

Gender-Based Differences in Language Learning Strategies of Science Students

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ABSTRACT

Since the early 1970s there has been considerable research interest in the strategies that foreign or second language learners use in learning and using the target language. While the accumulated literature to date suggests a possible relationship between strategy use and foreign language learning success, a substantial number of studies have been undertaken in relation to various factors which have been found to affect strategy choice and use. Although gender is typically a significant factor in other disciplines in particular in educational and psychological research, gender has only received sporadic attention in the studies of language learning strategies. This study, therefore, is an attempt to explore the influence of gender on language strategy use.

A total of 115 science students were involved in this study. Survey method was used as data collection instrument. The results indicate that female students reported higher strategy use. More specifically, female learners showed greater use of the five major strategy categories (memory, compensation, cognitive, metacognitive and social strategy categories).

Keywords: Gender Differences; Science Students; Language Strategies.

INTRODUCTION

Learning strategies have become widely recognized as the central element in several models of language learning. The increasing awareness of the behaviors which learners consciously or unconsciously employ while learning a foreign language has been probably one of the most important outcomes of the movement in its transition towards a learner-centered approach to language learning. This change has been reflected in various ways in language education, ranging from the instructional materials to the curriculum characterized as the learner-centered curriculum (Nunan, 1988).

It is obvious that this growing recognition came with the emergence of cognitive psychology within which learners are seen to be actively involved in the process of learning. It is in direct response to the behaviorism theory of language learning which dominated the



early part of the century. From the cognitive psychology perspective (Brown, Bransford, Ferrara, & Compione, 1983; Oxford, 1990), learners are perceived as capable of developing control over existing knowledge, adopting an active approach to learning by altering, modifying, replacing, making specific choices and taking various actions to internalize new information or to cope with task demands. All these behaviors are considered as deliberate and goal oriented and geared by the learners to cope with learning tasks.

Learning strategies are defined in general as behaviors that are intended to influence how the individual processes information. Chamot (1987) regards learning strategies as “techniques, approaches or deliberate actions that students take in order to facilitate the learning, and recall of both linguistic and content area information” (Chamot, 1987, p. 71). Similarly, according to Oxford (1990), language learning strategies are specific operations used by the learner at various levels to ease the acquisition, storage, retrieval and use of information. Bialystok (1985) in her definition suggests:

Learning strategies are construed as activities undertaken by learners, whether consciously or not, that have the effect of promoting the learner's ability either to analyze the linguistic knowledge relevant to the language under study, or to improve the control of procedures for selecting and applying that knowledge under specific conditions (p. 258).

In spite of some variation in the definition of learning strategies, a clear implication emerging from the current literature review is that strategies are largely under the control of the learner or are learner-oriented. They are deliberate, planned, and consciously engaged behaviors or activities. Perhaps the most comprehensive list to characterize the characteristics of the term “strategies” comes from Ellis (1995), as follows:

- Strategies refer to both general approaches and specific actions or techniques used to learn an L2
- Strategies are problem-orientated- the learner deploys a strategy to overcome some particular learning problem
- Learners are generally aware of the strategies they use and can identify what they consist of if they are asked to pay attention to what they have are doing /thinking
- Strategies involve linguistic behaviour (such as requesting the name of an object) and non-linguistic (such as pointing at an object so as to be told its name)
- Some strategies are behavioural while others are mental. Thus some strategies are directly observable, while others are not
- In the main, strategies contribute indirectly to learning by providing learners with data about the L2 which they can then process. However, some strategies may also contribute directly (for example, memorization strategies directed at specific lexical items or grammatical rules)
- Strategy use varies considerably as a result of both the kind of task the learners is engaged in and individual learner preferences (p. 533).

Earlier research on learning strategies appears to have endeavored to explore the learning strategies of successful language learners with the assumption in mind that by discovering which strategies and cognitive processes successful language learners use to learn a foreign language, we can teach these strategies to poor learners (Hosenfeld, 1977; Naiman, Frohlich, Stern, & Todesco, 1978; Reiss, 1985; Rubin, 1975; 1981; Stern, 1975). An analogy is made using an old proverb, stating that feed a man with a fish and he eats for a day but

teach him how to fish and he feeds for a lifetime. When applied to language teaching, this can be interpreted that if students are provided with appropriate strategies to work out their solution for themselves rather than the solution, they may be empowered to manage their own learning.

