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Effects of L2 proficiency and gender on choice of language learning strategies by university students majoring in English

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Abstract
This study investigates the use of language learning strategies by 128 students majoring in English at Sultan Qaboos University (SQU) in Oman. Using Oxford's (1990) Strategy Inventory for Language Learners (SILL), the study seeks to extend our current knowledge by examining the relationship between the use of language learning strategies (LLS) and gender and English proficiency, measured using a three-way criteria: students' grade point average (GPA) in English courses, study duration in the English Department, and students' perceived self-rating. It is as well a response to a call by Oxford to examine the relationship between LLSs and various factors in a variety of settings and cultural backgrounds (see Oxford, 1993). Results of a one-way analysis of variance (ANOVA) showed that the students used metacognitive strategies significantly more than any other category of strategies, with memory strategies ranking last on students' preference scale. Contrary to the findings of a number of studies (see e.g., Hong-Nam & Leavell, 2006), male students used more social strategies than female students, thus creating the only difference between the two groups in terms of their strategic preferences. Moreover, ANOVA results revealed that more proficient students used more cognitive, metacognitive and affective strategies than less proficient students. As for study duration, the results showed a curvilinear relationship between strategy use and study duration, where freshmen used more strategies followed by juniors, then

seniors and sophomores, respectively. Analysis of the relationship between strategy use and self-rating revealed a sharp contrast between learners who are self-efficacious and those who are not, favoring the first group in basically every strategy category. To find out which type of strategy predicted learners' L2 proficiency, a backward stepwise logistic regression analysis was performed on students' data, revealing that use of cognitive strategies was the only predictor that distinguished between students with high GPAs and those with low GPAs. The present study suggests that the EFL cultural setting may be a factor that determines the type of strategies preferred by learners. This might be specifically true since some of the results obtained in this study vary from results of studies conducted in other cultural contexts. Results of this study may be used to inform pedagogical choices at university and even pre-university levels.

Keywords: language learning strategies, metacognitive strategies, cognitive strategies, gender, proficiency, self-efficacy.

Introduction

Recently, the field of English as a Foreign Language (EFL) has witnessed a gradual shift among language educators towards student-centered approaches, leading to numerous studies investigating the impact of socio-cultural, psychological, cognitive, and affective variables on achievement in learning second/foreign languages (Nunan, 1988; Brown, 2000). Educators and researchers alike have considered these variables to be the source of discrepancies among second language learners in their learning outcomes. Increased interest in the role of these variables has led to numerous studies investigating individual learning styles and language learning strategies (LLS) and their relationship to success in learning a second language (Green & Oxford, 1995; Griffiths & Parr, 2001; Khalil, 2005; Hsiao & Oxford, 2002; Wharton, 2000). Applied research on learning strategies had two major goals:

> (1) [to] identify and compare the learning strategies used by more and less successful language learners, and (2) [to] provide instruction to less successful learners that helps them become more successful in their

language study. (Chamot, 2001, pp. 25-26)

Overall, research on the use of learning strategies (see e.g., Dreyer & Oxford, 1996; Grenfell & Harris, 1999; Harris, 2003; Park, 1997; Wharton, 2000) suggests that language learners, whether consciously or unconsciously, utilize a variety of learning strategies. Successful language learners, however, employ more effective and diverse language learning strategies than less successful learners. Chamot (2004 p. 14) stated that strategic language learners possess "metacognitive knowledge about their own thinking and learning approaches, a good understanding of what a task entails, and the ability to orchestrate the strategies that best meet both the task demands and their own strengths." Accordingly, in order to help second language learners in general and less successful learners in particular, researchers have recommended integrating strategy training into language curricula (Chamot & Kupper, 1989; Tyacke, 1991).

Despite the preponderance of research on language learning strategies within English as a second language context, there is an apparent paucity of this type of research within the Arabic EFL context. A very small number of studies (see, e.g., Al-Otaibi, 2004; El-Dib, 2004; Khalil, 2005; Kaylani, 1996; Shmais, 2003) examined the use of learning strategies by students in the Arab World, with only two studies (Al-Otaibi, 2004; El-Dib, 2004), investigating the use of LLSs in the Arab Gulf states of Saudi Arabia and Kuwait respectively. However, no research on LLSs has been conducted within the context of the Gulf state of Oman. In this regard, and as Park (1997) remarked, there is a need for additional research in this area to determine whether the patterns of strategy use that exist in a particular linguistic setting are unique to that setting or common to all linguistic and cultural contexts.

In Oman, although Arabic is the official language, English has a special status; all government publications and correspondences are normally written in both languages. Moreover, English functions as a common language for communication with the large population of expatriates working in Oman. More importantly,

English is a compulsory subject from the first grade, and it is the primary medium of instruction at the majority of universities. Despite its pivotal role, students at SQU, due to their limited proficiency in English, do not usually perform well in the English prerequisites, which negatively affects their performance in content-based courses. Since there is a substantial body of evidence to support the positive contribution of learning strategies to improvement in learning a foreign language, an examination of how students in the Omani context utilize these strategies is very critical.

Hence, the aim of the current study is to fill the gap in this area of research by exploring the use of language learning strategies used by Omani students, and it is, as well, a response to a call to examine the relationship between LLSs and various factors in a variety of settings and cultural backgrounds (see Oxford, 1993). More importantly given the small number of studies that have examined the correlation between strategy use and self-rating (one of the variables examined in this study), there is clearly a strong need for further research in this area. Hence this study investigates the use of learning strategies by students majoring in English at Sultan Qaboos University in Oman, exploring in particular the relationship between language learning strategies and a number of variables, including gender, and language proficiency as measured by students' GPAs, study duration, and their perceived self-rating. Research indicates that these four variables, which are believed to have considerable influence on the process of language learning, contribute to considerable variability in strategy preferences (see, e.g., Green & Oxford, 1995; Lan & Oxford, 2003; Magogwe & Oliver, 2007).

2. Literature Review

Language learning strategies (LLS) are defined as "the conscious thoughts and actions that learners take in order to achieve a learning goal" (Chamot, 2004, p. 14). Through repeated use, these strategies become automatic. However, learners, if

required, can call them to conscious awareness (Chamot, 2005). This, as Littlejohn (2008) points out, requires learners to develop some degree of meta-awareness that would enable them to think about their thinking, and then analyze any learning task and eventually choose the appropriate strategy required to accomplish that task.

Interest in LLSs emerged from studies that attempted to investigate the behavior and qualities of a good and successful language learner, with a view to teaching these qualities to less successful learners in order to make them more effective second language learners (Chamot et al., 1999; Grenfell & Harris, 1999; Harris, 2003). Research into LLSs started with the identification and description of learning strategies used by language learners (see e.g., Oxford, 1990; Rubin, 1987; Stern, 1975). Later, research explored the correlation between these strategies and other learner variables such as proficiency, gender, motivation, self-efficacy, self-rating, cultural background, and the like (see e.g., El-Dib, 2004; Green & Oxford, 1995; Hong-Nam & Leavell, 2006; Khalil, 2005; Magogwe & Oliver, 2007; Nisbet, Tindel & Arroyo, 2005; Shmais, 2003). More recently, research investigated how other variables such as the task itself and the target language affect the selection and use of learning strategies (Chamot & Keatley, 2004).

Although researchers have proposed different classifications and conceptualizations of language learning strategies (see e.g., O'Malley & Chamot, 1990; Schmidt & Watanabe, 2001), Oxford (1990) developed the most comprehensive, detailed and systematic taxonomy of strategies to date. Contrary to O'Malley & Chamot (1990) who divided LLSs into three categories: cognitive, metacognitive, and social-affective, Oxford (1990) classified them into six groups: memory, cognitive, compensatory, metacognitive, affective, and social strategies. Based on this broad classification, Oxford (1990) designed a strategy assessment survey, the Strategy Inventory for Language Learning (SILL) to collect information about learners' use of language learning strategies. This survey was checked for reliability and validity, producing a high reliability coefficient (.86-.95 Cronbach's

α) (Khalil, 2005). The fact that numerous studies established a significant relationship between strategies and language proficiency as measured in a variety of ways (grades, TOEFL scores, self-ratings, etc.) gives the instrument a high validity according to Oxford & Burry-Stock (1995). Woodrow (2005 p.91), however, questioned the reliability of the instrument, pointing out that while the scale has a high overall reliability, there is no "evidence to support the sixfold classification of LLSs in the SILL in the form of subclass reliabilities."

Despite this criticism, the SILL has been widely used to assess strategy use and to explore the effects of various variables on strategy preferences (see, e.g., D jigunovic, 2000; Dreyer & Oxford, 1996; Khalil, 2005; Park, 1997; Yang, 1999). In general, studies using the SILL have invariably shown significant variation in strategy preferences due to gender, and proficiency differences. Since this study explores the effects of these factors on strategy preferences, the following discussion will be limited to studies that examined these variables.

Several studies have established the existence of gender differences in the use of language learning strategies. Green & Oxford (1995) found that females use strategies more frequently than males. Moreover, gender differences are reflected in the type of strategy used by males and females. Female learners tend to use more social learning strategies (Ehrman & Oxford, 1989), more conversational and input strategies (Oxford & Nyikos, 1989), and more memory and metacognitive strategies (Khalil, 2005) than their male counterparts. Contrary to these findings, Shmais (2003) did not report any differences in strategy use among university-level students as a result of gender difference. This could be attributed to the fact that the sample for this study was university English majors who are typically more aware of the process of learning a foreign language and of the strategies required to obtain proficiency than other groups. Similarly, Wharton (2000) did not reveal any effects for gender in both the number and types of strategy used by bilingual foreign language learners in Singapore. Again, this might be attributable to the language

learning abilities of bilingual learners which may have nullified any gender difference.

Language learning strategies research has consistently established a positive link between language proficiency and strategy use (e.g., Khalil, 2005; Magogwe & Oliver, 2007; Park, 1997; Shmais, 2003), suggesting that more proficient learners usually use more strategies than less proficient learners. Researchers have utilized a multitude of ways to determine students' proficiency in the foreign language including standardized tests such as TOEFL (Arroyo, 2005), students' GPAs in English courses (Shmais, 2003), language achievement tests (O'Mara & Lett, 1990), language course grades and placement examinations (Mullin, 1992), teachers' judgments about their students (Magogwe & Oliver, 2007), duration of study (Khalil, 2005), and self-ratings (Oxford & Nyikos, 1989). In the current study, proficiency has been determined using multiple measures, including students' GPAs in English courses, duration of study in the English program, and students' self-rating. Lack of an appropriate standardized language assessment test and the relatively large sample size were the main reasons for using these various measures. It is worth noting that students' GPAs are by far the most accurate indicator of students' proficiency in English, as they represent students' performance in the English courses taken at the Department as part of their degree requirements, including language skills course as well as literature and linguistics courses). In this regard, grading students' work in the English Department focuses on language and is normally based on given descriptors of high, good, middle and poor proficiency at various linguistic levels.

Investigating the relationship between strategy use of Korean university students and language proficiency, Park (1997) found a significant relationship between SILL learning strategies and English proficiency as measured by students' TOEFL scores. Additionally, the study showed that cognitive and social strategies were more predictive of TOEFL scores than other strategies. Similarly, Lan & Oxford

(2003) found significant effects for language proficiency on Taiwanese elementary school EFL learners' use of metacognitive, cognitive, compensatory and affective strategies. Contrary to these studies, Nisbet, Tindel & Arroyo (2005) showed a minimal correlation (4% of the variation in TOEFL score) between learning strategies and proficiency and that only one category of learning strategies (metacognitive strategies) was significantly correlated with TOEFL score. Likewise, Shmais (2003) revealed that students with high proficiency, as measured by their GPAs, differed from less proficient learners only in their use of cognitive strategies.

According to Chen (1990), the relationship between strategy use and proficiency does not always involve a simple linear correspondence between them. The study revealed a pattern whereby more proficient learners used fewer communication strategies although they used them more effectively than less proficient learners. Similarly, though Magogwe & Oliver (2007) revealed a trend in strategy use consistent with previous research, i.e. overall strategy use increases with proficiency, they showed that this relationship is a rather a curvilinear one, where proficiency influenced strategy use at the primary level but not at the secondary or the tertiary level. More importantly, as Mahlobo (2003) and Halbach (2000) point out, though many studies revealed strong correlations between strategy use and proficiency level, no claims of causality can be established in this type of research, i.e. "it cannot be determined whether the language proficiency comes before, after or concurrently with strategy use" (Magogwe & Oliver, 2007, p. 340).

A small number of studies investigated the link between the duration of English study and strategy use. Griffith (2003) reported a positive relationship between students' level in a private language school in New Zealand and frequency of language learning strategy use. Likewise, Oxford & Nyikos (1989) found that years of study significantly affect the use of learning strategies. In a study of adolescent learners of French L2, Ramierz (1986) reported similar results. Comparing high school students with university students, Khalil (2005) found that university students

used more strategies than high school learners. This might be a result of the increased demands which proficient learners encounter while communicating in the target language.

Language learning strategies research has also examined the relationship between self-efficacy beliefs and self-rating and strategy use. Bandura & Schunk (1981p. 31) defined self-efficacy as "people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performances." Research in this area suggests that self-efficacy beliefs correlate positively with increased strategy use. For example, Pajares & Schunk (2001) found that learners who believed they were capable of performing certain tasks used more cognitive and metacognitive strategies than those who did not. According to Ching (2002), this result may be due to the fact that highly efficacious learners are more committed to learning L2 and working harder to avoid failure, and they usually link failure to insufficient effort or skills. In another study, Magogwe & Oliver (2007) demonstrated a slightly different pattern. The study showed that there was a positive, significant but weak relationship between self-efficacy beliefs and use of language learning strategies, which probably justifies further research in this area to examine thoroughly the effects of this variable.

3. The Study

The present study is a response to recommendations by many researchers (e.g., Green & Oxford, 1995; Park, 1997, among many others) for additional research to examine, using a reliable and valid instrument, the relationship between language learning strategies and several factors, which are believed to influence the process of learning a foreign language, in a variety of settings worldwide. Hence, the study investigates the use of language learning strategies by university students majoring in English at Sultan Qaboos University in Oman. More specifically, it explores the effects of gender, and proficiency, as measured by students' GPAs, duration of

study, and self-rating on reported strategy use by these students. The study attempts to answer the following research questions:

1. What are the most frequent language learning strategies used by Omani students majoring in English at SQU?
2. Are there any differences in strategy use as a result of gender differences?
3. Are there any differences among learners in strategy use due to proficiency differences as measured by their GPAs, duration of study, and self-rating?
4. Which strategies are predictive of (correlated with) L2 proficiency?

3.1 Participants

The questionnaire used in this study was distributed to 147 students majoring in English at Sultan Qaboos University. The questionnaire was distributed to regular classes that represent the different study durations (freshmen, sophomores, juniors, and seniors). Only 128 students returned their questionnaires completely answered, meeting all the study requirements. Since the questionnaires were distributed to regular classes and due to the demography of the English Department at SQU where the female-male ratio is approximately 2 to 1, favoring female students, the sample was not fairly balanced, consisting of 39 males and 89 females, whose ages ranged from 18 to 23 at the time of data collection. The subjects were freshmen (30), sophomores (21), juniors (39), and seniors (38). By the time of this study, all participants had received a minimum of 8 years of English as a foreign language instruction in the pre-University stage. Despite the relatively long period of study, the students' command of English is generally poor. As part of the students' bachelor degree requirements, they were required to complete 85 credit hours in English language and literature. It should be noted that, before joining the English Department, all applicants must pass an English language placement test, which assesses listening, reading, writing, and grammar. On the basis of their scores, students who pass the test are either placed in a non-credit intensive English

program for one whole semester, or are required to register for credit courses in the University's Language Center, taking six courses in general language skills, writing, and reading, two courses each.

Since there is no standardized English test available in the University to administer to all students participating in this study, the students' GPAs in English courses were used as a measure of their proficiencyi. Students' GPAs were divided into two groups B-and-Above and C-and-below. As for self-rating, students were asked to rate their English (listening, writing, reading, and speaking) as excellent, good, fair, or poor; however, only a very small number of respondents rated themselves as "excellent" and "poor", thus resulting in the elimination of these two categories, for their data could not be used to form two independent groups for statistical purposes[ii]. Thus, only two self-rating categories were retained: "Good" and "Fair." Table (1) demonstrates the characteristics of the sample population.

Table 1. *Demographic description of participants*

	n	%
Gender		
Male	39	30.5
Female	89	69.5
Study Level		
Freshman	30	23.4
Sophomore	21	16.4
Junior	39	30.5
Senior	38	29.7
GPA		
B and above	57	44.5
C and below	71	55.5
Self-rating		

Good	48	47.5
Fair	80	62.5

3.2 Instrument

The study used Oxford's (1990) Version 7.0 of the SILL, designed for EFL/ESL learners. Due to the high reliability of this survey, it has been used widely in more than 50 studies, assessing the frequency of strategy use by students from different linguistic and cultural backgrounds. The SILL uses a five-point Likert-type scale ranging from 1 ("Never or almost never true of me") to 5 ("Always or almost always true of me") (see the appendices for details of the questionnaire). The taxonomy of strategies consists of 50 statements about strategies used by language learners covering six broad categories of strategies, each represented by a number o f items. Consider the following examples:

1. **Memory Strategies** (items 1-9): These strategies help learners remember, store and retrieve new information when there is a need for communication. This is achieved through using words in sentences, connecting words to mental picture of a word, grouping, and reviewing lessons frequently (e.g., representing sounds in memory, grouping, using physical responses).
2. **Cognitive Strategies** (items 10-23): These help learners understand and produce new language through practicing, summarizing, reasoning deductively, and analyzing (e.g., repeating, taking notes).
3. **Compensatory Strategies** (items 24-29): These strategies enable learners to use the language to overcome any limitations and gaps in their linguistic knowledge through guessing, making up new words, and using circumlocution and synonyms (e.g., language switching, making gestures, and seeking help).
4. **Metacognitive Strategies** (items 30-38): These help learners control their

own cognition and enable them maximize learning through monitoring their language use, planning, coordinating the learning process, and looking for opportunities to use the language (e..g, linking new information with old information, self-monitoring, planning, evaluating, and seeking practice opportunities)

5. **Affective Strategies** (items 39-44): These strategies help learners through lowering their anxiety levels, increasing their motivation, and controlling their emotions (e.g., discussing feelings with others, using music to lower anxiety).
6. **Social Strategies** (items 45-50): These help learners to interact, communicate, cooperate, and empathize with others to maximize learning (e.g., developing cultural understanding, cooperating with others).

This SILL questionnaire is used to identify the level of strategy use for each strategy or group of strategies. Along with the survey, Oxford (1990) developed a scale, which reflects the level of strategy usage: (1) high usage (3.5-5.0), (2) medium usage (2.5-3.4), and (3) low usage (1.0-2.4). The SILL was accompanied with a background questionnaire to collect demographic information about the students (see the appendices). Information collected included students' gender, GPAs in English courses, and duration of study in the English Department. The respondents were also asked to rate their English proficiency. The present study used the English version of the SILL with translation of difficult words into Arabic. The main reason for using the English version is that at the time of the study the students had finished at least one year of intensive English in the Language Center at the University, thus, gaining a good command of the language. Moreover, English is the official language of instruction at SQU, and students are generally familiar with filling out all types of forms in that language. According to Shmais (2003), it is estimated that around 50 major studies utilized the English as a foreign language

version of the questionnaire. Several researchers, however, (see, e.g., Khalil, 2005) used a translated version of the questionnaire to "avoid any problems participants could encounter in understanding the items and response scale" as a result of limited English proficiency (Khalil, 2005p. 110).

3.3 Data Collection Procedure

The SILL and background questionnaires were distributed to regular classes representing the different levels (freshmen, sophomores, juniors, and seniors) during the regular class meetings. The class instructors, who were informed about the nature of the questionnaire and its administration procedure, supervised the distribution process. Both questionnaires took an average of 35 minutes to finish under complete conditions of anonymity and confidentiality. Of the 147 distributed questionnaires, a total of 137 questionnaires were answered completely. All questionnaires that were not fully answered were disregarded. Moreover, nine students who categorized their English proficiency as "excellent" or "poor" were removed as explained before, thus leaving the total number of participants at 128 students.

Data analysis was carried out using the SPSS 15 statistical program to obtain descriptive and inferential statistics. First, means and standard deviations of the data were computed. Then, to determine any variation in strategy use due to gender, and English proficiency (measured by GPA, duration of study, and self-rating), several analyses of variance (ANOVA) were conducted to determine whether there were any significant differences among learners with regard to strategy use. Where significant differences were located, the post-hoc Scheffé and LSD tests were used to determine the location of these differences. Finally, a stepwise backward regression was used to determine which of type of strategy was predictive of success in language learning.

4. Results

4.1 Overall strategy use

To answer the first research question about the most frequently used strategies, the students' data were submitted to a one-way analysis of variance (ANOVA). Analysis results revealed statistically significant differences (F = 27.047, p = .000) in the overall use of strategies by all participants. Table (2) presents the rank ordering of the strategies according to their frequency of use. As can be seen in the table, only metacognitive strategies ranked high in use (M = 3.5-5.0). The other strategies fell within the medium usage range (M = 2.5-3.4). These were compensatory strategies (M = 3.38), followed by cognitive strategies (M = 3.34), social strategies (M = 3.24), affective strategies (3.14) respectively, and finally the least preferred strategies, memory strategies (M = 2.99).

Table 2. *Descriptive statistics for the various learning strategies and F-test*

Variable	Mean	SD	Minimum	Maximum	Rank	F	Significance
Metacognitive	3.85	0.691	1.78	5.00	1	*27.047*	*0.00*
compensatory	3.38	0.608	1.33	4.83	2		
Cognitive	3.34	0.509	1.86	4.57	3		
Social	3.24	0.743	1.5	5.00	4		
Affective	3.14	0.685	1.5	5.00	5		
Memory	2.99	0.560	1.33	4.33	6		

Total	3.32	0.690	1.33	5.00

In order to locate the multiple differences among the various strategy groups, a Scheffé post-hoc test was used. Multiple comparisons revealed the following significant differences between the different groups of strategies: (1) memory and cognitive in favor of cognitive (p= .002), (2) memory and compensatory in favor of compensatory (p= .000), (3) memory and metacognitive in favor of metacognitive (p= .000), (4) cognitive and metacognitive in favor of metacognitive (p= .000), (5) compensatory and metacognitive in favor of metacognitive (p= .000), (6) social and metacognitive in favor of metacognitive (p= .000), and (7) affective and metacognitive in favor of metacognitive (p= .000). Overall, these results show that metacognitive strategies were significantly used by L2 learners more than any other strategy. Table (3) shows the Scheffé test results.

Table 3. *Scheffé results for multiple comparisons among various strategy groups*

Strategy	Metacognitive	Compensatory	Cognitive	Social	Affective	Memory
Metacognitive		.000	.000	.000	.000	.000
Compensatory			.999	.692	.140	.000
Cognitive				.893	.315	.002
Social					.934	.098
Affective						.602
Memory						

Table (4) (see the appendices) ranks strategy use by individual strategies mean

scores in a descending order from most to least used. The most frequently used strategy by all participants was a metacognitive strategy, "*I pay attention when someone is speaking in English"* (*M* = 4.44). In contrast, the least preferred strategy was affective, "*I write down my feelings in a language learning diary"* (*M* = 2.16). Among the top ten most used strategies were six metacognitive, two affective ("I encourage myself to speak in English even when I am afraid of making a mistake", (M= 3.77), and "I try to relax whenever I feel afraid of using English", (M= 3.73), one compensatory "If I can't think of an English word, I use a word or a phrase that means the same thing", (M = 4.17), and one cognitive "I watch English Language TV shows spoken in English or go to movies spoken in English", (M= 4.05) .

4.2 Use of strategy by gender

The second research question deals with the relationship between gender and the use of language learning strategies. Results of a one-way analysis of variance (ANOVA)[iii] did not reveal any significant differences in the overall strategy use between male and female students (F = .719, p = .39). However, the results for strategy categories showed that males students, surprisingly, used significantly more social strategies than female students (F = 3.811, p = .05). As for the other categories, although there were no significant differences between the two groups, male students used slightly more memory, cognitive, and metacognitive strategies than female students, see Table (5).

Table 5. *Variation in strategy use by gender*

Strategies	Male		Female		*F*	Significance
	Mean	SD	Mean	SD		
MET	3.89	0.66	3.83	0.71	.196	0.66

COM	3.36	0.58	3.38	0.62	.039	0.85
COG	3.37	0.46	3.33	0.53	.186	0.67
SOC	3.43	0.75	3.15	0.73	3.81	0.05
AFF	3.14	0.54	3.15	0.74	.007	0.93
MEM	3.10	0.46	2.94	0.60	2.19	0.14
Total	3.39	0.41	3.31	0.52	.719	0.40

4.3 Strategy use by proficiency

Language proficiency in language learning strategies research has been determined in a multitude of ways. For instance, while a number of researchers used standardized tests to determine proficiency level (see e.g., Mullin, 1992; Nisbet, Tindall & Arroyo, 2005; Park, 1997), others relied on duration of study in English medium programs as a measure of proficiency (see e.g., Khalil, 2005; Shmais, 2003; Magogwe & Oliver, 2007).Yet, another group of researchers relied on perceived proficiency (self-efficacy and self-rating) as a measure of students level in the foreign language (see e.g., Oxford & Nyikos, 1989; Magogwe & Oliver, 2007; Shmais, 2003) . A fourth measure used students' grade point average (GPA) in English courses to place them in different English proficiency categories (see, e.g., Shmais, 2003). In this study, multiple measures of proficiency were utilized, including students' GPAs (B and above, C and below), duration of study (freshmen, sophomores, juniors, and seniors), and self-rating (Good, Fair).

4.3.1 Use of strategy by students' GPAs

The third research question deals with the relationship between language proficiency and use of language learning strategies. The students were grouped into two groups: proficient students averaging B and above, which is relatively speaking close to 80%, and less proficient students, averaging C and below. It should be noted that for

students to remain in good standing in the English department at SQU, their GPAs must not drop below C.

A one-way analysis of variance (ANOVA) revealed statistically significant differences between proficient students and less proficient students in the overall use of strategies (F = 8.142, p = .005). Overall, the proficient students used more strategies than the less proficient in all categories of strategies, see Table (6). In addition to that total use of strategies, significant results were obtained for cognitive strategies (F = 9.350, p = .003), metacognitive strategies (F = 7.184, p = .008), and affective strategies (F = 4.350, P = .039). The other groups of strategies did not show any significant differences between the two groups though the results, as can be seen in the students' means, clearly favor the more proficient students, see Table (6).

Table 6. *Variation in strategy use by students' GPAs*

Strategies	Proficient		Less Proficient		*F*	Significance
	Mean	SD	Mean	SD		
MET	4.03	0.59	3.71	0.74	7.18	.008
COM	3.47	0.52	3.30	0.67	2.59	.111
COG	3.49	0.48	3.22	0.51	9.35	.003
SOC	3.36	0.67	3.14	0.79	2.90	.091
AFF	3.28	0.70	3.03	0.66	4.35	.039
MEM	3.09	0.58	2.91	0.54	3.16	.078
Total	3.47	0.45	3.22	0.50	8.142	.005

4.3.2 Strategy use by study duration

To determine whether duration of study in the English Department has any effect on use of language learning strategies, students' answers to the questionnaire were submitted to a one-way ANOVA. As shown in Table (7), the freshmen group

consistently used more strategies than any other group. However, data analysis revealed a significant difference among the four groups only in the use of affective strategies (F = 2.82, P = .042). To locate where the difference was, the Least Significance Differences test (LSD) was used[iv]. The test showed that the Freshmen group used significantly more affective strategies than both the sophomore and senior groups (p = .009, p = .03, respectively)

Table 7. *Strategy use by study duration*

Strategies	Freshman		Sophomore		Junior		Senior		*F*	Significance
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
MET	4.04	0.57	3.78	0.59	3.89	0.74	3.70	0.73	1.52	.212
COM	3.60	0.51	3.31	0.74	3.27	0.55	3.35	0.63	1.95	.126
COG	3.45	0.45	3.15	0.51	3.36	0.52	3.33	0.54	1.46	.228
SOC	3.43	0.73	3.02	0.73	3.28	0.67	3.15	0.81	1.54	.207
AFF	3.39	0.65	2.89	0.51	3.20	0.74	3.03	0.69	2.82	.042
MEM	3.08	0.49	2.83	0.65	2.96	0.65	3.04	0.56	0.98	.403
Total	3.50	0.3	3.18	0.4	3.34	0.5	3.29	0.5	1.9	.119

7	8	0	4	9	

4.3.3 Strategy use by self-rating

The background questionnaire included a self-rating scale used to determine the students' own judgment of their proficiency in English. The students had to rate their proficiency in English using one of four options: excellent, good, fair, poor. Only a very small number of students rated themselves as "excellent" or "poor", resulting in, as mentioned before, eliminating them from the study. Students' data were submitted to a one-way analysis of variance (ANOVA) to determine if there were any differences between the two groups, "good" and "fair". ANOVA results showed that, for all strategies, those students who rated their English language proficiency as "good" used significantly more strategies than the other group, see Table (8). Moreover, the "Good" group used every category of strategy more frequently than the "Fair" group.

Table 8. *Variation in strategy use by students' self-rating*

Strategies	Good		Fair		*F*	Significance
	Mean	SD	Mean	SD		
MET	4.02	0.61	3.57	0.73	13.75	.000
COM	3.52	0.55	3.13	0.63	13.46	.000
COG	3.48	0.46	3.11	0.51	17.24	.000
SOC	3.42	0.71	2.93	0.69	14.66	.000
AFF	3.29	0.69	2.90	0.60	10.27	.002
MEM	3.14	.0.52	2.75	0.54	16.36	.000
Total	3.49	0.45	3.08	0.46	24.14	.000

4.4 Strategies predictive of L2 proficiency

To answer question four and find out which category of learning strategies is

predictive of (correlated with) L2 proficiency as measured by students' GPAs, a backward stepwise logistic regression analysis was performed on students' data. The six categories of strategies were specified as the predictor variables with students' GPAs as the criterion (dependent) variable. A test of the full model with all six predictors against a constant-only model was statistically reliable, $\chi 2$ (1, 128) = 9.172, p = .002), indicating that the predictors, as a set, reliably distinguished between students with high GPAs and those with low GPAs. The regression model revealed that only cognitive strategies were significantly correlated with students' GPAs (B = 1.120, p = .004). In the second step of the analysis, the compensatory strategies variable was removed, followed by memory strategies, affective strategies, social strategies, and metacognitive strategies respectively. Table (9) shows regression coefficients, Wald statistics, exponential Bv (odds ration), and 95% confidence intervals for odds ratio for each of the six predictors in the first step of the regression.

Table 9. *Backward logistic regression analysis of students' GPAs as a function of strategy use*

				95% confidence Interval for Odds Ratio	
Variables	***B***	**Wald Test**	**Odds Ratio**	***Lower***	***Upper***
Memory strategies	-1.161	.120	.852	.343	2.114
Cognitive Strategies	.966	2.463	2.626	.786	8.770
Compensatory strategies	.032	.007	1.033	.495	2.154
Metacognitive strategies	.310	.477	1.363	.566	3.281
Affective Strategies	.225	.415	1.252	.632	2.481

Social Strategies	-.214	.354	.808	.400	1.632

5. Discussion

Data analysis reveals several significant findings. First, in general Omani students favored metacognitive strategies over all other strategies. Second, there were no significant differences between males and females in the overall use of strategies, although analysis results showed that male students used significantly more social strategies than their female counterparts. Third, the more proficient students differed from the less proficient learners in several ways: (1) they used more overall strategies; (2) they used more cognitive, metacognitive, and affective strategies than the less proficient learners. Fourth, freshmen in general used more strategies followed by juniors, seniors, and sophomores. However, the differences between the four groups were significant only with regard to affective strategies, where freshmen used more of these strategies than both sophomores and seniors. Fifth, self-rating was evidently the strongest factor distinguishing between students. Results demonstrated that students who perceived themselves as proficient users of the language (the "Good" group) used significantly more strategies than the other group. Finally, though students with high GPAs differed from students with low GPAs in the overall use of strategy, and in the use of cognitive, metacognitive, and affective strategies, only cognitive strategies, in a regression model analysis, was predictive of students' GPAs.

5.1 Overall Strategy use

In general, students in this study reported medium to high use of SILL learning strategies with a preference for metacognitive strategies, which reflects the students' endeavor to become proficient in the target language. Among the top ten strategies used by all participants, six belong to the metacognitive strategies set. These strategies are essential for successful language learning, since they, as pointed out by Oxford (1990), help learners coordinate and maximize their own learning process

through monitoring and evaluating language use, planning, focusing, organizing, and seeking opportunities to use the language. Considering that maintaining a good GPA throughout the course of study at the Department is a requirement for continuation in the program, no wonder that the majority of the students are instrumentally motivated to learn the language. Accordingly, the use of the various strategies subsumed under the metacognitive heading seems for all of them to be an indispensible requirement if they are to graduate from the department with a degree to qualify them to teach English. The relative high use of metacognitive strategies has also been reported in other studies, including Hong-Nam & Leavell, 2006; Magogwe & Oliver, 2007; Nisbet, Tindall & Arroyo, 2005, among others7.

Among the five least favored strategies (low use: 2.4 or below) were one compensatory strategy (I make up new words if I did not know the right ones I English), three memory strategies (I use rhymes to remember new English words; I use flashcards to remember new English words; I physically act out new English words), and one affective strategy (I write down my feelings in a language learning diary), occupying the final position. Given that writing diaries is not an exceptionally popular practice in the Arab World, students' disdain from this strategy seems justifiable. The fact that memory strategies were the least favored strategies is quite surprising considering that the educational system in most of the Arab countries emphasizes rote memorization. This relatively surprising result may reflect students' displeasure with the conservative educational methods and techniques and their quest for alternative strategies that depart from the conventional didactic strategies to more communicatively oriented strategies. Moreover, this result, obtained also by other researchers (e.g., Al-Otaibi, 2004; Khalil, 2005; Hong-Nam & Leavell, 2006), may underscore the students' recognition that excelling in learning a foreign language requires actively involving themselves in the learning process, seeking opportunities to use the language, cooperating with their peers, etc.

5.2 Strategy use by gender

Contrary to most research findings (e.g., Hong-Nam & Leavell, 2006; Khalil, 2005; Oxford, 1990; Oxford & Ehrman, 1995), male students in this study used more learning strategies than did female students though the differences between the two groups were not significant in most cases. The only significant difference between males and females was in their use of social strategies. While one expects female students to use more social strategies than male students as they generally excel at establishing strong relationships and building vast social networks (Khalil, 2005), this was not borne out in this study. A logical explanation for this result can be attributed to the cultural background of these students. Omani society is organized into tribes and until recently the tribes, which consist of large extended kin groups that interact frequently with each other, were of major political and social importance (Wilkinson, 1987). Men in particular have to develop extremely good social skills to operate in this context, and even though Oman now has a centralized and modern government, the tribal units are still central to the organization of Omani society. Moreover, the conservative nature of culture, customs, and habits prevents females in the Arab World socializing and establishing relationships outside their immediate circles, which is a prerequisite for excelling in acquiring a foreign language within any communicatively oriented approach to language learning.

5.3 Strategy use by English proficiency

Research examining the use of learning strategies by different proficiency groups showed a linear relationship between the two factors (e.g. Green and Oxford, 1995; Khalil, 2005; Wharton, 2000). The present study revealed a complex picture due to the multitude of measures used to assess language proficiency. In terms of students' GPAs, the study showed that the more proficient students used significantly more

overall strategies, cognitive strategies, metacognitive strategies and affective strategies than the less proficient learners, concurring thus with result obtained by Nisbet, Tindall & Arroyo (2005). These results show that the proficient learners seem to be more aware of their language needs; thus, they tend to utilize strategies that will help them master the target language through practicing, reasoning, analyzing, as well as strategies that allow them to control their own learning through planning and evaluating learning. Moreover, these learners exercise a great deal of control over their emotions and attitudes through lowering their anxiety levels and increasing their motivation levels. In this regard, Oxford & Nyikos (1989, p. 295) remark that "language proficiency can be either effects or causes of strategy use." They add that "use of appropriate strategies leads to enhanced actual and perceived proficiency, which in turn creates high self-esteem, which leads to strong motivation, spiraling to still more use of strategies, great actual and perceived proficiency, high self-esteem, improved motivation, and so on."

Many studies showed a positive relationship between strategy use and study duration. Khalil (2005), for example, revealed that university-level students reported higher use of almost all strategy categories than did high school students, which suggests, as pointed out by Magogwe and Oliver (2005p. 346) that "many strategies may be developmentally acquired." Hence, the longer the duration of language study is, the more are the strategies used by learners. This study, however, showed a curvilinear relationship between duration of study and strategy use. In the overall use of strategies, freshmen showed a high use of strategies (m= 3.5), sophomores, on the other hand, demonstrated medium use (m= 3.18), and so did juniors (m= 3.34) and seniors (m= 3.29). A similar result was obtained by Phillips (1991). Likewise, Hong-Nam & Leavell (2006, pp. 410-11) explain a similar result by indicating that once learners reach advanced proficiency levels, "their need to consciously administer and [become] deliberate about their learning choices becomes less necessary." Moreover, "[a]dvanced learners' habitual and successful

application of language strategies may be soon internalized that they do not report what has become for them an automated process;" accordingly they reported less strategy use than the freshmen group.

As for the different categories of strategies, learners differed significantly in their use of affective strategies. It might be the case that the freshmen students in this study realized that learning a second language requires exercising considerable control over their emotions, motivation, and attitudes; thus, they might have worked on lowering their anxiety levels and increasing their motivational levels. This type of control over emotions is critical for these learners considering that their performance in their first year determines their status in the Department. Failure to control their emotions might lead to poor performance, which might eventually result in dismissal from the program. As for the other strategies, the different groups reflected the same pattern and order of strategy use, whereby metacognitive strategies occupied the top of the list followed by compensatory strategies, cognitive strategies, social strategies and affective strategies. This means that, for all groups, the duration of study effects were relatively marginal.

As for the third proficiency parameter (self-rating), students' perception of their linguistic capabilities seems to be the strongest factor distinguishing learners in their use of strategies. Increase in students' self-rating translated into significant increases in their use of all types of strategies. Pajares and Schunk (2001) explain such a result by suggesting that high self-efficacy beliefs are associated with high achievement and indicated that high strategy use is an attribute of a good language learner. In this study, learners with high self-rating reported high strategy use of three categories (metacognitive, compensatory, and cognitive); on the other hand, the fair learners reported high use of only metacognitive strategies. This result seems to show that the higher the students' self-perceived proficiency, the more likely they were to exercise control over their learning than the students with lower self-perceived proficiency. Accordingly, they are more likely to use strategies that would help them

organize, plan, monitor, focus, and evaluate their learning. Moreover, they are more likely to use compensatory strategies than the other group, since these strategies generally help learners use the language to overcome any limitations and gaps in their linguistic knowledge through guessing, making up new words, and using circumlocution and synonyms.

5.4 Strategies predictive of success in L2

The regression model used to analyze students' data revealed that cognitive strategies are significantly correlated with proficiency, measured using students' GPAs in English courses. This result concurs with Park (1997) who showed that social and cognitive strategies predicted TOEFL scores among Asian students. Examples of the cognitive strategies include item 13 *"I use the English words I know if different ways*," item 20 "*I try to find patterns in English*," and item 22 *"I try not to translate word for word."* These strategies and many others subsumed under the cognitive heading help students practice, analyze, revise their language, create structures, and look for opportunities to use the language. These strategies are critical for success in learning English, and they are the type of strategies language learners in the English Department usually focus on.

6. Conclusion

In general, while some of the results reported here are consistent with the findings of previous research on strategy use (Green & Oxford, 1995: O'Malley & Chamot, 1990; Park, 1997), the current study reveals a more complex pattern of strategy use than has been observed in previous studies. Like previous research (e.g., Khalil, 2005; Shmais, 2003), the current results demonstrate unequivocally that English students at SQU were aware of the significance of learning strategies to the development of their proficiency in English; the students used learning strategies with a medium to high frequency, with metacognitive strategies ranking highest

among all strategies. In all comparisons, metacognitive strategies, which help student direct, organize, and plan their learning, were favored by all students over all other strategies. A similar result was obtained by Shmais (2003) and Hong-Nam & Leavell (2006), showing that students overall prefer metacognitive strategies over other strategies, and the least preferred strategies were affective and memory strategies. The use of metacognitive strategies must be supported in curricula design, especially through the beginning stages of learning a second/foreign language, where obtaining some type of declarative knowledge is critical in order to create "heightened understanding of the *what* and *how* of successful language learning" (Hong-Nam & Leavell, 2006, p. 412).

Unlike many previous studies (see e.g., Khalil, 2005), this study did not reveal any significant differences between male and female students except in their use of social strategies, unexpectedly favoring male students. While one would expect female students to utilize their superior social skills to establish social networks that would assist them in the process of learning, male students showed higher preference for these strategies than their female counterparts, which means they were more likely to interact, cooperate, and empathize with others. This, as explained previously, is probably due to disparity in social expectations placed on both groups.

With regard to the relationship between strategy use and proficiency, the results showed that proficiency had a main effect on the overall strategies used by learners as well as on three categories, namely cognitive, metacognitive, and affective strategies, favoring proficient students. As for the effects of study duration, it only had a significant effect on the use of affective strategies, showing higher use of these strategies by freshmen students. Of all factors examined in this study, self-rating was the strongest predictor of differences among learners. Unlike Magogwe & Oliver (2007), who showed a weak relationship between self-efficacy beliefs and the overall use of language learning strategies, this study showed that students with high

self-rating reported more strategy use than those with fair self-rating. Future research in this area should focus on the interaction between self-rating and proficiency to investigate various combinations and how they relate to strategy use; for example, how someone with low proficiency and high self-rating will compare to someone who has low high proficiency but low self-rating and so on.

The results of the present study highlight the importance of incorporating strategy training into L2 classroom instruction and into curriculum design. Accordingly, both students and teachers are required to develop awareness of these various strategies through appropriate instruction or training for both groups. Becoming aware of their preferred learning strategies might help learners become more independent and effective in approaching the task of learning a second language. Oxford (2001 p. 1, as cited in Nisbet et al., 2005) emphasizes the importance of such autonomy by stating that learning strategies "are aimed at self-management in language learning and self-reliance in language use." Moreover, explicit training in strategy use might be necessary so as to allow students at different levels and those with different proficiency levels and learning styles to practice a wide range of these strategies that are "appropriate to different instructional task and activities that constitute an essential part of the classroom L2 experience" (Khalil, 2005 p. 115). This stipulates that learners at different levels require variable degrees of teacher's intervention in the learning process. Accordingly, for less proficient learners, high levels of explicit instruction in strategy use might be essential to raise learners' awareness of the significance of developing their strategic competence. Thus, the teacher's role is critical. "Effective teachers should consider each learning task from a novice's perspective and scaffold the learning process through purposeful strategy choice" (Hong-Nam & Leavell, 2006, p.412). Cohen, Weaver, & Li (1995, p.29) emphasized that approach by pointing out that "explicitly describing, discussing, and reinforcing strategies in the classroom can have a direct payoff on student outcomes." As learners develop some explicit knowledge of various strategies, and as they become

relatively autonomous, the teacher's role changes to a facilitator who selects the strategies, which are appropriate for various tasks and are suitable for different individuals. This eventually might help learners gain more independence and develop confidence, which, in turn, will enhance their linguistic abilities. To achieve this, it is critically important to provide teachers with the proper training in strategy assessment and instruction, through the systematic introduction and reinforcement of learning strategies that help learners improve their proficiency in the target language (Cohen, Weaver & Li, 1995).

In terms of curriculum design and material preparation, researchers have often recommended that strategy training be integrated into language curriculum (see e.g., Khalil, 2005; Oxford, 1990; Tyacke, 1991). Therefore, teachers and materials' developers should incorporate a variety of tasks and activities, which target strategies that teachers view as critical for success in learning a second language. The fact that students with different proficiency levels utilize different learning strategies must guide the development of instructional materials (Chamot & O'Malley, 1996). These materials, according to Khalil (2005, p. 115), should provide "students with further opportunities to practice a wide variety of strategies that are appropriate to different instructional tasks and activities that constitute an essential part of the classroom L2 experience." Moreover, instructional materials might be developed to target certain strategies which research finds essential for success in learning a second language. In this regard, Ellis and Sinclair (1989) advocated the use of organization strategies, risk-taking strategies, and personal strategies in content-based instruction. Chamot and O'Malley (1996) also dev eloped instructional materials which incorporated explicit instruction in learning strategies.

In conclusion, a number of variables were considered in assessing Omani students' use of learning strategies. While these variables may explain to some extent discrepancies in strategy use among various groups of learners, other factors that

might affect the use of LLS such as the role of beliefs, social and cultural background, motivation, attitude, personality, etc. must be as well studied to find out their interaction with strategy use. Moreover, further research in this area is critical to the development of teacher training and student instruction in order to base these two components on firm theoretical and empirical foundations.

7. Limitations of this study

One of the limitations of the study is lack of a standardized English proficiency test. To determine students' proficiency, the study utilized different constructs such as students' GPAs, students' self-rating, and duration of study, which may account for the apparent contrasts in the results reported for each measure. Another limitation is the complete reliance on SILL to determine strategies used by students. While this quantitative measure is very beneficial, the students "may not remember the strategies they have used in the past, may claim to use strategies that in fact they do not use, or may not understand the strategy descriptions in the questionnaire items (Chamot, 2004 p.15). Accordingly, the SILL should be supplemented with other techniques such as think-aloud protocols concurrent with a specific learning task, written diaries, stimulated recall interviews, and other methods which might provide richer and more sample-specific data.

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Notes

i Many studies (see, e.g., Shmais, 2003) use GPA as a predictor of language proficiency. The assumption in such studies is that the higher the GPA, the more proficient the learner in the foreign language is.

ii Hatch and Lazaraton (1991: 310) maintain that when the cell sizes are unbalanced, "the assumption of equal variance may be violated."

iii It should be noted that ANOVA gives exactly the same results as the *t*-test.

iv Despite the significant difference among the four groups ($F = 0.98$, $p = .042$), Schaffé post-hoc test

showed tendency of difference, but it was not significant. As a result, LSD, which can locate differences when the mean differences are not big.
v In step 1 of the regression analysis, the exponential B indicates that the odds of having a higher GPA increased by a factor of 2.626 with every point on a five-point Likert scale in the case of cognitive strategies. This ration jumped to 3.065 in the final step.

Appendices

Language Learning Strategies Questionnaire

Dear student,

This questionnaire is an attempt to explore the language learning strategies used by the students of the English Department at SQU. Your participation in this study and honest responses to the questionnaire items are highly appreciated. Please be assured that your information will remain strictly confidential and will be used solely for the purpose of this research project.

Part One:

1. Name: _____ ID: _____

2. Gender: ☐ Male ☐ Female

2. Year in the English Department: ☐ First ☐ Second ☐ Third ☐ Fourth

3. Program: ☐ Education ☐ Art ☐ Translation

4. Overall GPA: _____

5. GPA in English courses: _____

6. Language(s) spoken at home: _____

7. How do you rate your proficiency in English? ☐ Excellent ☐ Good ☐ Fair ☐ Poor

B. Directions:

This form of the Strategy Inventory for Language Learning (SILL) is for students of English as a foreign language. You will find statements about learning English. Please read each statement carefully. Then, next to each statement, make a check mark (√) in the answer box that tells

how true of you the statement is.

1. **Never** or almost never true of me (**لاينطبق علي أبدا**)
2. **Seldom** true of me (**نادرا ما ينطبق علي**)
3. **Sometimes** true of me (**أحيانا ينطبق علي**)
4. **Often** true of me (**عادة ينطبق علي**)
5. **Always** or almost always true of me (**دائما ينطبق علي**)

		1 Never	2 Seldom	3 Sometimes	4 Often	5 Always
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 (**صورة ذهنية**) of a situation in which the word might be used.					
5	I use rhymes (**كلمات مسجعة**) to remember new English words.					
6	I use flashcards (**البطاقات**)to remember new English words.					
7	I physically act out (**أقوم بتمثيل**) new English words.					
8	I review English lessons often.					
9	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.					

10	I say or write new English words several times.					
11	I try to talk to native English speakers.					
12	I practice the sounds of English.					
13	I use the English words I know in different ways.					
14	I start conversations in English.					
15	I watch English Language TV shows spoken in English or go to movies 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 (**أنماط متكررة**) 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.					
24	To understand unfamiliar words, I make guesses.					
25	When I can't think of a word during a conversation in English, I use gestures (اشارات) .					
26	I make up (أختلق) new words if I don't 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 can't think of an English word, I use a word or a phrase that means the same thing.					
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.					
39	I try to relax whenever I feel afraid of using English.					
40	I encourage myself to speak in 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.					
44	I talk to someone else about how I feel when I am learning English.					
45	If I don't 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 practice 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.					

Table 4. Preference of language learning strategies by their means

Rank	Strategy No.	Strategy Category	Strategy Statement	Mean
High usage (M = 3.5 -5.0)				
1	32	MET	I pay attention when someone is speaking English	4.44
2	38	MET	I think about my progress in learning English	4.20
3	33	MET	I try to find out how to be a better learner of English.	4.19
4	29	COM	If I can't think of an English word, I use a word or a phrase that means the same thing.	4.17
5	31	MET	I notice my English mistakes and use that information to help me do better.	4.08

6	15	COG	I watch English Language TV shows spoken in English or go to movies spoken in English.	4.05
7	30	MET	I try to find as many ways as I can to use my English.	3.79
8	40	AFF	I encourage myself to speak in English even when I am afraid of making a mistake.	3.77
9	39	AFF	I try to relax whenever I feel afraid of using English.	3.73
10	37	MET	I have clear goals for improving my English skills.	3.71
11	24	COM	To understand unfamiliar words, I make guesses.	3.64
12	1	MEM	I think of relationships between what I already know and new things I learn in English.	3.62
13	27	COM	I read English without looking up every new word.	3.61
14	16	COG	I read for pleasure in English.	3.59
15	36	MET	I look for opportunities to read as much as possible in English.	3.55
16	12	COG	I practice the sounds of English.	3.53
Medium usage (M = 2.5-3.4)				
17	17	COG	I write notes, messages, letters, or reports in English.	3.49
18	45	SOC	If I don't understand something in English, I ask the other person to slow down or say it again.	3.49

19	9	MEM	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	3.48
20	21	COG	I find the meaning of an English word by dividing it into parts that I understand.	3.46
21	49	SOC	I ask questions in English.	3.45
22	42	AFF	I notice if I am tense or nervous when I am studying or using English.	3.44
23	10	COG	I say or write new English words several times.	3.41
24	18	COG	I first skim an English passage (read over the passage quickly) then go back and read carefully.	3.40
25	13	COG	I use the English words I know in different ways.	3.37
26	35	MET	I look for people I can talk to in English.	3.37
27	19	COG	I look for words in my own language that are similar to new words in English.	3.35
28	34	MET	I plan my schedule so I will have enough time to study English.	3.34
29	47	SOC	I practice English with other students.	3.31
30	28	COM	I try to guess what the other person will say next in English.	3.30
31	50	SOC	I try to learn about the culture of English speakers.	3.29
32	3	MEM	I connect the sound of a new English word and an image or picture of the word to help me remember the word.	3.29

33	2	MEM	I use new English words in a sentence so I can remember them.	3.26
34	8	MEM	I review English lessons often.	3.19
35	4	MEM	I remember a new English word by making a mental picture of a situation in which the word might be used.	3.15
36	22	COG	I try not to translate word-for-word.	3.10
37	25	COM	When I can't think of a word during a conversation in English, I use gestures.	3.09
38	14	COG	I start conversations in English.	3.08
39	44	AFF	I talk to someone else about how I feel when I am learning English.	3.05
40	11	COG	I try to talk to native English speakers.	3.03
41	20	COG	I try to find patterns in English.	3.02
42	48	SOC	I ask for help from English speakers.	3.00
43	46	SOC	I ask English speakers to correct me when I talk.	2.88
44	23	COG	I make summaries of information that I hear or read in English.	2.87
45	41	AFF	I give myself a reward or treat when I do well in English.	2.73
Low usage (M = 2.4 or below)				
46	26	COM	I make up new words if I don't know the right ones in English.	2.43

47	5	MEM	I use rhymes to remember new English words.	2.39
48	6	MEM	I use flashcards to remember new English words.	2.35
49	7	MEM	I physically act out new English words.	2.20
50	43	AFF	I write down my feelings in a language learning diary.	2.16

MET (Metacognitive strategies), COG (Cognitive strategies), MEM (Memory strategies), COM (Compensatory strategies), SOC (Social Strategies), AFF (Affective Strategies).

Footnotes

[1] Many studies (see, e.g., Shmais, 2003) use GPA as a predictor of language proficiency. The assumption in such studies is that the higher the GPA, the more proficient the learner in the foreign language is.

[2] Htch and Lazaraton (1991: 310) maintain that when the cell sizes are unbalanced, "the assumption of equal variance may be violated."

[3] It should be noted that ANOVA gives exactly the same results as the *t*-test.

[4] Despite the significant difference among the four groups ($F = 0.98$, $p = .042$), Schaffé post-hoc test showed tendency of difference, but it was not significant. As a result, LSD, which can locate differences when the mean differences are not big.

[5] In step 1 of the regression analysis, the exponential B indicates that the odds of having a higher GPA increased by a factor of 2.626 with every point on a five-point Likert scale in the case of cognitive strategies. This ration jumped to 3.065 in the final step.