IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 15, Issue 4 (Sep. - Oct. 2013), PP 01-14
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.Iosrjournals.Org

The effects of gender and motivation on the use of language learning strategies in the Moroccan EFL context

Zahra EL AOURI,
Doctorate in Education, *Mohammed V University – Souissi Faculty of Education – Rabat – Morocco*

Abstract: *This study was conducted to examine the use of language learning strategies (LLSs) by Moroccan university EFL Science students in relation to gender and motivation. The sample consists of sixty students enrolled in their second year at the Faculty of Sciences, Mohammed V University – Rabat. To collect the data, the Strategy Inventory for Language Learning (SILL) developed by Rebecca Oxford (1989) was adapted to the Moroccan EFL context. The motivation questionnaire was developed based on different sources (Gardner's (2004) AMTB, Pintrich's (1991) MSLQ and Schmidt and Wattanabe, 2001). The two questionnaires were tested for reliability and validity. Descriptive statistics, an Independent Samples T-test and Pearson Correlation were selected to analyze the data. The results demonstrated that Moroccan university EFL Science students used LLSs at a medium level of 3.09. Male and female students did not exhibit any significant differences on the six categories of strategies except for compensation strategies. However, Moroccan university EFL Science students exhibited moderate correlations on the relationship between motivation and LLS.*
Key words: *gender, motivation, Moroccan EFL context, LLSs, language learning strategies, SILL*

I. Introduction

With the shift from the more traditional approaches to the use of the communicative approach in language teaching in the 1990s, research on language learning strategies (LLSs) has already gained importance as it has started earlier in the 1970s with the notion of "the good language learner" (Rubin, 1975; Naiman, Frohlich, Stern and Todesco, 1978). Based on this notion, other researchers tried to develop lists of strategies and other characteristics supposed to be essential for "good L2 learners". These strategies were classified into various types according to different learners in different contexts and in relation to different factors such as age, gender, nationality/ethnicity, language experience, proficiency, motivation, aptitude, learning style, learning stage, language task and so on (Oxford, 1990). Among these learners' factors or what is known as individual differences, gender and motivation are two major variables treated in this paper in relation to LLSs. Therefore, this article is going to be organized as follows: the first section will be devoted to a short literature review of the main points concerning LLSs such as definitions of LLSs, taxonomies of LLSs, and major findings of studies related to the variables of gender and motivation which impact LLSs. The second section will deal with the methodology used to conduct this study. The third section will focus on the results and the fourth section will be concerned with the discussion of the main findings in the light of other important findings surveyed in the literature. As a final section, the conclusion will wrap up the main points covered in this paper and present the research implications and pedagogical applications drawn from this study.

II. Literature review

2.1. Definition of LLSs

In the field of LLSs, one of the major problems that has been and may still be of much concern for many researchers is the problem of defining LLSs. Actually, the definition of LLSs is really difficult to pin down as it is so ambiguous and "loose" due to a number of reasons. Among these reasons is the fact that researchers themselves treat LLSs from different theoretical perspectives which makes it difficult to reach an agreement on the definition of the concept. Also, LLSs are bunched with all types of learner behaviors and, hence, their classification as observable or non-observable, conscious or subconscious actions is controversial. Therefore, this ambiguous nature of LLSs and the lack of clarity and the broad definition of what a strategy really is makes of strategies a "fuzzy" concept. This critical point about the definition of strategies is supported by what O'Malley, Chamot, Stewner-Manzanares, KÜpper and Russo (1985a) believe in when they claim that "there is no consensus on what constitutes a learning strategy in second language or how these differ from other types of learner activities…even with the group of activities most often referred to as learning strategies, there is considerable confusion about definitions of specific strategies and about the hierarchic relationship among strategies." (p.22) or what Dornyei (2005) thinks when he states that "…we cannot offer a watertight definition of 'learning strategies'." (p.166)

The following excerpts of definitions provided by different experts reflect the problematic nature of LLSs:

O'Malley and Chamot (1995, p.1) consider LLSs as "the special thoughts or behaviours that individuals use to help them comprehend, learn, or retain new information." In the same line, other researchers define LLSs as behaviors and thought processes; for example, Weinstein and Mayer (1986, p. 315) refer to strategies as "the behaviours and thoughts that a learner engages in during learning that are intended to influence the learner's encoding process." while Wenden and Rubin (1987, p. 19) specifically conceptualize of LLSs as "the behaviours and thought processes that learners use in the process of learning including any sets of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval, and use of information." These definitions capture the features and the purposes of language learning strategies. It can be said that language learning strategies which are indicated as the specific behaviours and thoughts taken by the learners need to be conscious in order for them to be termed strategies. This is what Cohen (1995) reinforces when he says, "If a learner's behaviour is totally unconscious so that the given learner is not able to identify any strategies associated with it, then the behaviour would simply be referred to as a process, not a strategy." (p.3) Oxford and Burry-Stock (1995, p.8), in addition, stress consciousness as an important criterion for the definition of strategies as they claim that "the strategy concept has been applied to …situations, where it has come to mean a plan, step, or conscious action towards achievement of an objective". Another controversial dimension of LLSs is the dichotomy of observable/non-observable nature of LLSs. Researchers have been in disagreement as to whether consider LLSs as observable behaviors or mental processes or both. In this respect, Ellis (1997, p.76-77) refers to strategies as "particular approaches or techniques that learners employ to try to learn L2. They can be behavioural (for example, repeating new words aloud to help you remember them) or they can be mental (for example, using the linguistic or situational context to infer the meaning of a new word)."

In the field of LLSs, researchers have dealt with the concept of learning strategies from different angles, but Oxford developed a more comprehensive definition of LLSs as she claims that they are "…operations employed by the learner to aid the acquisition, storage, retrieval and use of information; specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more efficient, and more transferable to new situations." (2001, p. 166).

2.2. Taxonomies and classificatory systems of LLSs

From the literature, not only how to define language learning strategies remains questionable in the field of LLSs, but also how to classify them is apparently of great concern and disagreement. According to Oxford (1990): "there is no complete agreement on exactly what strategies are; how many strategies exist; how they should be defined, demarcated, and categorized; and whether it is - or ever will be - possible to create a real, scientifically validated hierarchy of strategies…Classification conflicts are inevitable." (p.17). This problem of classifying LLSs and producing agreed-upon taxonomies results from what has been mentioned in the above section concerning the controversial issue of defining LLSs and the different criteria used to describe them. Thus, lack of clarity and agreement among researchers in this domain has caused inconsistencies and mismatches across existing taxonomies and classificatory systems developed by different researchers. For the sake of brevity, the focus in this article will be on just four taxonomies:

1. O'Malley's (1985) taxonomy: O'Malley et. al. (1985, p.582-584) categorize LLSs into three main categories:
   - **1.1.** Metacognitive strategies which require planning for learning, thinking about the learning process as it is taking place, monitoring one's production or comprehension; and evaluating learning.
   - **1.2.** Cognitive strategies which are more limited to specific tasks and involve a degree of manipulation of the learning material.
   - **1.3.** Socio-affective strategies which are related to social-mediating activities and cooperating with others.