Consequently, there have been positive approaches towards the teachability of learning strategies since a substantial number of studies have focused on the description of strategies used by more proficient learners versus less effective learners. Thus, language learners are expected to improve their language proficiency by using these learning strategies. As to practical implications for the classroom, there have been discussions about whether learning strategies should be taught as a separate subject or be integrated with classroom instruction in the sense that some of the classroom time can be allocated to the teaching of these strategies to equip language learners to improve their competence regardless of their language learning ability (Bialystok & Fröhlich, 1978; Williams & Burden, 1997). As a result, there are various training programs which are applicable and generalizable to a wide range of learning contexts and tasks.

Over the years, considerable research has been undertaken into learner variables which might affect language learning strategies such as age, motivation, attitude nationality, background and aptitude. However, what seems to be lacking in these studies is that little attention has been paid to the role of gender on the use of learning strategies (Ellis, 2008). Gender is considered to be the social, cultural, and psychological constructs (Mcelhinny, 2003) that are laid upon the males and females. There is also some distinction between sex and gender. Sex refers to the physiological, biological and anatomic features that cannot change whereas gender roles can change according to society norms and expectations. Gender was stated first to appear as a term in linguistics and then in other social science areas. During the 1960s and 1970s the term gender was used to refer to masculine' and feminine categories constructed in society (Sadiqi, 2003).

In relation to the gender difference there have been numerous studies done in the field of computer and instructional technologies, social network, primary school, science and mathematics education and the use of language, (Cavaş, 2010; Demir, 2008; Education, Audiovisual and Culture Executive Agency, 2010; Gürsoy, 2008; Hyde & Linn, 2006; Metin, Yılmaz, Birişçi, & Coşkun, 2011; Lee & Burkam, 1996; Li & Kirkup, 2007; Numanoglu & Şen, 2007; Teh, Embi, Yusoff, & Mahamod, 2009; Zare, 2010). In Keeves and Kotte's study (1992), male students were found to be more interested in science than females and they registered physics and chemistry classes more than female students. However, in biology classes, female students were observed to outnumber male students (as cited in Jones, Howe, & Rua, 2000, p. 181). In another study on primary school second grade students by Kaya, Özabacı and Tezel (2009), there was not any relationship between students' gender and their learning style. On the other hand, Fan, Chen and Matsumoto (1997) revealed that in mathematics achievement there was a slight difference between females and males students.

Gender also appears to be one of the important factors in using educational technology and determining the choice in social networks. Lai and Kuo's (2007) study reveals that 91% of the boys appeared to be in favor of CALL (Computer Assisted Language Learning) programs; on the contrary, 57,2% of the girls found it difficult to learn a language via CALL. Males have more positive attitudes towards technological aids whereas females do not feel as confident as males. According to European Commission's report called Gender Differences in Educational Outcomes (2010) "...certain subjects continue to show a gap in favor of boys e.g. Science, Technology, and others, a gap in favor of girls, e.g. Languages, Humanities subjects... (p. 22). The current literature indicates that males have more positive attitudes toward computers and use computers more than do females. Both females and males believe

that computer activities are really male activities. Females are less interested in computers and computer mediated jobs when compared with males (Brosnan, 1998; Durnell & Thomson, 1997; Kirkup, 1995; Meredith, Helen, & Woodcock, 1998, as cited in Jackson, Zhao, Qiu, Kolenic, Fitzgerald, Harold, & Eye, 2008).

Considering the language differences of genders; rigorous adverbs, more conjunctions such as *but*, and more modal auxiliary verbs such as *could* are used by women more often when compared with men using slang, longer words, more articles, and more references to locations. (Biber, Conrad, & Reppen, 1998; McMillan et al., 1977; Mehl & Pennebaker, 2003; Mulac et al., 2001 as cited in Newman, Groom, Handelman, & Pennebaker, 2008). In conversations; males dominate in mixed-gender conversations; they try to be more active during the talk and the conversation practice (Aliakbari & Mahjub, 2010; Shehadeh, 1999). Sunderland (1998) found that boys talked more; however girls were engaged in conversations more sophisticatedly and they were active in creating and taking advantage of learning opportunities with which their teacher provided them. Girls were found to be more inclined to study foreign and second languages and outperform boys (Sunderland, 2000). Males are claimed to have a more negative view and a less aptitude towards foreign language than females (Week, 2011). In a study by Cajkler and Thornton (1999) involving 2166 students of 14-15 ages from 3 different countries who were learners of French, German, Spanish and Italian it was revealed that girls used language learning strategies more actively than boys.

