Factors Influencing College-Level EFL Students' Language Learning Strategies in Saudi Arabia

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Abstract

This study investigated the factors that influence college-level EFL students' Language Learning Strategies (LLS) in Saudi Arabia. A survey of 178 participants from different higher education institutions in Saudi Arabia was conducted. A Multivariate Analysis of Variance (MANOVA) was employed to identify the most frequently used LLS and to investigate the difference between students' demographic variables and their use of LLS. The study's results revealed that the majority of participants fell in the age category between (18-22) years old, were in their 4th year of college, were Saudi nationals, and majored in TESL/TEFL. The findings also showed that participants' overall use of LLS was average (medium). The study investigated the six LLS among participants and revealed that Metacognitive Strategies were the most frequently used strategies while Affective Strategies were the least frequently used strategies. The results also indicated that there was an overall statistically significant difference in LLS based on participants' gender. However, the findings found that age, college level, nationality, and major did not have any statistically significant effect on the six LLS.

Keywords: ESL, EFL, TESL, TEFL, Second Language (L2), Language Learning Strategies (LLS), Strategy Inventory of Language Learning (SILL)

1. Introduction

Over the past few decades, a remarkable paradigm shift, in the field of education, in general, and in language teaching and learning, in particular, has taken place from a teacher-centered to a student-centered approach (Lessard-Clouston, 1997). This shift has led many researchers to investigate students' language learning strategies (LLS) in order to explore strategies that successful language learners use in their learning and to understand why some language learners succeed while others fail (Nguyen & Godwyll, 2010). It was agreed among researchers that language learners, consciously or unconsciously, employ a variety of LLS which, in turn, distinguish between more successful and less successful learners (Hong-Nam & Leavell, 2006). Many studies have correlated LLS to learners' age, gender, nationality, and proficiency level (Ehrman & Oxford, 1988; Gerami & Baighlou, 2011; Green & Oxford, 1995; Hong-Nam & Leavell, 2006; Nguyen & Godwyll, 2010; Oxford & Ehrman, 1995; Oxford & Nyikos, 1989; Phillips, 1991; Politzer, 1983; Riazi, 2007; Sheorey, 1999; Wharton, 2000; Yang, 1999; Zeynali, 2012).

1.1 Statement of the Problem

In the context of EFL Saudi classrooms, most of LLS studies focused on primary and elementary-level students while a few studies have been conducted to investigate LLS among college-level EFL students. The aim of this study is to investigate the factors that influence college-level EFL students' language learning strategies in Saudi Arabia.

1.2 Purpose of the Study

As LLS can influence EFL learning, it is critically important to carefully understand and study the strategies employed by EFL students. Given the importance of this topic, this study addressed the following research questions:

1)   What are the most frequently used LLS among college-level EFL students in Saudi Arabia?

2)   Is there a significant difference between EFL students' demographic variables (gender, age, nationality, major, & college level) and their use of LLS?

1.3 Significance of the Study

The results of this study can provide valuable insights into how LLS should be incorporated in language instruction as well as curriculum design and what EFL teachers need to know to implement LLS into their teaching experience.

2. Literature Review

2.1 Definition of LLS

Tarone (1980) described three types of strategies: (1) communication strategy, (2) production strategy, and (3) language learning strategy. A *communication strategy (CS)* is defined as "mutual attempts of two interlocutors to agree on a meaning in situations where the requisite meaning structures do not seem to be shared" (p. 419). Examples of CS are paraphrase, circumlocution, and mime. A *production strategy (PS)* is "an attempt to use one's linguistic system efficiently and clearly with a minimum of effort" (p. 419). Examples of PS are simplification, rehearsal, and discourse planning. *A language learning strategy (LLS)* is "an attempt to develop linguistic and sociolinguistic competence in the target language" (p. 419). Examples of LS are memorization, repetition, mnemonics, inferencing, spelling, and initiation of conversation with native speakers. Tarone (1980) concluded that a distinction must be made between two types of strategies: *language learning strategies* (LLS) and *strategies of language use (SLU)*, such as communication strategies and production strategies. Ellis (1994) also distinguished between two types of learning strategy: (1) *language learning strategies* which are "concerned with the learners' attempts to master new linguistic and sociolinguistic information about the target language" (p. 530) and (2) *skill learning strategies* which are "concerned with the learners' attempts to become skilled listeners, speakers, readers, or writers" (p. 530).

Weinstein & Mayer (1986) extended the definition of LLS to include "the behaviors and thoughts that a leaner engage in during learning that are intended to influence the leaner's encoding process" (p. 315). LLS has also been defined as "any sets of operations, steps, plans, routines, used by the learner to facilitate the obtaining, storage, retrieval, and use of information" (Wenden & Rubin, 1987, p. 19). Chamot (1987) considered LLS as "techniques, approaches, or deliberate actions that students take in order to facilitate the learning and recall of both linguistic and content area information" (p. 71). O'Malley & Chamot (1990) also identified LLS as "the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information" (p. 1). LLS has also been described as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990, p. 8).

2.2 Methods of Investigating LLS

Researchers have used several different methods in order to investigate LLS. Some of these methods include:

1)   *Observations*: in which students are observed while performing a variety of tasks in classroom settings.

2)   *Retrospective interviews*: in which students are asked to describe what they were thinking or doing during a recently completed learning task.

3)   *Simulated recall interviews*: in which students are videotaped while performing a specific learning task. Then, the interviewer plays back the videotape, pausing as necessary, and asking the students to describe their thoughts at that specific moment during the learning task.

4)   *Questionnaires*: in which students are asked to report on the learning strategies they use in general or in relation to a specific activity.

5)   *Diaries* and *journals*: in which students write personal observations about their own learning experiences and the ways in which they have solved language problems.