2. Rubin's (1987) taxonomy: Rubin distinguishes between strategies which directly contribute to language learning and those which indirectly contribute to learning. He lists three types of strategies:
   - **2.1.** Learning strategies which include two types: *cognitive learning strategies* and *metacognitive learning strategies*. Both of these strategies contribute directly to the development of the language system constructed by the learner.
   - **2.2.** Communicative strategies which relate less to language learning because their focus is on the process of participating in communication and getting the meaning across without losing the communication exchange due to some lack of language knowledge.
   - **2.3.** Social strategies which relate indirectly to language learning but help learners engage in activities and provide them with opportunities to practice their knowledge of the target language.

3. Stern's taxonomy (1992, p.262-266): after having captured ten learning strategies from good language learners in 1975, Stern developed a taxonomy of five categories of strategies later in 1992:
- **3.1.** Management and planning strategies which concern learner's intention to direct one's own learning.
- **3.2.** Cognitive strategies which are steps or operations used by learners in learning or problem solving that require direct analysis, transformation, or synthesis of information.
- **3.3.** Communicative-experiential strategies are techniques used to keep the communication thread through circumlocution, gestures, paraphrasing or asking for repetition and explanation.
- **3.4.** Interpersonal strategies which help learners self-monitor and self-evaluate what they produce.
- **3.5.** Affective strategies are used to control attitudes, motivation, emotions and personality.

4. Oxford's (2001) taxonomy: for Oxford, the aim of LLSs is the orientation towards the development of communicative competence. She classifies strategies into two main categories: direct and indirect strategies which are in turn subdivided into six subcategories (Oxford, 2001, p.359):

- **4.1.** Cognitive strategies which enable the learner to manipulate the target language material in direct ways such as note-taking, reasoning, analyzing, summarizing, synthesizing, outlining …etc
- **4.2.** Metacognitive strategies which enable the learner to manage the learning process through identifying the learning style preferences, planning for L2 learning, gathering and organizing materials, arranging for learning, monitoring mistakes, and evaluating the learning process.
- **4.3.** Memory strategies which enable the learner to link one L2 item or concept with another.
- **4.4.** Compensation strategies which help the learner make up for missing knowledge such as guessing from context in listening and reading, using gestures … etc
- **4.5.** Affective strategies which enable learners to control their mood and anxiety level, talk about feelings, reward oneself for good performance, use positive self-talk and deep breathing … etc
- **4.6.** Social strategies which help the learner work with others and cooperate to understand the target language as well as the culture. For instance, learners ask questions, seek verification ask for clarification …etc

The last taxonomy developed by Oxford is considered as the most comprehensive classification because it reflects validity for research and brings the other taxonomies together. To put it differently, Oxford's taxonomy represents the intersection of the abovementioned taxonomies besides others not mentioned here.

2.3. Factors influencing LLS choice

Although research into language learning strategies used by good language learners in general and by successful and unsuccessful language learners in particular has produced some interesting insights, it is not clear what causes the difference between strategy uses and preferences among different learners. For this reason researchers decided to investigate the various factors which influence individual learners in their choice of learning strategies. These factors are what is referred to in the literature as individual differences such as learners' awareness, stage of learning, task requirements, age, sex, nationality or ethnic group, general learning style, personality traits, motivation, aptitude, attitudes, language proficiency, academic major … etc. Since this article will examine gender differences with respect to LLSs and the relationship between motivation and language learning strategies, the review of previous studies on individual differences and LLSs will be limited to two variables: gender and motivation.

2.3.1. Language learning strategies and gender

Studies which have examined the relationship between gender and students' use of language learning strategies have come to mixed conclusions. The studies by Politzer (1983), Ehrman and Oxford (1990), and Wharton (2000) came to the conclusion that gender was not found to have much relationship to students' choices of strategy use. While, Ehrman and Oxford (1989), Oxford and Nyikos (1989), Tercanlioglu (2004), and Ok (2003) discovered distinct gender differences in strategy use.

Ehrman and Oxford (1989) focused on the effects of the gender variable as they conducted quantitative research to clarify a relationship between language learners' use of language learning strategies and gender choosing 78 subjects to participate in the study. The findings of this study indicated that female language learners reported using four language learning strategies in four categories significantly more frequently than their male counterparts. The four categories include general study strategies, authentic language use, strategies for searching for and communicating meaning, and self-management strategies. Besides, males were found to use more learning strategies to improve their English skills than did females. In the same year, Oxford and Nyikos, (1989) conducted more or less the same research and found that gender had a great influence; that is, female students reported using three out of five learning strategy factors significantly more frequently than did

males. The three strategy factors were formal rule-based practice strategies, general study strategies, and conversational/input elicitation strategies. The study by Green and Oxford (1995) came to the same conclusion whereas Ehrman and Oxford's (1990) study failed to discover any evidence of differing language learning strategy use between the two sexes.

In 2004, Tercanlioglu carried out another quantitative research to investigate gender differences in language learning strategies used by 184 EFL learners in a Turkish University. The results of this investigation demonstrated significant differences, favoring males over females in language learning strategy use with male students using language learning strategies significantly more frequently than their female counterparts.

Ok (2003) also examined Korean junior high school students' use of language learning strategies, but in relation to various variables including school year, gender, and grammar proficiency and discovered that girls showed more frequent use of all the six language learning strategy categories than boys. It also revealed that the students' gender had a significant relationship to their use of language learning strategies. In the same way, Hong-Nam and Leavell's (2006) study revealed that there is a significant difference of strategy use between the genders. Female students favored more affective and social strategies than male students.

Based on the evidence provided by the studies already mentioned, it might be concluded that although males and females do not always demonstrate differences in language learning strategy use, females tend to use more language learning strategies than males. The purpose of the present study is to examine whether or not gender differences will be associated with some differences in Moroccan university EFL Science students' use of LLSs. Besides, the relationship of motivation with the students' use of LLSs will be explored.

2.3.2. Language learning strategies and motivation

According to Dornyei (1998), motivation is the "process whereby a certain amount of instigation force arises, initiates action, and persists" as long as there is no intervening force weakening it until the planned goal is achieved. Based on social psychology, Gardner (1985) defines L2 motivation as "the extent to which an individual works or strives to learn the language". This definition of motivation focuses on the learner's inner desire and attitude to learn the language. It is important to note that the construct of motivation is made up of several dimensions or orientations such as instrumental, integrative, intrinsic, and extrinsic or what Schmidt, Boriae, and Kassabgy (1996) refer to as Goal Orientation, Expectancy, and Affect: three basic dimensions of EFL motivation. There are, of course, other dimensions of motivation depending on the theoretical framework within which the construct is being treated. In this study, the researcher focuses on the first four dimensions.