In a study of university students learning foreign languages by Oxford and Nyikos (1989), gender was found to have a great impact on strategy choice. Females were found to use certain strategies more frequently than boys. There are also conflicting results with regard to the use of language learning strategies by males or females. While Green and Oxford (1995) in their study of 374 university students found that females used strategies significantly more often than males, in another study by Tran (1988) females were found to use fewer language learning strategies than men. Similarly in a rare study focusing on Turkish setting, Tercanlioğlu (2004) reported that males used significantly greater strategies than females. Teh et al.'s (2009) study conducted on 457 students in Malaysia, also supports the general conclusions that female learners use language learning strategies more often than women. In a more recent study on learning strategies by Hashemi (2011), females used more frequently affective and compensation strategies when compared to males.

Considering the diversity and sometimes conflicting results, there is need for further research, including more variables to be investigated. This study focus on how gender affects science students' language learning strategies.

METHODOLOGY

A total of 115 science students, 60 of whom were male and 55 female, were involved in this study. Students, who were admitted to the biology and chemistry departments through a nation-wide competitive university entrance examination, were enrolled in the intensive English preparatory program at the School of Foreign Languages at Karadeniz Technical University in Trabzon, Turkey. Their language proficiency in English was identified in advance as beginner by a placement test designed by the School of Foreign Languages. However, when the data was collected, the participants had had been attending the language program for five months, and therefore by this time they were in an intermediate classes.

The convenience sampling technique was used in the selection of the participants. The school where the study was realized and data collected offers a year of intensive compulsory English study prior to study in their respective departments. The students are required to take certain courses in English in their concentration department and produce papers in English. The school runs a foreign language program focusing on all language skills –reading, writing,

speaking, and listening. With the ever-growing popularity and demand among the students to participate in the ERASMUS program which provides mobility grants to many thousands of students, the school places greater value on communicative skills.

The major data collection instrument in this study was Strategy Inventory for Second Language Learning (SILL). The SILL was originally developed by Oxford (1990) and is based on Oxford's taxonomy of strategies building on earlier classifications and on the strategies identified in the literature on learning strategies data. The decision to employ this inventory was used for the following reasons: (a) the SILL includes a comprehensive taxonomy of language learning strategies that covers the four language skills of listening, reading, speaking, and writing; (b) it addresses both formal and informal situations in which people gain skills in a new language; (c) SILL which has a high degree of structure, allows us to determine not only the type of strategy but also the type of task and setting where the strategy is used; (d) SILL has been extensively field-tested with a large number of university students and adults who are learning foreign languages in various settings for internal consistency, reliability and content validity of the items (Oxford, 1990). This inventory, which has been used widely with groups of foreign language learners in high schools, institutions and universities around the world, has proven to be useful for assessing the uses of learning strategies in second language acquisition. The SILL appeared to be the only language learning strategy instrument whose reliability and validity have been extensively checked and results published. The Cronbach Alpha was chosen as the most appropriate reliability measure of internal consistency. For example, it is reported that with the SILL, Cronbach Alphas were: .94 with a sample of 590 Taiwanese learners (Chinese translation), .92 with Japanese; .91 with the Puerto Rican Spanish learners, .93 with Korean learners (Oxford & Burry-Stock, 1995). The use of its Turkish translation with 476 Turkish adult learners resulted a very high level of reliability (Reliability Coefficient: N of Cases=476.0, N of Items=64, $\text{Alpha} = .9271$).

The SILL was adapted and modified for the purposes of the study. Most of the changes in the questionnaire are related to lexical and semantic aspects of the items which might have caused confusion to Turkish learners. Three new items which were obtained from the piloting of the questionnaire were added to the questionnaire. These new strategies were observed to fit the strategy classification system for which the SILL was developed and followed in this present study. The finalized questionnaire was administered by the author of this paper in collaboration with four classroom teachers in separate classes. The internal reliability of the items computed with SPSS on computer revealed a high level of consistency (Reliability Coefficient: N of Cases=115, N of Items=56, $\text{Alpha} = .9441$).