6)   *Think-aloud tasks*: in which students are given a learning task and are asked to describe their thoughts while working on it (Chamot, 2004; Ellis, 1994).

The most frequently and efficiently method used for identifying student's learning strategies is through *questionnaires* (Chamot, 2004). However, many of the most successful studies have employed multiple data collection procedures (Ellis, 1994).

2.3 Classification of LLS

Many language learning researchers have identified and classified LLS. Some of the most cited LLS are described and summarized in Table 1.

Table 1. Classifications of LLS

LLS Classification	Researcher & Year
1. Active task approach. 2. Realization of language as a system. 3. Realization of language as a means of communication and interaction. 4. Management of affective demands. 5. Monitoring L2 performance.	Naiman et al. (1978)
1. *Metacognitive strategies* which include planning (advance organizers, direct attention, selective attention, self-management, functional planning, self-monitoring, delayed production, & self-evaluation), monitoring (checking, verifying, or correcting one's comprehension or performance), and self-evaluating(checking the outcomes of one's own language learning against a standard after it has been completed). 2. *Cognitive strategies* which include repletion, resourcing, translation, grouping, note-taking, deduction, summarization, recombination, imagery, auditory representation, key word, contextualization, elaboration, transfer, & inferencing. 3. *Socioaffective strategies* which include cooperation and question for clarification.	O'Malley et al. (1985)
1. *Learning strategies* which contribute directly to the development of language learning and include cognitive strategies (such as clarification/verification, guessing/inductive inferencing, deductive reasoning, monitoring, memorization & practice) and metacognitive strategies (such as planning, prioritizing, setting goals, & self-management). 2. *Communication strategies* which contribute indirectly to the development of language learning and include creating opportunities for practice and production tricks. 3. *Social strategies* which contribute indirectly to the development of language learning and include initiating conversations, listening to L2 media, questions to fellow students/teachers/ native speakers, etc.	Rubin (1987)

1. *Direct strategies* which involve direct learning and use of the new language. They include:
  a. *Memory strategies:* used for remembering and retrieving new information, such as: creating mental linkages; applying images and sounds; reviewing well; employing action.
  b. *Cognitive strategies:* used for understanding and producing the language, such as: practicing; receiving and sending messages; analyzing and reasoning; creating structure for input and output.
  c. *Compensation strategies*: used for using the language despite lack of knowledge, such as: guessing intelligently; overcoming limitations in speaking and writing.
2. *Indirect strategies* which contribute indirectly but powerfully to learning. They include:
  a. *Metacognitive strategies:* used for coordinating the learning process, such as: centering one's learning; arranging and planning one's learning; evaluating one's learning.
  b. *Affective strategies:* used for regulating emotions, such as: lowering one's anxiety; encouraging oneself; taking one's emotional temperature.
  c. *Social strategies:* used for learning with others, such as: asking questions; cooperating with others; empathizing with others.
	Oxford (1990)

1. *Management & planning strategies* which are related to the learners' purpose to control their own learning. 2. *Cognitive strategies* which are applied by learners to improve their ability to learn and solve problems. 3. *Communicative-experiential strategies* which are employed by learners to keep the conversation going & include verbal and nonverbal instruments. 4. *Interpersonal strategies* which are tailored to monitor the learners' development and evaluate their performance. 5. *Affective strategies* which involve emotions, feelings, and attitudes toward learning a target language.	Stern (1992)

1. *Language learning strategies* which are used with an explicit goal of   Cohen (1998)
    improving learner knowledge of a target language. They include:
    a.   *Cognitive strategies.*
    b.   *Metacognitive strategies.*
    c.   *Affective strategies.*
    d.   *Social strategies.*
2. *Language use strategies* which focus on assisting learners use and utilize a
    target language. They include:
    a.   *Retrieval strategies.*
    b.   *Rehearsal strategies.*
    c.   *Cover strategies.*
    d.   *Communicating strategies.*

2.4 Factors Affecting LLS

Several factors that affect LLS have been identified by language learning researchers. Some of the most widely researched and identified factors which influence L2 learners' use of LLS were *age*, *gender*, *nationality*, *ethnicity*, *proficiency level*, *motivation*, *attitude*, *learning style*, *learning context*, *personality traits*, *disciplines*, *teacher expectation*, & *cultural background* (Abraham & Vann, 1987; Green & Oxford, 1995; Grainger, 1997; Griffiths, 2003; Peacock & Ho, 2003; Chamot, 2004; Hong-Nam & Leavell, 2006).

Recent studies indicated that older language learners used different strategies than younger language learners. Female language learners were also reported to employ a much wider and different range of strategies than male language learners. Also, specific nationalities/ethnicities have been reported to use more strategies than other nationalities/ethnicities. Some learning styles have been found to have a strong effect on the strategies used by language learners. In addition, highly motivated language learners adopt a greater range of strategies than do less motivated learners (Oxford, 1990).

2.5 LLS in EFL Saudi Classrooms

In the context of EFL Saudi classrooms, a few studies have been conducted to investigate LLS among Saudi EFL students. Al-Braik (1986) examined the factors which contributed to the successful language learning among Saudi students. The study revealed that Saudi students considered exposure to English and its culture as important as formal English instruction. It also revealed that students who started English between the ages of seven and twelve showed better learning strategies than those who started at older ages. Alwahibee (2000) examined the kinds of LLS employed by Saudi students when learning English as a second language in the USA. His study found that successful Saudi learners used metacognitive strategies, cognitive strategies, compensation strategies, social strategies, memory strategies, and, finally, affective strategies; while unsuccessful learners used compensation strategies, cognitive strategies, metacognitive strategies, memory strategies, social strategies and finally affective strategies. The demographic factors (age, gender, academic major, length of stay in the USA, personality type, TOEFL scores, language learning experience, beliefs regarding language, and attitudes) were found not to have a significant relationship with LLS used by Saudi students. In a similar study, Alotaibi (2004) examined the type and frequency of LLS among Saudi EFL students and investigated the relationship between strategy use and certain factors such as language proficiency level, gender and motivation. The study reported motivation to significantly correlate with all strategy categories. More proficient and highly motivated participants used a greater number of effective strategies more frequently. The study also showed greater female strategy use, especially out-of-class strategies. The findings also revealed that teachers and teaching practices affect students' motivation and strategy use. Alhaisoni (2012) investigates the type and frequency of language learning strategies used by Saudi EFL students. The study revealed that the students used language learning strategies with low to medium frequency. They preferred to use cognitive and metacognitive strategies the most, whereas they showed the least use of affective strategies and memory strategies. The findings of the study showed that there was no significant gender difference in the use of language learning strategies except for social strategies, as where females reported using them significantly more than males. Female students also tend to use overall language learning strategies more often than males. The study also revealed that highly proficient students used all six categories more than low-proficiency students.

3. Method

3.1 Research Design

This study was designed to investigate the factors that influence college-level EFL students' language learning

strategies in Saudi Arabia. The independent (*predictor*) variables were the participants' demographic variables (gender, age, nationality, major, & college level). The dependent (*criterion*) variables were the participants' Language LLS.

To investigate the participants' most frequently used LLS and to investigate the difference between the participants' demographic variables and their use of LLS, a Multivariate Analysis of Variance (MANOVA) was employed.

3.2 Participants

Data was collected from a sample of EFL students (N=178) in several Saudi higher education institutions. The sample included male, female, Saudi, and non-Saudi students in different college levels & majors.

3.3 Data Collection

A survey questionnaire was employed as a method of data collection. According to Johnson & Christensen (2000), the purpose of using a questionnaire is to obtain information about perceptions, feelings, thoughts, beliefs, etc. This study used Oxford's Strategy Inventory of Language Learning (SILL). The questionnaire consisted of seven parts including 55 items. The first part consisted of 5 items focusing on the participants' *demographics*. The second part consisted of 9items designed to identify the participants' *memory* strategies. The third part consisted of 14 items designed to identify the participants' *cognitive* strategies. The fourth part consisted of 6 items designed to identify the participants' *compensation* strategies. The fifth part consisted of 9 items designed to identify the participants' *metacognitive* strategies. The sixth part consisted of 6 items designed to identify the participants' *affective* strategies. The seventh part consisted of 6 items designed to identify the participants' *social* strategies.

3.4 Validity and Reliability

This study utilized Oxford's Strategy Inventory of Language Learning (SILL). This instrument has been widely accepted and adopted in several studies related to language learning strategies. The Cronbach's alpha reliability coefficients of the instrument indicated a high level of internal consistency as described in (Table 2).

Table 2. Cronbach's Alpha reliability coefficients

Variable	Number of Items	Mean	Std. Deviation	Alpha
Memory	9	28.81	6.22	.768
Cognitive	14	49.68	9.57	.863
Compensation	6	20.24	4.17	.708
Metacognitive	9	32.93	7.67	.824
Affective	6	19.06	4.80	.729
Social	6	20.96	4.95	.806
ALL	**50**	**171.68**	**37.38**	**.945**

4. Results and Discussion

4.1 Participants' Gender & Age

Statistical analysis of participants' gender & age (Figure 1) showed that 70.6% of the participants were females and 29.8% were males. The majority of the participants (71.9%) fell in the age category between (18-22 years old).
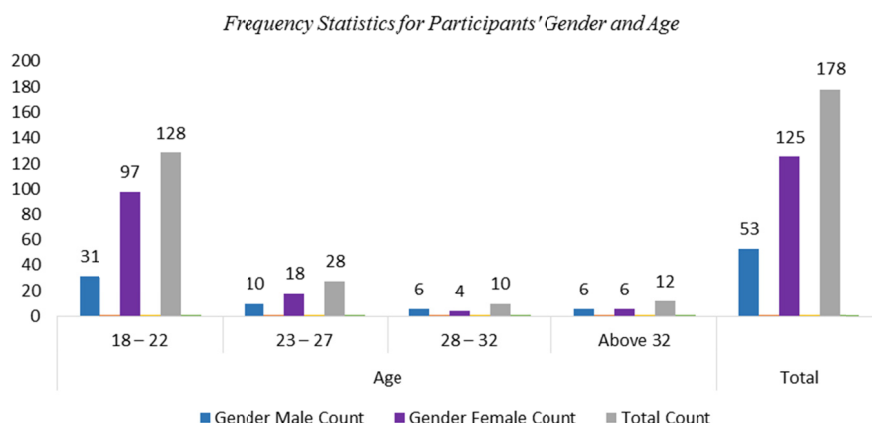
Figure 1. Frequency statistics for participants' gender & age

4.2 Participants' College Level

Figure 2 showed that the majority of participants (38.2%) were in their 4th year of college; while the least participants (9.6%) were in the Preparatory Year. The majority of the male participants (12.4%) as well as the female participants (25.8%) were in their 4th year.
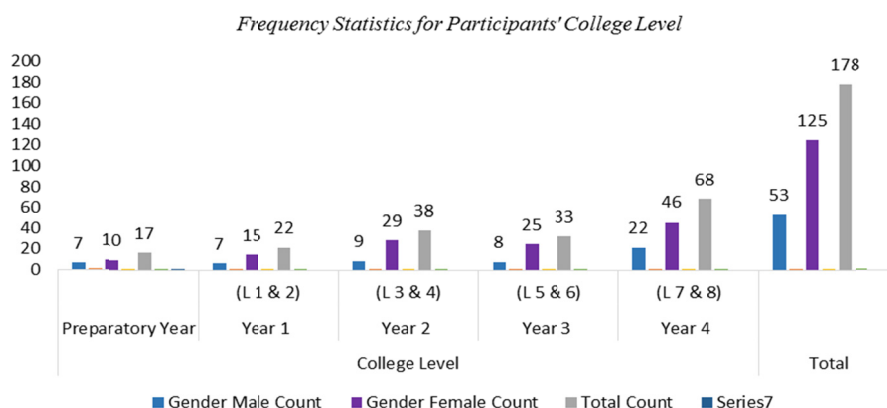

Figure 2. Frequency statistics for participants' college level

4.3 Participants' Nationality

Statistical analysis of participants' nationality (Figure 3) showed that the majority of participants (92.7%) were Saudi. The majority of the Saudi participants (66.3%) and the majority of the non-Saudi participants (3.9%) were females.
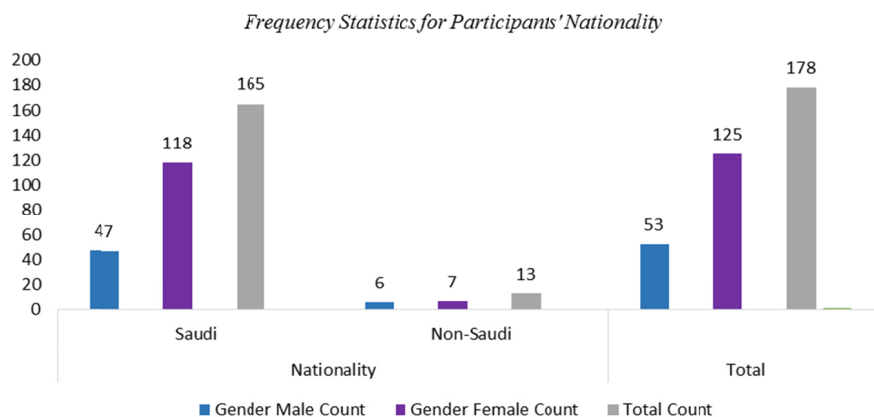

Figure 3. Frequency statistics for participants' nationality

4.4 Participants' Major

Figure 4 showed that the majority of participants (29.2%) were TESL/TEFL major; while the least participants (10.7%) were Linguistics major. The majority of male participants (11.2%) were TESL/TEFL major; while the majority of female participants (21.3%) were from other majors related to English Language but taught under different names such as Education, Curriculum and Teaching, Educational Leadership, etc.
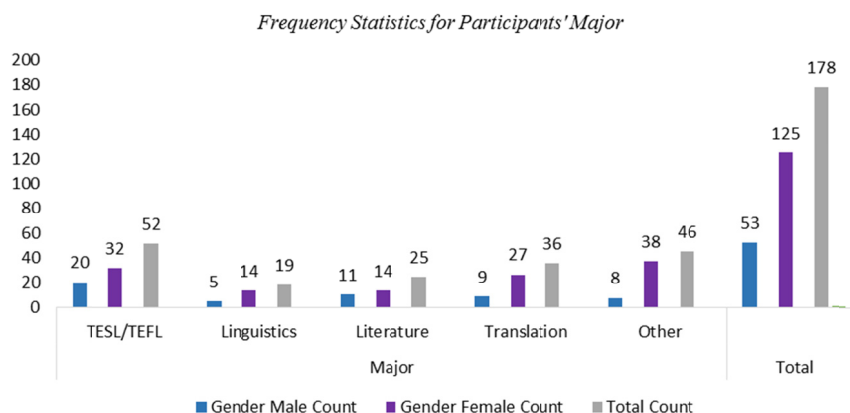

Figure 4. Frequency statistics for participants' major

4.5 Participants' Memory Strategies

Statistical analysis of participants' memory strategies (Table 3) showed that participants had an overall medium use level of memory strategies (m= 3.23, SD=1.17).

Table 3. Descriptive statistics for participants' memory strategies

Participants' Memory Strategies	Mean	Std. Deviation
1. I think of relationships between what I already know and new things I learn in English.	3.69	1.07
2. I use new English words in a sentence so I can remember them.	3.65	1.14
3. I connect the sound of a new English word and an image or picture of the word to help remember the word.	3.35	1.21
4. I remember a new English word by making a mental picture of a situation in which the word might be used.	3.45	1.15
5. I use rhymes to remember new English words.	2.82	1.15
6. I use flashcards to remember new English words.	2.40	1.24
7. I physically act out new English words.	2.89	1.21
8. I review English lessons often.	3.20	1.18
9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	3.63	1.25

4.6 Participants' Cognitive Strategies

When investigating participants' cognitive strategies (Table 4), statistical analysis showed that participants had an overall medium use level of cognitive strategies (m= 3.62, SD=1.15).

Table 4. Descriptive statistics for participants' cognitive strategies

Participants' Cognitive Strategies	Mean	Std. Deviation
10. I say or write new English words several times.	3.62	1.11
11. I try to talk like native English speakers.	4.06	1.07
12. I practice the sounds of English.	3.85	1.08
13. I use the English words I know in different ways.	3.80	1.06
14. I start conversations in English.	3.59	1.17
15. I watch English language TV shows spoken in English or go to movies spoken in English.	4.07	1.11
16. I read for pleasure in English.	3.42	1.14
17. I write notes, messages, letters, or reports in English.	3.73	1.14
18. I first skim an English passage (read over the passage quickly) then go back and read carefully.	3.58	1.21
19. I look for words in my own language that are similar to new words in English.	3.41	1.25
20. I try to find patterns in English.	3.28	1.06

21. I find the meaning of an English word by dividing it into parts that I understand.	3.69	1.20
22. I try not to translate word-for-word.	3.34	1.27
23. I make summaries of information that I hear or read in English.	3.37	1.22

4.7 Participants' Compensation Strategies

Participants' compensation strategies (Table 5) were analyzed and the results showed that participants had an overall medium use level of compensation strategies (m= 3.44, SD=1.14).

Table 5. Descriptive statistics for participants' compensation strategies

Participants' Compensation Strategies	Mean	Std. Deviation
24. To understand unfamiliar English words, I make guesses.	3.69	1.06
25. When I can't think of a word during a conversation in English, I use gestures.	3.46	1.11
26. I make up new words if I do not know the right ones in English.	2.85	1.27
27. I read English without looking up every new word.	3.22	1.19
28. I try to guess what the other person will say next in English.	3.33	1.18
29. If I can't think of an English word, I use a word or phrase that means the same thing.	4.11	1.03

4.8 Participants' Metacognitive Strategies

When analyzing participants' metacognitive strategies (Table 6), descriptive analysis showed that participants had an overall good use level of metacognitive strategies (m= 3.74, SD=1.17).

Table 6. Descriptive statistics for participants' metacognitive strategies

Participants' Metacognitive Strategies	Mean	Std. Deviation
30. I try to find as many ways as I can to use my English.	3.85	1.12
31. I notice my English mistakes and use that information to help me do better.	3.95	1.13
32. I pay attention when someone is speaking English.	4.14	1.07
33. I try to find out how to be a better learner of English.	4.11	1.08
34. I plan my schedule so I will have enough time to study English.	3.12	1.29
35. I look for people I can talk to in English.	3.52	1.17
36. I look for opportunities to read as much as possible in English.	3.37	1.27
37. I have clear goals for improving my English skills.	3.72	1.23
38. I think about my progress in learning English.	3.89	1.22

4.9 Participants' Affective Strategies

Statistical analysis of participants' affective strategies (Table 7) showed that participants had an overall medium use level of affective strategies (m= 3.21, SD=1.30).

Table 7. Descriptive statistics for participants' affective strategies

Participants' Affective Strategies	Mean	Std. Deviation
39. I try to relax whenever I feel afraid of using English.	3.50	1.23
40. I encourage myself to speak English even when I am afraid of making a mistake.	3.72	1.21
4l. I give myself a reward or treat when I do well in English.	3.07	1.35
42. I notice if I am tense or nervous when I am studying or using English.	3.25	1.27
43. I write down my feelings in a language learning diary.	2.62	1.45
44. I talk to someone else about how I feel when I am learning English.	3.13	1.33

4.10 Participants' Social Strategies

Investigation of participants' social strategies (Table 8) showed that participants had an overall medium use level of social strategies (m= 3.48, SD=1.15).

Table 8. Descriptive statistics for participants' social strategies

Participants' Social Strategies	Mean	Std. Deviation
45. If I do not understand something in English, I ask the other person to slow down or say it again.	3.63	1.12
46. I ask English speakers to correct me when I talk.	3.30	1.23
47. I practice English with other students.	3.24	1.17
48. I ask for help from English speakers.	3.29	1.16
49. I ask questions in English.	3.73	1.08
50. I try to learn about the culture of English speakers.	3.74	1.15

4.11 Participants' Most Frequently Used Strategies

Examining participants' most frequently used strategies (Figure 5) showed that participants used *Metacognitive Strategies* most frequently (m= 3.74, SD=1.17); while *Affective Strategies* (m= 3.21, SD=1.30) were the least frequently used by participants.
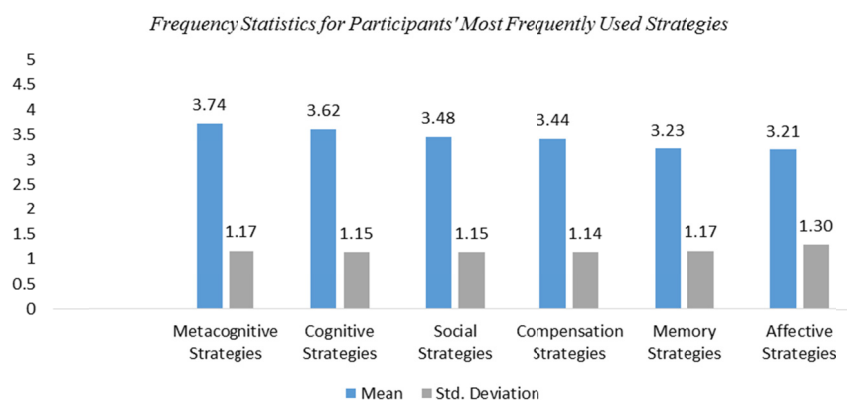

Figure 5. Descriptive statistics for participants' most frequently used strategies

4.12 LLS and Gender

Statistical analysis of participants' LLS as compared to gender (Figure 6) was computed using means and standard deviations and it showed that the most used LLS used by students based on their gender were Cognitive Strategies. A Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of gender on the six LLS. On an alpha scale of (0.05), the MANOVA results (Table 9) revealed that there was an overall statistically significant difference in LLS based on participants' gender, F (6, 171.000) = 2.197, p= .046; Wilk's Λ = 0.928. The MANOVA results (Table 10) also showed that gender had a statistically significant main effect on *Cognitive Strategies* (F= 7.196, p= .008), *Compensation Strategies* (F= 5.053, p= .026), & *Metacognitive Strategies* (F= 11.036, p= .001). However, gender did not have any statistically significant main effect on *Memory Strategies* (F= 3.537, p= .062), *Affective Strategies* (F= 2.337, p= .128), & *Social Strategies* (F= 1.671, p= .198).
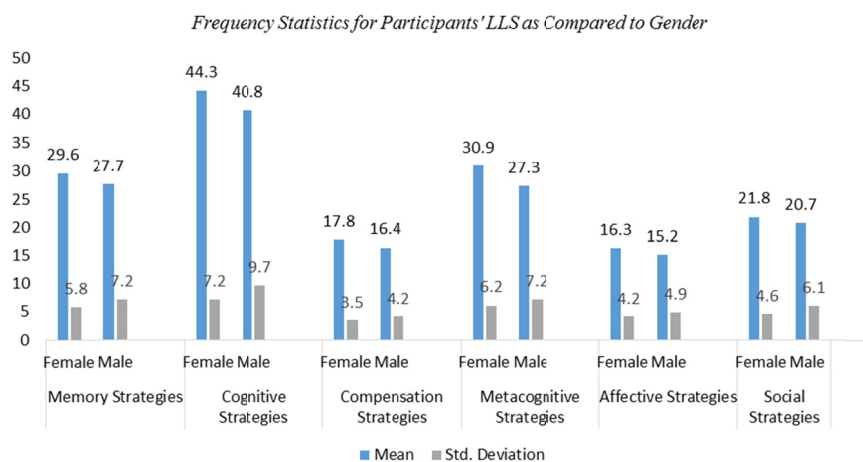

Figure 6. Descriptive statistics for participants' LLS as compared to gender

Table 9. Multivariate tests for Gender & LLS

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Gender	Pillai's Trace	.072	2.197	6.000	171.000	.046
	Wilks' Lambda	.928	2.197	6.000	171.000	.046
	Hotelling's Trace	.077	2.197	6.000	171.000	.046
	Roy's Largest Root	.077	2.197	6.000	171.000	.046

Table 10. Test of between-subjects effects for Gender & LLS

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Memory Strategies	139.936	1	139.936	3.537	.062
	Cognitive Strategies	465.083	1	465.083	7.196	.008
	Compensation Strategies	73.280	1	73.280	5.053	.026
	Metacognitive Strategies	470.581	1	470.581	11.036	.001
	Affective Strategies	46.011	1	46.011	2.337	.128
	Social Strategies	44.070	1	44.070	1.671	.198

4.13 LLS and Age

Descriptive statistical analysis of participants' LLS as compared to age (Figure 7) was computed using means and standard deviations.
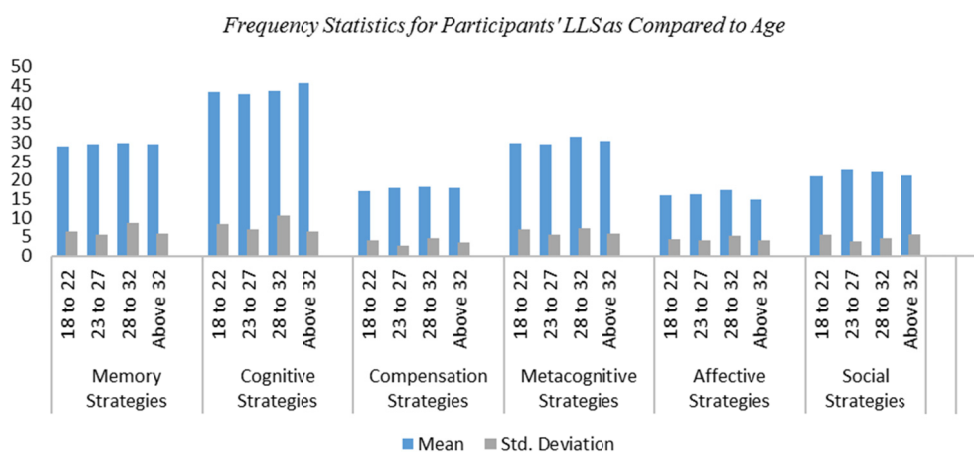

Figure 7. Descriptive statistics for participants' LLS as compared to age

A Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of age on the six LLS. On an alpha scale of (0.05), the MANOVA results (Table 11) revealed that there was no statistically significant difference in LLS based on participants' age, $F (18, 478.489) =.773$, $p= .733$; Wilk's $\Lambda = 0.922$. The MANOVA results (Table 12) also showed that age had no statistically significant main effect on *Memory Strategies* (F=.146, p= .932), *Cognitive Strategies* (F=.353, p= .787), *Compensation Strategies* (F=.552, p= .647), *Metacognitive Strategies* (F=.272, p= .846), *Affective Strategies* (F=.595, p= .619), & *Social Strategies* (F=.892, p= .446).

Table 11. Multivariate tests for age & LLS

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Age	Pillai's Trace	.080	.776	18.000	513.000	.729
	Wilks' Lambda	.922	.773	18.000	478.489	.733
	Hotelling's Trace	.083	.769	18.000	503.000	.737
	Roy's Largest Root	.049	1.397	6.000	171.000	.218

Table 12. Test of between-subjects effects for Age & LLS

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Age	Memory Strategies	17.829	3	5.943	.146	.932
	Cognitive Strategies	71.542	3	23.847	.353	.787
	Compensation Strategies	24.764	3	8.255	.552	.647
	Metacognitive Strategies	37.200	3	12.400	.272	.846
	Affective Strategies	35.667	3	11.889	.595	.619
	Social Strategies	70.985	3	23.662	.892	.446

4.14 LLS and College Level

Descriptive statistical analysis of participants' LLS as compared to college level (Figure 8) was computed using means and standard deviations.
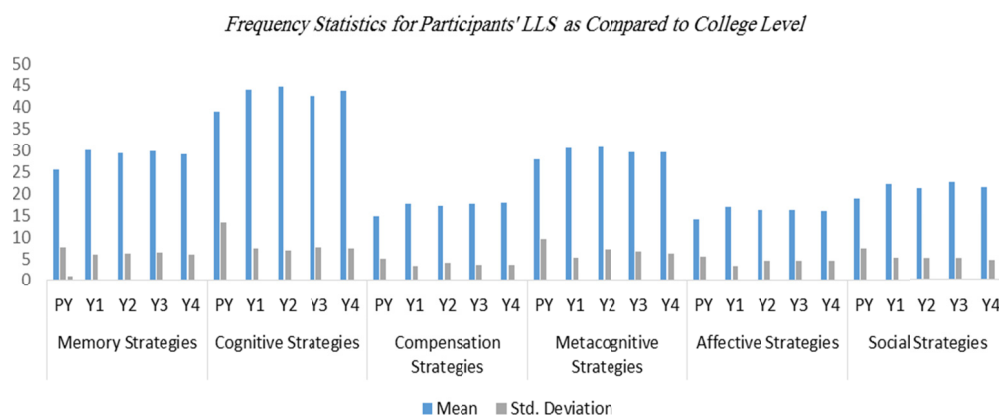

Figure 8. Descriptive statistics for participants' LLS as compared to college level

A Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of college level on the six LLS. On an alpha scale of (0.05), the MANOVA results (Table 13) revealed that there was no statistically significant difference in LLS based on participants' college level, F (24, 587.292) = 1.498, p= .450; Wilk's Λ = 0.868. The MANOVA results (Table 14) also showed that college level had no statistically significant main effect on *Memory Strategies* (F= 2.196, p= .205), *Cognitive Strategies* (F=1.643, p= .166), *Compensation Strategies* (F= 2.196, p= .071), *Metacognitive Strategies* (F=.609, p= .656), *Affective Strategies* (F= 1.088, p=.364), & *Social Strategies* (F= 1.117, p= .150).

Table 13. Multivariate tests for college level & LLS

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Age	Pillai's Trace	.137	1.012	24.000	684.000	.447
	Wilks' Lambda	.868	1.011	24.000	587.292	.450
	Hotelling's Trace	.145	1.008	24.000	666.000	.453
	Roy's Largest Root	.078	2.228	6.000	171.000	.043

Table 14. Test of between-subjects effects for college level & LLS

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Age	Memory Strategies	237.789	4	59.447	1.498	.205
	Cognitive Strategies	433.181	4	108.295	1.643	.166
	Compensation Strategies	126.904	4	31.726	2.196	.071
	Metacognitive Strategies	110.797	4	27.699	.609	.656
	Affective Strategies	86.185	4	21.546	1.088	.364
	Social Strategies	178.234	4	44.558	1.711	.150

4.15 LLS and Nationality

Descriptive statistical analysis of participants' LLS as compared to nationality (Figure 9) was computed using means and standard deviations.
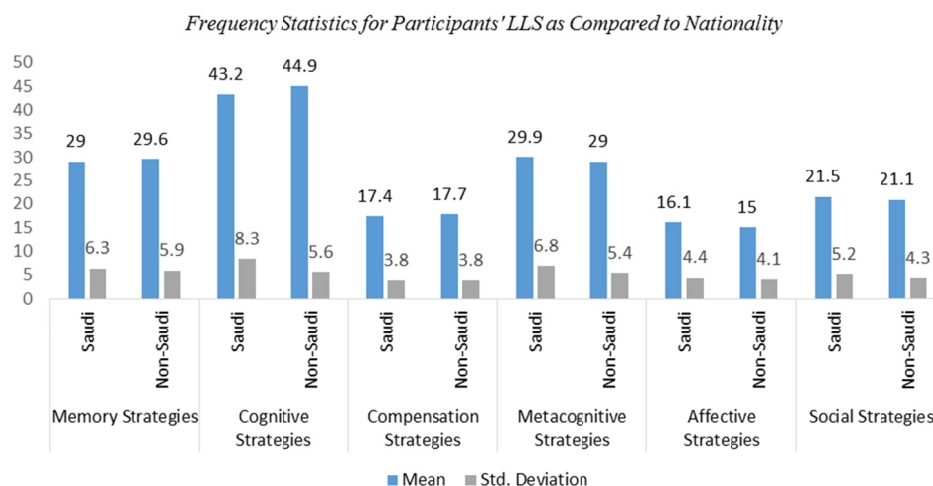

Figure 9. Descriptive statistics for participants' LLS as compared to nationality

A Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of nationality on the six LLS. On an alpha scale of (0.05), the MANOVA results (Table 15) revealed that there was no statistically significant difference in LLS based on participants' nationality, F (6, 171.000) =.784, p= .583; Wilk's Λ = 0.973. The MANOVA results (Table 16) also showed that nationality had no statistically significant main effect on *Memory Strategies* (F=.100, p= .752), *Cognitive Strategies* (F=.530, p= .468), *Compensation Strategies* (F=.103, p= .749), *Metacognitive Strategies* (F= .247, p= .620), *Affective Strategies* (F=.661, p= .417), & *Social Strategies* (F=.063, p= .802)

Table 15. Multivariate tests for nationality & LLS

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Nationality	Pillai's Trace	.027	.784	6.000	171.000	.583
	Wilks' Lambda	.973	.784	6.000	171.000	.583
	Hotelling's Trace	.028	.784	6.000	171.000	.583
	Roy's Largest Root	.028	.784	6.000	171.000	.583

Table 16. Test of between-subjects effects for nationality & LLS

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Nationality	Memory Strategies	4.040	1	4.040	.100	.752
	Cognitive Strategies	35.527	1	35.527	.530	.468
	Compensation Strategies	1.537	1	1.537	.103	.749
	Metacognitive Strategies	11.190	1	11.190	.247	.620
	Affective Strategies	13.142	1	13.142	.661	.417
	Social Strategies	1.680	1	1.680	.063	.802

4.16 LLS and Major

Descriptive statistical analysis of participants' LLS as compared to major (Figure 10) was computed using means and standard deviations.
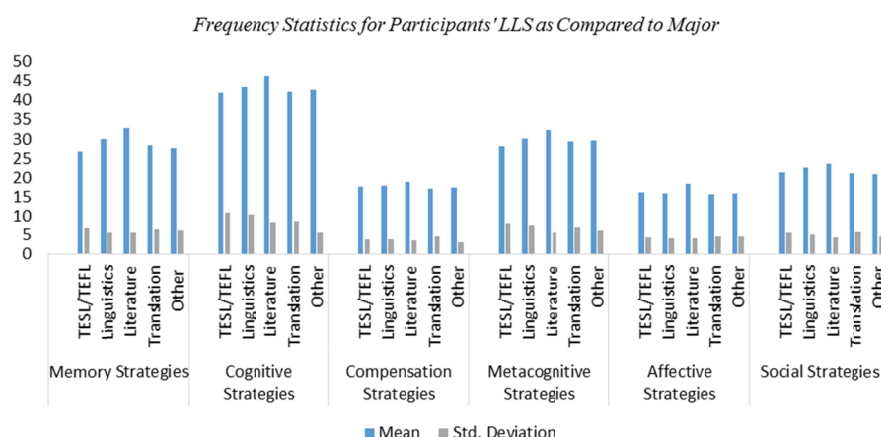
Figure 10. Descriptive statistics for participants' LLS as compared to major

A Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of major on the six LLS. On an alpha scale of (0.05), the MANOVA results (Table 17) revealed that there was no statistically significant difference in LLS based on participants' major, F (24, 587.292) = 1.208, p= .227; Wilk's Λ = 0.845. The MANOVA results (Table 18) also showed that nationality had a statistically significant main effect on *Memory Strategies* (F= 5.045, p= .001) and *Affective Strategies* (F= 2.426, p= .05). However, nationality had no statistically significant main effect on *Cognitive Strategies* (F= 1.459, p= .217), *Compensation Strategies* (F= 1.287, p= .277), *Metacognitive Strategies* (F= 1.822, p= .127), & *Social Strategies* (F= 1.777, p= .136).

Table 17. Multivariate tests for major & LLS

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Nationality	Pillai's Trace	.161	1.192	24.000	684.000	.241
	Wilks' Lambda	.845	1.208	24.000	587.292	.227
	Hotelling's Trace	.176	1.222	24.000	666.000	.214
	Roy's Largest Root	.128	3.658c	6.000	171.000	.002

Table 18. Test of between-subjects effects for major & LLS

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Nationality	Memory Strategies	741.989	4	185.497	5.045	.001
	Cognitive Strategies	386.486	4	96.622	1.459	.217
	Compensation Strategies	75.897	4	18.974	1.287	.277
	Metacognitive Strategies	322.325	4	80.581	1.822	.127
	Affective Strategies	186.530	4	46.632	2.426	.050
	Social Strategies	184.869	4	46.217	1.777	.136

5. Conclusion

The findings of this study revealed that the majority of participants fell in the age category between (*18-22*) years old, were in the *Year Four*, were *Saudi*, and majored in *TESL/TEFL*. The findings showed that participants overall use of LLS came as *medium*. This result supports the findings of previous studies conducted on Saudi EFL students (Alwahibee, 2000; Alotaibi, 2004; Aljuaid, 2010; Alhaisoni, 2012).

The findings of the current study also indicated that participants' most frequently used strategies were *Metacognitive Strategies*; while *Affective Strategies* were the least frequently used by participants. This result is in line with the findings of other studies by (Alwahibee, 2000; Hong-Nam & Leavell, 2006; Riazi, 2007; Alqahtani & Alhebaishi, 2010; Aljuaid, 2010; Gerami & Baighlou, 2011; Alhaisoni, 2012).

The results of this study also revealed that there was an overall statistically significant difference in LLS based on participants' *gender*. This result is consistent with previous studies by (Ehrman & Oxford, 1988; Oxford,

1990; Oxford & Ehrman, 1995; Politzer, 1983; Oxford & Nyikos, 1989; Green & Oxford, 1995; Hong-Nam & Leavell, 2006; Zeynali, 2012).

However, the findings of this study showed that *age, college level, nationality*, and *major* did not have any statistically significant effect on the six LLS. This result is in line with previous studies by (Phillips, 1991; Sheorey, 1999; Yang, 1999; Wharton, 2000; Alwahibee, 2000; Hong-Nam & Leavell, 2006).

5.1 Implications for Future Research

The findings of the current study stress the importance of LLS in language EFL teaching & learning. LLS should also be incorporated in language instruction as well as curriculum design. EFL teachers need to know how to teach and implement LLS into their classrooms (Alwahibee, 2000; Alotaibi, 2004; Alhaisoni, 2012).

Students should be aware of LLS in order to better enhance their language learning experiences. They should be provided with more opportunities to learn and use LLS. Students should be encouraged to adopt some other non-cognitive strategies to enhance their learning. Memory strategies are of equal importance if used with the intention of increasing long-term memory; and therefore, they could be utilized as a powerful tool to learn language (Alqahtani & Alhebaishi, 2010).

The results of this study suggest that further research studies could be conducted in order to better address the issue of LLS in EFL learning. The following recommendations may be considered for further investigation:

1)   This study examined EFL students' gender, age, college level, nationality, & major. Future research should also examine EFL students' learning styles and TOEFL/IELTS scores as well.

2)   This study employed Oxford's Strategy Inventory of Language Learning (SILL) as a theoretical framework. Future research should employ other models that address LLS.

3)   This study used a quantitative approach. Future research should employ a qualitative approach as well in order to shed more light on this issue.

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