In fact, not only did researchers examine L2 learners' use of LLSs in terms of gender, but they also explored the relationship between language learning strategies and learners' motivation to learn the L2. Oxford and Nyikos (1989), for example, highlighted the effects of motivation on strategy use by surveying 1,200 students studying various languages in a Midwestern American university in order to examine the kinds of language learning strategies the students reported using. In their study, the degree of expressed motivation was found to be the most influential among the variables affecting strategy choice examined.

Liao (2000) conducted a Taiwanese junior high school study on EFL learning motivation and strategy use. Findings showed that students lacked deep motivation to learn English and, when they happen to be motivated, they tended to be extrinsically oriented. In Liao's study, most of the students did not frequently report using a wide range of categories of learning strategies and, hence, their low English-learning motivation was significantly correlated with their low use of learning strategies.

Like Liao, Peng (2001) explored the relationship between EFL learning motivation and strategy use. A total of 326 senior high school Taiwanese students took part in this study. Significant differences were found between strategy use and each motivational aspect especially, motivational intensity, intrinsic motivation, extrinsic motivation, and requirement motivation. The latter was significantly but negatively correlated with strategy use, as well as learners' achievement. Therefore, high school students who were forced to study English (requirement motivation) used strategies significantly less often and performed more poorly than those who were motivated to learn English either intrinsically or extrinsically.

Bacon and Finnemann (1990) investigated the correlation between attitudes, motives, and strategies of university foreign language students and found that motivation did play a role in the choice of LLSs. Actually, the researchers discovered that the non-instrumentally motivated students were reported to have more inclination to use global/synthetic strategies, but they tended to avoid the use of decoding/analytic comprehension strategies when they were dealing with authentic input.

Chen (2000) examined the relationship between motivation and deep-processing / surface-level strategies in the EFL environment and discovered a positive relationship between deep-processing strategies and the motivation factors of betterment, acceptance, effort, and integration. However, surface-level strategies were found to significantly and positively correlate with the motivation factor of instrumentality.

Another study carried out by Chang and Huang (1999) confirmed that intrinsic motivation was found to significantly correlate with language learning strategies, namely with cognitive and metacognitive strategies. Pong's (2002) study, on the other hand, revealed that extrinsic motivation significantly correlates with cognitive and affective strategies and intrinsic motivation was reported to have a significant correlation with cognitive and metacognitive strategies which supports Chang and Huang's results.

According to the findings of these and other studies on the effects of motivation on strategy use, it can be concluded that motivation as a psychological construct do impact the use of language learning strategies, but in different ways. That is, different types of motivation influence different types of strategies in different learning contexts. Therefore, this paper will explore the relationship between motivation and the use of LLSs in the Moroccan EFL context.

III. Research methodology

3.1. Research design

This study constitutes the piloting phase of the main study for a doctoral dissertation to test the research instruments for reliability and validity components and ascertain their effectiveness as research tools. The purpose of this pilot study is to investigate the language learning strategies used by Moroccan university EFL Science students and reveal the link between different variables and LLSs. In this article, the focus will be only on two variables – gender and motivation – with regard to language learning strategies. The pilot study basically depends on both quantitative and qualitative data collection methods. However, the present paper will report only the quantitative results. Therefore, this study can be classified within an exploratory type of research.

Before going on presenting the research design further, it is better to clarify the research objectives, questions and hypotheses because these elements determine the methodology and design of the research (Cohen, Manion and Morrison, 2000; Robson, 2002).

3.1.1. Research objectives

The current study has been designed to examine:

1. the overall use of language learning strategies that Moroccan university EFL Science students employ in general and the types of strategies they use in the learning process in particular.
2. how the investigated variables of gender and motivation relate to the self-reported use of language learning strategies.

3.1.2. Research questions

The present investigation was designed to address the following questions:

1. What are the types of language learning strategies reported to be employed by Moroccan university EFL Science students learning English as a foreign language?
2. Do significant differences exist between male and female Moroccan university EFL Science students in the use of language learning strategies?
3. How strongly and in what direction does motivation affect Moroccan university EFL Science students' use of language learning strategies?

3.1.3. Research hypotheses

With respect to the research questions, the following hypotheses were tested:

1. There are significant differences in the type and frequency of language learning strategies employed by Moroccan university EFL Science students.
2. There is a significant difference between male and female Moroccan university EFL Science students in the type and frequency of use of language learning strategies.
3. More motivated Moroccan university EFL Science students tend to use more frequently different types of language learning strategies than less motivated ones.

3.1.4. Population vs. sample

This pilot study focused on Moroccan university EFL Science students at the Faculty of Sciences, Mohammed V University – Rabat as the target population for investigation. Then, a stratified random sample of sixty students was drawn from six fields of study including Computer Science, Mathematics, Biology, Geology, Physics and Chemistry. From each field of study ten students were chosen, five males and five females which make up a total of thirty males and thirty females in the whole sample of this study. Since the present paper deals only with two variables: gender and motivation, the data analysis will concern only male and female students with respect to LLS use and motivation ignoring the field of study variable.

3.2. Data collection instruments

To investigate Moroccan students' use of LLSs, the researcher adapted Oxford's (1989) Strategy Inventory for Language Learning (SILL version 7.0) designed for ESL/EFL contexts. It is a 5-point Likert-scale measurement that measures 50 strategy items used in language learning. The Likert-scale range from 1= never or almost never true of me, 2= usually not true of me, 3= somewhat true of me, 4= usually true of me, to 5= always or almost always true of me. As stated in Oxford's (1990, p. 17) taxonomy of language learning strategies, the SILL is composed of six categories of learning strategies divided into two broad categories: direct strategies which contribute directly to language learning and they include memory, cognitive and compensation strategies. Indirect strategies which help in language learning, but do not contribute directly in the learning process and they include metacognitive, affective and social strategies. The individual categories of strategies are organized as follows in the SILL: memory strategies contain items 1-9; cognitive strategies include items 10-23; compensation strategies constitute items 24-29; metacognitive strategies contain items 30-38; affective strategies deal with items 39-44; and items 45-50 concern social strategies.

The original version of the SILL was not used as the participants were not proficient enough in English to understand the statements and an attempt to use the SILL in English would have generated invalid data and, hence, jeopardized the results of the study. For this reason, the researcher translated the SILL into French with slight modification in wordings. Although the Moroccan university EFL Science students who participated in this pilot study speak Arabic as their L1, the translation of the SILL was done in French because it is the language used to study at university and students will feel more comfortable responding to the questionnaire in French.

To collect data on the variable of motivation which is correlated with students' use of LLSs, the researcher administered a motivation questionnaire adapted from different sources, basically Gardner's (2004) AMTB (Attitude/Motivation Test Battery) questionnaire, Pintrich et. al.'s (1991) MSLQ (Motivated Strategies for Learning Questionnaire), and Schmidt and Wattanabe (2001). The motivation questionnaire for the present study contains four types of motivation: integrative motivation contains items 1-7; intrinsic motivation constitutes items 8-12; instrumental motivation includes items 13-19; and items 20-24 deal with extrinsic motivation. This motivation questionnaire was measured on a 5-point Likert-scale measurement ranging from 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, to 5= strongly agree. The motivation questionnaire was administered in French for the same reasons as with the SILL mentioned before.

As far as the variable of gender is concerned, both questionnaires (the SILL and the motivation questionnaire) contained two demographic questions: one about participant's gender and the other about participant's field of study.

The choice of questionnaires as data collection instruments can be justified by the fact that questionnaires are almost non-threatening when administered using paper and pencil under conditions of confidentially (Oxford and Burry Stock, 1995). However, questionnaires do have some drawbacks; for instance, respondents may not understand the meaning of a question or they may answer according to their perception of the 'right answer'. Furthermore, the questionnaire may not fully elicit all of a student's strategies (Chamot, 2001).

3.3. Data collection procedures

The data for this study was collected in early March of the academic year 2011-2012 targeting Science students in six academic majors (Computer Science, Mathematics, Biology, Geology, Physics and Chemistry). The sixty students participating in this study were enrolled in their second year of university, specifically in the fourth semester. After getting the permission of the dean of the faculty of Sciences and the teachers' consent to allow the researcher in their classes, the researcher herself administered the questionnaires in one shot for two main reasons. First, to ensure availability of participants and make sure the same participant will fill in both questionnaires. That is, if the questionnaires were distributed in different periods, it would be unlikely to get the same participants as some of them might be absent for the distribution of the second questionnaire. Therefore, the researcher tried first to ascertain the subjects' confidentiality and explain to them that their answers will in no way affect their grades, but only serve scientific research. Second, the researcher explained the objective of the study and presented the instructions orally to the subjects to make sure they understood what is required of them. The second reason why the researcher administered the two instruments in one shot is that the teachers were reluctant to spare some time from their sessions for another round of data collection because – as they said – this would affect the completion of their syllabus. Thus, the two questionnaires took approximately 50 minutes to be completed, i.e. 30 minutes for the SILL questionnaire and 20 minutes for the motivation questionnaire.

3.4. Data analysis procedure

To analyze the data for this study, the researcher made use of SPSS version 21. First the two questionnaires were tested for reliability and validity and a test of normal distribution of the data was conducted in order to decide on which statistical technique to use. The researcher selected Cronbach's Coefficient Alpha for Internal Consistency Reliability and intercorrelated the subscales of the questionnaires to account for validity. Then, the researcher generated Histograms with normal curves to test for normality of distribution. As the data were found to be normally distributed, the researcher decided to use parametric tests to analyze the data. Therefore, Descriptive statistics were used to explore the nature of the data and answer the first research question about types and frequency of LLS use. To investigate whether there is a significant difference in strategy use between males and females as stated in the second research question, an Independent-samples T-test was used. A Pearson's Product Moment Correlation was used to explore the relationship between motivation and language learning strategies as dealt with in the third research question.

IV. Results

Before going through the results of the present study, it is better to demonstrate the normal distribution of the data collected through the two instruments. In addition, the reliability and validity of the questionnaires should be highlighted.

4.1. Normal distribution of the data

The following two figures below demonstrate the normal distribution of the data collected through the two questionnaires: the SILL and the motivation questionnaire.

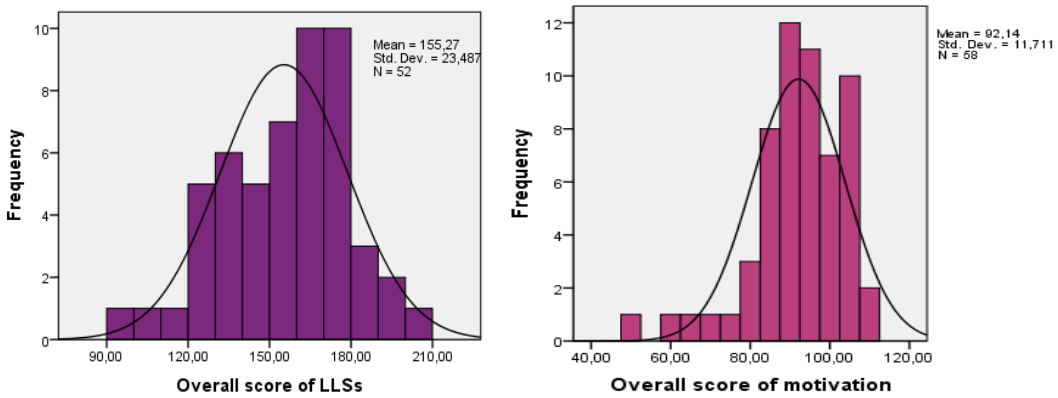

Figure 1: Histograms demonstrating normal distribution of overall score of the SILL and the motivation questionnaire respectively

Figure1 shows two histograms with a bell-like shaped curve representing normal distribution of the data collected from the Strategy Inventory for Language Learning and the motivation questionnaire. This allows for the use of parametric tests to analyze the data since the latter meets the five assumptions for the selection of the parametric approach. That is, the data is normally distributed; the dependent variable is measured at a continuous scale; scores are obtained from a random sample of the population; the observations that make up the data are independent of one another; and the samples account for homogeneity of variance, i.e. of equal variances.

4.2. Reliability and validity

4.2.1. Reliability

Table 1: Reliability of the SILL items

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.882	.887	50

As table1 shows, the SILL questionnaire is found to be reliable at Cronbach's Coefficient Alpha of .88. This confirms with reliability coefficients of the SILL found by other researchers. For example, Yang (1992), Liao (2000) and Liu (2004) translated the SILL into Chinese and found the following Alpha coefficients for reliability respectively .94, .96 and .94. Recently, Chen (2012) used the SILL in a study on LLSs and the Cronbach's Alpha was .91 and Sung's (2011) study revealed a reliability of .93. Al-Natour (2012), however, found a slight difference in reliability coefficient at .89, which is also a good level of reliability and coincides

with the Cronbach's Alpha for the present study (α=.88). This means that the SILL is a very reliable and valid measure of language learning strategies and as Ellis (1994) states, the SILL is "perhaps the most comprehensive classification of learning strategies to date" (p. 539).

Table 2: Reliability of the individual scales of the SILL

Scales		Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
1	Memory strategies	.408	.402	9
2	Cognitive strategies	.688	.682	14
3	Compensation strategies	.527	.533	6
4	Metacognitive strategies	.809	.813	9
5	Affective strategies	.559	.561	6
6	Social strategies	.702	.705	6

Table 2 supports table 1 as it demonstrates internal consistency reliability of the six categories of strategies making up the subscales of the SILL. It is clear that all the subscales have a decent degree of reliability with respect to the overall reliability of the SILL represented in table 1. Therefore, both table 1 and 2 ascertain that the SILL is a reliable instrument adapted to Moroccan context.

Table 3: reliability of the motivation items

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.849	.860	24

In the same way as the SILL, the motivation questionnaire shows a very good Cronbach's Coefficient Alpha of internal consistency reliability at .84 in the table above.

Table 4: Reliability of the individual scales of the motivation questionnaire

Scales		Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
1	Integrative motivation	.779	.785	7
2	Intrinsic motivation	.737	.765	5
3	Instrumental motivation	.654	.654	7
4	Extrinsic motivation	.631	.644	5

Table 4 demonstrates that the four types of motivation constituting subscales of the questionnaire have acceptable internal consistency reliability compared to the Cronbach's Alpha of the motivation questionnaire as a whole. This means that the motivation questionnaire used in this study is a reliable and in a sense valid instrument.

4.2.2. Validity

The SILL has been translated in many languages and validated in different studies since it is widely used across second and foreign language learning contexts. It has both face validity and content validity. That is, the items making up the six subscales seem to logically refer to the same construct being measured and the content of the questionnaire as a whole reflects almost all the dimensions of the construct of language learning strategies. In addition, the six subscales of the SILL are found to correlate with each other ranging from moderate to high correlation which accounts for construct validity of the questionnaire.

The validity of the motivation questionnaire is also dealt with as the four subscales reflect the content of the construct being measured because the items are adapted from different sources of validated questionnaires. Besides, the moderate correlation between the subscales of the motivation questionnaire accounts for the construct validity of the instrument. For space reasons, the correlation tables of the two questionnaires are not shown here. It is important to note that the factor analysis which accounts for the construct validity of questionnaires in statistical terms cannot be used with the SILL or the motivation questionnaire because the sample size does not reach 150+ as required for the factor analysis procedure.

The rest of the results section will be concerned with presenting the results of each research question analysis.

1. **What are the types of language learning strategies reported to be employed by Moroccan university EFL Science students learning English as a foreign language?**

This question builds on the hypothesis that significant differences exist in the type and frequency of language learning strategies employed by Moroccan university EFL Science students. To test this hypothesis, the researcher used descriptive statistics mainly means and standard deviations. Furthermore, the interpretation

of mean scores of strategies was done in accordance with what Oxford and Burry-Stock (1995) suggest in their assessment of the use of LLSs using the ESL/EFL version of the SILL. They suggest that means of 3.5 – 5.0 can be considered as high strategy use; 2.5 – 3.4 as medium strategy use; and 1.0 – 2.4 as low strategy use (p. 12). In the light of this interpretation, the overall mean score of language learning strategies used by Moroccan university EFL Science students is at a medium level of 3.09

Table 5: Means and Standard Deviations of the six categories of language learning strategies

	N	Mean	Std. Deviation
Memory strategies	60	3.05	.52286
Cognitive strategies	60	3.06	.54793
Compensation strategies	60	3.21	.66390
Metacognitive strategies	60	3.39	.70523
Affective strategies	60	2.81	.69725
Social strategies	60	2.92	.80982
Valid N (listwise)	60		

Table 5 shows that the six categories of LLSs are used at a medium level too. The subjects used metacognitive strategies at a mean frequency of 3.39, followed by compensation strategies at M=3.21 and cognitive and memory strategies at M=3.06 and M=3.05 respectively. Social and affective strategies, however, were used at a little bit lower medium level M=2.92 and M=2.81 than the other strategies.

2. **Do significant differences exist between male and female Moroccan university EFL Science students in the use of language learning strategies?**

This question is translated into the hypothesis which holds that a significant difference between male and female Moroccan university EFL Science students exists in the type and frequency of use of language learning strategies. An Independent Samples T-test is used to check this hypothesis as demonstrated in the following tables.

Table 6: Mean and Standard Deviation of overall mean score of LLSs with respect to gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Overall language learning strategies	1 male	30	2.98	.46769	.08539
	2 female	30	3.20	.46638	.08515

This table shows male and female means with respect to the overall use of LLSs. Male students used LLSs at the mean value of 2.98 and their female counterparts employed LLSs at a slightly higher mean value of 3.20

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
overall language learning strategies	Equal variances assumed	.189	.666	-1.877	58	.066	-.22629	.12059	-.46768	.01509
	Equal variances not assumed			-1.877	58.000	.066	-.22629	.12059	-.46768	.01509

Table 7: Independent Samples T-test of overall LLSs with respect to gender

Table 7 presents the results of the independent samples T-test of overall use of LLSs by gender. Since the value of significance is beyond p. <.05, the difference between male and female Moroccan university EFL Science students is not significant in relation to their overall use of LLSs.

Table 8: Means and Standard Deviations of the six categories of LLSs with respect to gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Memory strategies	1 male	30	2.92	.51875	.09471
	2 female	30	3.18	.50240	.09172
Cognitive strategies	1 male	30	3.00	.45627	.08330
	2 female	30	3.12	.62800	.11466
Compensation strategies	1 male	30	3.03	.66436	.12130

	2 female	30	3.39	.62282	.11371
Metacognitive strategies	1 male	30	3.29	.74240	.13554
	2 female	30	3.49	.66390	.12121
Affective strategies	1 male	30	2.65	.75646	.13811
	2 female	30	2.97	.60261	.11002
Social strategies	1 male	30	2.81	.87179	.15917
	2 female	30	3.03	.74072	.13524

As it is clear from table 8 above, female students' means of the six categories of LLSs are a little bit higher than the mean values of the male students. However, this does not create much difference between the two genders on the use of the six strategy categories as table 9 demonstrates.

Table 9: Independent Samples T-tests of the six categories of LLSs with respect to gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Memory strategies	Equal variances assumed	.215	.645	-1.964	58	.054	-.25899	.13185	-.52291	.00492
	Equal variances not assumed			-1.964	57.941	.054	-.25899	.13185	-.52292	.00493
Cognitive strategies	Equal variances assumed	3.137	.082	-.890	58	.377	-.12619	.14172	-.40988	.15750
	Equal variances not assumed			-.890	52.944	.377	-.12619	.14172	-.41046	.15808
Compensation strategies	Equal variances assumed	.114	.737	-2.172	58	**.034**	-.36111	.16626	-.69392	-.02830
	Equal variances not assumed			-2.172	57.760	**.034**	-.36111	.16626	-.69395	-.02827
Metacognitive strategies	Equal variances assumed	.665	.418	-1.080	58	.285	-.19630	.18184	-.56028	.16769
	Equal variances not assumed			-1.080	57.290	.285	-.19630	.18184	-.56038	.16778
Affective strategies	Equal variances assumed	1.674	.201	-1.825	58	.073	-.32222	.17658	-.67568	.03123
	Equal variances not assumed			-1.825	55.240	.073	-.32222	.17658	-.67605	.03161
Social strategies	Equal variances assumed	1.040	.312	-1.064	58	.292	-.22222	.20886	-.64030	.19586
	Equal variances not assumed			-1.064	56.525	.292	-.22222	.20886	-.64053	.19609

As it is clear from the independent samples T-test, there is no significant difference between male and female students on the use of the six categories of LLSs except for compensation strategies which have a significant value of .034 which is less than the p value of .05. The female students scored a mean value of 3.39 more than their male peers who scored 3.03. Therefore, there is a statistically significant difference between males and females on compensation strategies although there is not a large difference between their means.

3. How strongly and in what direction does motivation affect Moroccan university EFL Science students' use of language learning strategies?

Based on this question, it is hypothesized that more motivated Moroccan university EFL Science students tend to use more frequently different types of language learning strategies than less motivated ones. To crosscheck this hypothesis, a Pearson's Product Moment Correlation is used. Table 10 shows first the result of the correlation between the overall mean score of LLSs and the overall mean score of motivation. Before generating the correlation table, the researcher generated a Scatterplot to check the linearity and direction of the correlation between the two variables. For brevity, however, the scatterplot is not shown here, but it showed that the correlation is linear and positive.

Table 10: Pearson Correlation between overall motivation and overall LLSs

		overall mean score of language learning strategies	overall mean score of motivation
overall mean score of language learning strategies	Pearson Correlation	1	**.583****
	Sig. (2-tailed)		.000
	N	60	60
overall mean score of motivation	Pearson Correlation	**.583****	1
	Sig. (2-tailed)	.000	
	N	60	60
**. Correlation is significant at the 0.01 level (2-tailed).			

According to table 10, the Pearson Correlation between overall use of LLSs and overall motivation is quite strong and positive as it reaches .58 at a 2-tailed level of significance of 0.01. Nevertheless, to find the exact correlations between individual categories of strategies and types of motivation, it is better to examine a correlation matrix of the subscales on both questionnaires.

Table 11: Pearson Correlation Matrix between the four types of motivation and the six categories of LLSs

		Integrative motivation	Intrinsic motivation	Instrumental motivation	Extrinsic motivation
Memory strategies	Pearson Correlation	.249	.062	.191	.192
	Sig. (2-tailed)	.055	.640	.144	.143
	N	60	60	60	60
Cognitive strategies	Pearson Correlation	**.391****	.252	.245	**.373****
	Sig. (2-tailed)	.002	.052	.060	.003
	N	60	60	60	60
Compensation strategies	Pearson Correlation	**.395****	.216	**.511****	.123
	Sig. (2-tailed)	.002	.097	.000	.348
	N	60	60	60	60
Metacognitive strategies	Pearson Correlation	**.465****	**.400****	**.394****	**.466****
	Sig. (2-tailed)	.000	.002	.002	.000
	N	60	60	60	60
Affective strategies	Pearson Correlation	.227	**.379****	**.419****	**.437****
	Sig. (2-tailed)	.082	.003	.001	.000
	N	60	60	60	60
Social strategies	Pearson Correlation	**.432****	**.291***	**.274***	**.273***
	Sig. (2-tailed)	.001	.024	.034	.035
	N	60	60	60	60
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

A general look at table 11 reveals that nearly all types of motivation of Moroccan university EFL Science students do positively correlate at a moderate rate with almost all the six categories of LLSs either at a 2-tailed level of significance 0.01 or 0.05. It is noteworthy that the only strategy category on the SILL which does not correlate with any type of motivation at all is the memory category. Also of interest is the compensation category which is the only one to strongly correlate with instrumental motivation at .511 with a p. value of significance <0.01. It also correlates with integrative motivation, but at a moderate degree of .395. There is a positive moderate correlation between two types of motivation: integrative and extrinsic and cognitive strategies at .391 and .373 respectively. Intrinsic, extrinsic and instrumental motivation types moderately correlate with affective strategies at .379, .437 and .419. Metacognitive and social strategies do correlate with all types of motivation, but at different degrees of strength. Metacognitive categories correlate with integrative (.465), intrinsic (.400), instrumental (.394) and extrinsic (.466) types of motivation at a moderate level. However, the social category of LLSs is the only category which has a weak correlation with three types of motivation at a 2-tailed p. value of 0.05: intrinsic (.291), instrumental (.274) and extrinsic (.273). Nevertheless, integrative motivation moderately correlates with social strategies at .432 at a p. value of significance <0.01.

To sum up, table 11 yields the following patterns: the four types of motivation do not correlate with memory strategies and they do correlate with affective strategies except for the integrative type of motivation. Intrinsic and instrumental motivation does not correlate with the cognitive category of LLSs. Also, intrinsic and extrinsic motivation does not correlate with compensation strategies.

V. Discussion

The present study examined language learning strategies in relation to two variables: gender and motivation. For the gender variable, there were no significant differences between male and female students in both overall use of LLSs and in the six categories of strategies except for compensation strategies. This result is supported by Sung's (2011) study which examined LLSs of 134 learners in their first year Chinese as a foreign language class at the US universities and found that gender as an independent variable was not significant. That is, the fact that a participant is male or female had no effect on their frequency of use along the six categories of strategies. In the same way, Chen (2002) conducted a study on LLS use by Taiwanese students and found no significant effect of sex on the use of LLSs among the subjects. Therefore, Chen's (2002) findings agree with the findings of the current study. On the other hand, other studies came to opposite conclusions as gender was found to greatly affect the use of LLSs. For example, Noor et. al. (2012) studied 180 Malaysian participants and discovered that a significant difference at 0.05 Alpha level existed between female and male learners in using learning strategies. Moe specifically, female learners used strategies more often than their male peers. Other studies showed that sex influenced only some strategies among the six categories of the SILL. For instance, Al-Natour (2012) investigated the use of LLSs by 195 students at Yarmouk University in Jordan and came to the conclusion that a significant difference between males and females existed in some categories of strategies. Male students used cognitive, metacognitive, affective and social strategies more than female students. However, females manifested more interest in affective and social strategies. The fact that the female participants in the present study used compensation strategies more significantly than the male participants can be due to the fact that females are usually good at learning languages and they have a strong desire to communicate. And in order to handle communication break down, which may be due to lack of sufficient language input, they resort to compensation strategies. This result is partly supported by Hashimi's (2011) findings which show that female learners tend to use compensation and affective strategies more than male learners.

As far as the motivation variable is concerned with regard to the use of LLSs, the current paper shows that overall motivation strongly correlates with overall use of language learning strategies. Also, the four types of motivation – integrative, intrinsic, instrumental and extrinsic – are found to correlate with the majority of the six categories of LLSs, but at a moderate level. However, the correlation matrix exhibits three remarkable results: the first one is that memory strategies do not correlate with any type of motivation. The second result is that compensation strategies are the only category that strongly correlates with instrumental motivation. The third result is that only the social category has a weak correlation with intrinsic, instrumental and extrinsic motivation. What can be understood from these correlations is that more motivated students use more language learning strategies.

The correlation results in the current paper can be compared to findings in recent studies. For instance, Feng (2010) investigated Chinese college students' motivation types in relation to the use of LLSs and discovered that there is a higher correlation between overall motivation and overall strategies (.414**). However, and contrary to this study, Feng (2010) found that instrumental motivation correlated with the six categories of strategies. Another study which can compare to the present one is Nishitani & Matsuda's (2011) research which examined the use of LLSs by 152 Japanese university students and concluded that intrinsic motivation strongly correlates with almost all language learning strategies unlike in this study which finds intrinsic motivation to correlate only with metacognitive, affective and social strategies. Actually, there are several studies in the literature which stress the existing relationship between motivation and language learning strategy use (Oxford and Nyikos 1989, Bacon and Finnemann 1990, Chen 2000, Peng 2001)

VI. Conclusion

The present article dealt with the use of language learning strategies by Moroccan university EFL Science students in relation to two variables of gender and motivation. First, the focus was on a brief literature review of theoretical and practical issues in LLSs. Second, the research design adopted in this study was clarified along with the reliability and validity aspects of the study. Third, the results of the research questions' analysis were presented. At the end, these results were discussed in the light of the main findings of several studies.

To conclude, the current study reveals some pedagogical applications and research implications. As far as the pedagogical applications are concerned, the findings of this study suggest that strategy training is imperative because Moroccan students are somehow aware of their learning strategies as they use them at a medium level. Therefore, training them in strategy practice can raise their awareness and lead to language proficiency. Furthermore, motivation as the study shows is vital in language learning in general and in enhancing strategy use in particular. Thus, teachers need to boost their students' motivation level to help them resort to the use of more learning strategies. The present study leads to some research implications as well. For example, there is a need for an experimental type of research in the Moroccan EFL context to pin down exactly

what types of LLSs are actually used. Also, more variables need to be included in order to find the maximum factors which influence the use of strategies. Moreover, the data collection methods should be varied to include interviews, verbal report, think-aloud techniques…etc so that the more unobservable strategies can be captured.

References

[1]. Rubin, J. (1975). What the "good language learner" can teach us. TESOL Quarterly, Vol. 9, No.1, pp.41-51
[2]. Naiman, N.,Frohlich, M., &Todesco, A. (1978). The good language learner. Research in Education Series, 7. Toronto: Ontario Institute for Studies in Education
[3]. Oxford, R. L. (1990). Language learning strategies: what every teacher should know (pp.1-191). New York: Newbury House Publications.
[4]. O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Küpper, L. and Russo, R. P. (1985a). Learning strategies used by beginning and intermediate ESL students. Language Learning, Vol. 35, No.1, pp. 21-46.
[5]. Dornyei, Z. (2005). The psychology of the language learner: individual differences in second language acquisition. Mahwah, Lawrence Erlbaum Associates Inc.
[6]. O'Malley, J. M. and Chamot, A. U. (1995). Learner characteristics in second language acquisition. In Hadley, A.O.L (Ed.). Research in language learning: principles, processes, and prospects (pp.96-123). Illinois: National Textbook Company.
[7]. Weinstein, E. C. & Mayer, R. E. (1986). The Teaching of Learning Strategies. Handbook of Research to Teaching. (Ed.Wittrock, M. C.) (pp. 315-327). New York: MacMillan.
[8]. Wenden, A. and Rubin, J. (1987). (Ed.). Learning strategies in language learning. London: Prentice Hall ELT.
[9]. Cohen, A. D. (1995). Second Language Learning and Use Strategies: Clarifying the issues. The Centre for AdvancedResearch on Language Acquisition. University of Minnesota.
[10]. Oxford, R.L. & Burry-Stock, J. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFLversion of the Strategy Inventory for Language Learning (SILL). System, Vol. 25, No. 1, pp. 1-23.
[11]. Ellis, R. (1997). Second language acquisition. Oxford University Press: New York
[12]. Oxford, R. L. (2001). "Language learning styles and strategies". In M. Celece-Murcia (Ed.), Teaching English as a Secondor Foreign Language (3rd ed.) (pp. 359-366). Boston: Heinle & Heinle. Thompson International
[13]. O'Malley, J.M.; Chamot, A.U.; Stewner-Manzanares, G.; Russo, R.P. &Kupper, L. (1985). Learning strategy application with students of English as a second language. TESOL Quarterly, Vol. 19, No. 3, pp. 557 – 584
[14]. Rubin, J. (1987). Learner strategies: "Theoretical assumptions, research History, and typology". In A. Wenden & J. Rubin(Eds.), Learner strategies in language learning (pp. 15-30) Englewood Cliffs, NJ: Prentice-Hall
[15]. Stern, H. H. (1992). Issues and options in language teaching. Oxford, UK: Oxford University Press
[16]. Politzer, R. L. (1983). An exploratory study of self-reported language learning behaviours and their relation to achievement. *Studies in Second Language Acquisition*, Vol. 6, No. 1, pp. 54-63.
[17]. Ehrman, M. E. and Oxford, R. (1990). Adults' language learning styles and strategies in an intensive training setting. *The Modern Language Journal*, Vol. 74, No. 3, pp. 311-325.
[18]. Wharton, G. (2000). Language learning strategy of bilingual foreign language learners In Singapore. *Language Learning*, Vol. 50, No. 2, pp. 203- 243.
[19]. Ehrman, M. E. and Oxford, R. (1989). Effect of sex differences, career choice, and psychological type on adult language learning strategies. *The Modern Language Journal*, Vol. 73, No. 1, pp. 11-12.
[20]. Oxford, R. L. and Nyikos, M. (1989). Variables affective choice of language learning strategies by university students. *The Modern Language Journal*, Vol. 73, No. 3, pp. 291-299.
[21]. Tercanlioglu, L. (2004). Exploring gender effect on adult foreign language learning strategies. *Issues in educational research*, Vol. 14, No. 2, pp. 181-193. Available from:[http://www.iier.org.au/iier14/tercanlioglu.html] Accessed 10th May,2011
[22]. Ok, L. K. (2003). The relationship of school year, sex and proficiency on the use of learning strategies in learning English of Korean junior high school students. *ASIAN EFL Journal*, Vol. 5, No. 3, pp. 1-35.
[23]. Green, J. and Oxford, R. L. (1995). A closer look at learning strategies, L2 proficiency, and gender. *TESOL Quarterly*, Vol. 29, pp. 261-297.
[24]. Ehrman, M. E. and Oxford, R. (1990). Adults' language learning styles and strategies in an intensive training setting. *The Modern Language Journal*, Vol. 74, No. 3, pp. 311-325.
[25]. Hong-Nam, K., & Leavell, G. A. (2006). Language learning strategy use of ESL students in an intensive English learning context. *System*, Vol. 34, 399-415.
[26]. Dornyei, Z. (1998). Motivation in second and foreign language learning. *Language Teaching*, Vol. 31, pp. 117-135
[27]. Gardner, R. C. (1985). Social psychology and language learning: The role of attitudes and motivation. London, Ontario, Canada: Edward Arnold.
[28]. Schmidt, R., Boraie, D., & Kassabgy, O. (1996). Foreign language motivation: Internal structure and external connections. In R. Oxford (Ed.), Language learning motivation: Pathways to the new century (Technical Report #11, pp. 9–70). Honolulu: University of Hawai'i, Second Language Teaching & Curriculum Center.
[29]. Liao, Y. (2000). A study of Taiwanese junior high school students' EFL learning motivation and learning strategies. Unpublished master's thesis, National Changhua University of Education, Changhua, Taiwan.
[30]. Peng, I, (2001). EFL motivation and strategy use among Taiwanese senior high school learners. Unpublished thesis,National Taiwan Normal University, Taipei, Taiwan.
[31]. Bacon, S. M., & Finneman, M. D. (1990). A study of the attitudes, motives, and strategies of university foreign language students and their disposition to authentic oral and written input. *The Modern Language Journal*, Vol. 74, 459-473.
[32]. Chen, W. L. (2000, April). Motivation and Learning Strategies in Learning English as a Foreign Language: a case in Taiwan. Paper presented at 2000 AERA (American Educational Research Association) Annual Meeting, New Orleans, Louisiana, USA.
[33]. Chang, S. M. & Huang, S. H. (1999). Taiwanese English learners' learning motivation and language learning strategies. Proceedings of the sixteenth Conference on English Teaching and Learning in the Republic of China (pp. 111-128). Taipei: The Crane Publishing Co.
[34]. Pong (2000). EFL motivation and strategy use among Taiwanese senior high school learners. Unpublished Master's thesis. National Taiwan University of Education. Taiwan: Taipei.
[35]. Cohen, L., Manion, L., and Morrison, K. (2000). Research methods in education. London: Routledge Falmer.
[36]. Robson, C. (2002). Real world research: a resource for social scientists and Practitioner -researchers (p.161) (2nd Ed.).Oxford: Blackwell Publishers Inc.

[37]. Gardner, R. C. (2004). Attitude/Motivation Test Battery: International AMTB Research Project. Available from: [http://publish.uwo.ca/~gardner/docs/englishamtb.pdf] Accessed 3rd March, 2010
[38]. Pintrich, R. P.; Smith, D. A .F.; Garcia, T. & McKeachie W.J. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (MSQL). Ann Arbor: Michigan 48, 109 – 125.
[39]. Schmidt, R., & Watanabe, Y. (2001). Motivation, strategy use, and pedagogical preferences in foreign language learning. In Z. Dörnyei & R. Schmidt (Eds.), Motivation and second language acquisition (Technical Report #23, pp. 313–359). Honolulu: University of Hawai'i, Second Language Teaching and Curriculum Center.
[40]. Chamot, A. U. (2001). The role of learning strategies in second language acquisition. In Breen, M.P. (2001), pp.25-43.Essex: Pearson Education Limited. The Cognitive Academic Language Learning Approach (CALLA): An update. In P.A.Richard-Amato & M.A. Snow (Eds.), Academic success for English language learners: Strategies for K-12 mainstream teachers (pp. 87-101).White Plains, NY: Longman.
[41]. Yang, N.-D. (1992). Second language learners' beliefs about language learning and their use of learning strategies: Astudy of college students of English in Taiwan. Unpublished doctoral dissertation, University of Texas, Austin, TX, USA.
[42]. Liu, M.-L. (2004). A study of beliefs about language learning and learning strategies of senior high school students. Unpublished Master's thesis, National Kaohsiung Normal University, Taiwan, ROC.
[43]. Chen, Mei-Ling. (2012). Personality type, perceptual style preferences, and strategies for learning English as a foreign language. *SOCIAL BEHAVIOR AND PERSONALITY*, Vol. 40, No. 9, pp. 1501-1510
[44]. Sung, K.-Y. (May, 2011). Factors influencing Chinese language learners' strategy use. *International Journal of Multilingualism*, Vol. 8, No. 2, pp. 117-134
[45]. Al-Natour, A. (2012). The Most Frequently Language Learning Strategies Used by Jordanian University Students at Yarmouk University that Affect EFL Learning. *European Journal of Social Sciences*, Vol. 29, No. 4, pp. 528-536
[46]. Ellis, R. (1994). The study of second language acquisition. Oxford, England: Oxford University Press.
[47]. Oxford, R. L. & Burry-Stock, J. A. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the strategy inventory for language learning (SILL). *System*, Vol. 23, No. 1, pp. 1-23
[48]. Chen, C. Y. (2002). An explanatory study of language learning strategies and the relationship of these strategies to motivation and language proficiency among (EFL) Taiwanese technological and vocational college students. A PhD thesis, University of Iowa. Pro-Quest Dissertation Abstracts AAC 3058379. (2002).
[49]. Noor, Z.; Ismail, F.; Azian, A. & Babikkoi, M. (2012). Assessing the Use of English Language Learning Strategies among Secondary School Students in Malaysia. *Procedia – Social and Behavioral Sciences*, Vol. 66, pp. 240-246
[50]. Hashemi, M. (March, 2011). The impact of gender on language learning strategies of Iranian EFL learners. *International Journal of Academic Research*, Vol. 3, No. 2, pp. 280-285
[51]. Feng, C-H. (2010). A Correlational Study of Language Learning Motivation and Strategies of Chinese Undergraduate. *Canadian Social Science*, Vol.6, No. 4, pp. 202-209
[52]. Nishitani, M. & Matsuda, T. (2011). The Relationship between Language Anxiety, Interpretation of Anxiety, Intrinsic Motivation and the Use of Learning Strategies. *US-China Education Review* B 3, pp. 438-446