FINDINGS

The results were analyzed on the basis of strategy classifications made by Oxford (1990). Descriptive statistics were used to present quantitative descriptions in a manageable form of basic features of the data. To this end, the Mean rank was decided the most appropriate method of describing central tendency, providing simple summaries about the sample and the measures. Bivariate analysis was used to make comparisons of groups and draw inferences from the sample as the research sought to determine whether the differences in the use of language learning strategies between male and female science students were significant.

As the data were basically ordinal, nonparametric procedures were the most appropriate statistical tests to use since the data do not meet the assumptions about parametric tests. Therefore, the Mann-Whitney U test was used to analyze ranked data to compare the two independent groups (male and female science students).

Table 1. *Memory strategies*

	Male Mean Rank	Female	2-tailed
Associating / Elaborating	62.07	53.56	
Using Sounds	58.53	57.42	
Using Imagery	57.01	59.08	
Representing Sounds in Memory	63.58	51.92	
Using mechanical technique	62.90	52.65	
Structured reviewing	63.58	51.92	Z=1.965, P<.0469*
Placing new words into context	60.61	55.15	
Grouping	62.48	53.11	
Using Physical Response and sensation	53.46	52.49	

Male (N)=60, Female (N)=55, Mann-Whitney U-Test

Memory strategies, sometimes called mnemonics refer to arranging things in order, making associations and reviewing. All involve meaning. The million bits of information are stored in mind and only a small proportion of it can be used with the aid of memory strategies. Table 1 shows that female students were found to use greater memory strategies than male students. Of the nine memory strategies is the structured reviewing that resulted in significant difference between the two groups. Female students referred to what is called as “keeping spiraling” back to what they have already learned while learning new information significantly higher ($Z=1.965$, $Z=1.965$, $P<.0469$) than male students. This strategy might help the learners become more familiar with the information which becomes natural and automatic over time. It is, however, important to note that in spite of greater frequency of memory strategy use by female student there has been no statistically significant difference between male and female students in the use of other memory strategies.

Table 2. *Cognitive strategies*

	Male Mean Rank	Female	2-tailed
Repeating	63.05	52.09	
Formally Practicing with Sounds and writing systems	57.48	58.56	
Recombining	57.00	59.09	
Practicing Naturalistically	52.07	64.47	Z=2.052, P<.040*
Using Formulas and Patterns	59.17	56.73	
Taking notes (in Turkish)	57.90	57.06	
Getting the Idea Quickly	64.43	50.99	Z=2.227, P<.026*
Reasoning Deductively	60.61	55.15	
Analyzing Expression	60.63	56.51	
Translating	52.20	64.33	Z=2.026, P<.043*
Analyzing Contrastively	52.34	65.20	Z=2.101, P<.036*

Male (N)=60, Female (N)=55, Mann-Whitney U-Test

Table 2 deals with cognitive strategies, which are essential in learning a new language. Of the eleven cognitive strategies, female students were found to show greater use of the *repeating strategy* (saying or doing something over and over, listening to CD, tape several times, rehearsing and repeating words or utterances). On the other hand, male students were

observed to use significantly greater the strategy of *analyzing contrastively* (comparing element of the new language with those of their own first language to detect similarities and differences ($Z=2.101$, $P<.036$). Another significant difference was found in the use of translating strategies as indicated in Table 2 ($Z=2.026$, $P<.043$). Male students employed more frequently the translating strategy (changing a target language expression into the mother language at various levels from words and phrases for understanding or producing another. Female students were slightly higher than males in using routine formulas and unanalyzed units. When it comes to taking notes in mother tongue during class time, both groups showed a very similar pattern of use.

Table 3. *Compensation Strategies*

	Male Mean Rank	Female	2-tailed
Using mime or Gestures	58.94	56.01	
Coining Words	62.59	54.12	
Using a Circumlocution or Synonym	62.19	54.12	
Adjusting or Approximating the Message	64.71	51.85	$Z=2.165$, $P<.030^*$
Using Linguistic Clues	55.19	60.96	
Using Other Clues	58.10	58.93	
Getting Help	55.60	61.61	

Male (N)=60, Female (N)=55, Mann-Whitney U-Test

Compensation strategies are intended to make up for limitations in knowledge, especially, grammar and vocabulary. So, compensation strategies help learners to use the target language for understanding or speaking the foreign language. It appears from the results in Table 3 that compensation strategies were used to a varying degree both by male and female students. While male students appeared to be high in seeking and using language-based clues so as to guess the meaning of what is heard or read as indicated Table 3, female students were observed to use significantly higher strategy of *approximating the message*. Nevertheless, the SILL does not indicate whether altering the message by omitting some parts or saying something slightly different should be considered as a weakness or a strategy to overcome limitations in speaking. Male students more frequently asked for help from the person to provide the missing expression in the foreign language. Interestingly, female students were found more frequently to make up new words to overcome limitation in speaking.

Table 4. *Metacognitive strategies*

	Male Mean Rank	Female	2-tailed
Paying attention (directed)	64.63	51.93	$Z=2.209$, $P<.027^*$
Paying Attention –selected	61.17	55.64	
Seeking Practice Opportunities	56.34	60.81	
Organizing	61.00	54.84	
Setting Goals and Objectives	58.75	58.27	
Self-monitoring	64.63	51.93	$Z=2.209$, $P<.027^*$

Male (N)=60, Female (N)=55, Mann-Whitney U-Test

Metacognitive strategies in Table 4 mainly include knowledge about when and how to use particular strategies for language learning. In this respect it is defined as knowing about knowing. These strategies enable learners to coordinate their own learning process. As Table 4 indicates, both male and female students were found at very similar level in setting aims and objectives for language learning including long-term and short term ones, considering the purpose. An interesting point was that female students used significantly more often *self-monitoring strategy* than the males ($Z=2.209, P<.027$). This strategy involves identifying errors and learning from them, therefore it is of great importance because it concerns evaluating overall progress when checking their learning performance. It centers on learners' conscious decision to notice and correct their own errors in any of the language skills. In terms of using the greater self-monitoring strategy, female students can be considered to spend significantly greater effort to track the source of their important errors in understanding or producing the new language and consequently to try to eliminate such errors. When language learners fail to realistically monitor their errors, they may be troubled, even become traumatized to the extent that they may find themselves in a hopeless situation, underrating their ability and proficiency. Nevertheless, male students were observed to use more frequently the strategy of *seeking practice opportunities* than females. This means that male students create more additional opportunities and chances to practice the new language, underscoring learners' responsibility to generate their own chances to practice.

Table 5. *Affective and social Strategies*

	Male Mean Rank	Female	2-tailed
Making Positive Statement	58.16	58.87	
Encouraging (rewording) yourself	51.70	65.79	$Z=2.312, P <.021^*$
Discussing feelings with someone else	55.17	62.07	
Using progressive relaxation or mediation	53.96	63.37	
Cooperating with Peers	55.41	61.81	
Cooperating with proficient users	62.22	53.40	
Developing Cultural Understanding	61.09	55.72	

Male (N)=60, Female (N)=55, Mann-Whitney U-Test, * $P <.05$

Table 5 deals with affective and social strategies. A cross-tabulation of the responses to the three specific affective strategies reveals that male students employed affective strategies more frequently than the female students although there appeared not to be a statistically significant difference. Since affective domain involves emotions, motivations, anxiety, culture shock, risk taking, and tolerance for ambiguity, language learners need to gain control over these factors. A greater number of male students, ($X= m 55.70, X=f 62.07$) for example, discussed this learning process with other people, which might helped them to diminish anxiety and inhibition. It is, however, interesting to note that male students chose to *cooperate with peers* as a social strategy more frequently than females. The female students were found, as shown in Table 5, to show a concerted effort to *work with proficient users* the new language ($X= m 62.22, X=f 53.40$). Similarly, a greater number of female students were found more interested to find out about the target culture. It is assumed that background knowledge of the target language culture helps learners learn what is appropriate to say or write, and develop greater cultural awareness, which is necessary for achieving proficiency in the target language. The only statistically significant difference between the groups was observed in the use of *rewarding oneself*. Male students were significantly higher in providing their own encouragements. Although rewards may differ from one person to another, most potent,

regular and useful rewards come from within the learners themselves. In this respect male students do not rely much on encouragement from external sources. Rather their encouragement comes from inside.

Table 6. Major strategy group analysis by gender

	Male	Female	
	Mean Rank		2-tailed
Memory Strategies	59.59	56.26	Z=.552, P<.592
Compensation Strategies	57.36	56.63	Z=.118, P<.906
Cognitive Strategies	59.76	54.99	Z=.770, P<.441
Metacognitive Strategies	60.03	54.88	Z=.834, P<.404
Affective Strategies	53.73	63.61	Z=1.588, P<.111
Social Strategies	60.97	54.76	Z=1.000, P<.317

Male (N)=60, