellent	2.64	Medium	Social
	Very Good	2.15	Low	Social
	Good	2.39	Low	Social
	Total	2.34		

APPENDIX F

ACHIEVEMENT TEST

King Khalid University
Women's Centre
Biology Students

Name _____
Student Number _____

Part 1 Listening

A) Listen to the excerpt. It is a conversation about shopping. As you listen, write the quantity that the shopper wants to buy beside each item.

Instant coffee	
Chicken soup	
Eggs	
Sugar	
Tea bags	
Bread	
Strawberry jam	
Matches	
Milk chocolate	
Airmail envelops	

B) Listen to the excerpt. Read the sentences. Write (T) for the sentences that are true and (F) for sentences that are false.

____1. X-rays are visible.
____2. X-rays can not pass through solid objects.
____3. X-rays were discovered in 1865.
____4. X-rays can cure heart disease.
____5. Only doctors can use x-rays.
____6. X-rays can kill diseases as well as healthy parts of the body.

Part 2 Speaking

A) Ahmad Ali is a student who has just registered at King Khalid University. The Dean of the English Department Dr. Hasan interviewed him. Below are the notes taken by the Dean during the interview. Using the notes complete the dialogue that took place between Ahmad Ali and the Dean.

Full name	Ahmad Ali
Date of birth	21st of September, 1985
Place of birth	Riyadh
Address	Flat 21 B, 223 Shamsan Street, Abha
Telephone number	381-542-671
Interests	Reading, playing tennis

Dr. Hasan: Hello. What _____?
Ahmad: Hello. My name is Ahmad Ali.
Dr. Hasan: When _____?
Ahmad: On the 21st of September, 1985.
Dr. Hasan: Where_____?
Ahmad: In Riyadh.
Dr. Hasan: What _____?
Ahmad: Flat 21B, 223 Shamsan Street, Abha.
Dr. Hasan: What _____?
Ahmad: 381-542-671
Dr. Hasan: What do you like _____?
Ahmad: I like reading and playing tennis.

B) This table shows the postal charges for surface mail from the United Kingdom worldwide. Use the table to answer the questions below.

Letters, Books and Parcels			
Weight Not Over	**Letters**	**Books**	**Parcels**
15g	25p	-	-
55g	41p	-	25p
100g	59p	41p	41p
220g	£1.25	80p	80p
500g	£2.30	£1.50	£1.50
1 kg	£5.10	£2.80	£2.80

1. How much does it cost to send a letter weighing 10 grams?
   _____
2. How much does it cost to send a parcel weighs 50 grams?
   _____
3. How much does it cost to send a 150 gram book to Saudi Arabia?
   _____

4. How much does it cost to send a letter weighing the same?

   _____

5. What is the heaviest weight that can be sent by post?

   _____

6. What is the lightest weight that can be sent by post?

   _____

7. How much does it cost to send the heaviest book?

   _____

8. How much does it cost to send the lightest parcel?

   _____

Part 3 Reading

Prophet Noah's Call Peace Be upon Him

Prophet Noah occupies a unique position in the history of mankind. We are all descendants of the people who were in his ark. For many generations Noah's people had been worshipping statues they called gods. Noah was the only person not caught in the whirlpool of man's destruction which was caused by polytheism.

In that state Allah sent Noah with his message to mankind. He warned them not to worship anyone but Allah, and described the terrible punishment that Allah would inflict on them if they continued in their evil ways. Noah kept preaching to his people night and day, secretly and openly, for nine hundred and fifty years.

When his people insisted on unbelief and wrongdoing Allah ordered him to build an ark. After completing it and upon the command of Allah he embarked on it with his family and his believers except his son who persisted in his unbelief. He also loaded the Ark with a pair of each animal, one male and one female. Then Allah ordered the sky to pour its rain and the water in the earth to gush forth.

When the Ark was floating on the waves towering like mountains Noah called on his son to board the ark. But he refused saying that he would retreat to a mountain that would save him from the flood. But nothing could save him. The waves separated them and he was drowned with the unbelievers overwhelmed by the flood. After Allah, glory be to Him, had drowned the unbelievers, He ordered the earth to swallow up its water and the sky to withhold its rain.

Then everything settled as stated by Allah "Then the word was given: O earth, swallow up thy water, and O sky, withhold thy rain. And the water abated, and the matter ended. The Ark rested on mount Judi, and the word went forth: away with those who do wrong".

First Reading Activities

1. Skim the text, then choose the option that best completes the following sentence.

The purpose of the author is to _____.

a. State the fate of unbelievers.
b. Describe Noah's preaching.
c. Criticize the activities of unbelievers.
d. Describe Noah's ark.

2. Scan the text, then answer the following questions:

a. Which paragraph describes Allah's punishment?
_____

b. Which paragraph talks about the position of Noah?
_____

c. Which paragraph states the polytheists' rejection of Noah's call?
_____

d. Which paragraph describes the end of the flood?
_____

Post Reading Activities

Checking Comprehension

1. Based on the passage, mark the sentence that are true with "✓" and those that are false with "×" in the box provided, then make the changes necessary to turn the false statements true.

a. Noah's people worshiped Allah alone. ☐
_____
_____

b. Noah preached to his people for one thousand years less fifty. ☐
_____
_____

c. Most of Noah's people accepted his call. ☐
_____
_____

d. Noah was ordered by Allah to take his entire family with him on the ark. ☐
_____
_____

2. **Answer the following questions.**

a. Why was Noah sent by Allah?
_____
_____

b. How long did Noah preach to his people?
_____
_____

c. Who did Noah take with him aboard the ark?
_____
_____

d. Did Noah's son listen to his father's call? What was his fate?
_____
_____

e. What is the climax of this story?

_____

_____

f. Describe the end of the flood?

_____

_____

Dealing With Unfamiliar Words

1. Write the word from the box below that best fits the blank space in each sentence.

unique – descendant – preach – persist – embarked - whirlpool – polytheism withhold mankind - overwhelmed

a. Allah sent Mohammad as a universal messenger to _____ and jinn.
b. Allah does not forgive a person if he dies insisting on _____.
c. _____ is a situation in which there are a lot of activities from which it is difficult to escape.
d. The passengers _____ on a ship to sail to Sudan.
e. Allah sent all messengers to _____ Islam.
f. The student was _____ with joy for getting the highest grade.
g. He decided to _____ the information until later.
h. You will succeed if you _____ in your study even though it may be difficult.
i. The Ark is a _____ boat built by Noah.
j. Noah is a _____ of Adam.

Part 4 Writing

1. Read the following paragraph and

a. Identify the topic sentence and underline it.
b. Find the irrelevant sentence and cross it out.

Rivers play a very important part in our lives. They provide beauty and coolness to the scenery. We also use river water for power to make electricity. Furthermore, we irrigate crops with river water. Finally, rivers give us fish to eat and water to drink and they are homes for many kinds of plant and animal life. The sea is even more abundant with plant and animal life. For these reasons rivers are an important part of our earth's ecology.

2. Fatima is making a cake. Here is a list of things she has to do, but they are not in the right order. Number them so they are in a logical order.

_____ now the cake is ready.
_____ light the oven and put it on high.
_____ put the baking pan in the oven for 20 minutes.
_____ mix butter, sugar, flour and eggs in a bowl.
_____ take it out of the oven and place it on a cooling tray.
_____ pour the mixture into a baking pan greased with butter.

3. The following time line gives you information about Helen Keller. Use this information to write a paragraph about her life.

June 27, 1880: Born in Alabama, US.
1882: Became deaf, dumb and blind.
1890: Managed to speak her first sentence.
1896: Went to college.
1900: Graduated from college with honours.
1936: Teacher and friend died.
1968: Died (aged 88).

_____
_____
_____
_____
_____
_____
_____
_____
_____

4. **Write a paragraph of about 100 words about the qualities of a successful student. Begin with the one you feel is most important. Remember to write a good topic sentence and use signal words.**

5. **Write a paragraph of about 100 words based on the bar chart below about the percentage of secondary school students in England during the period of 1990-2000.**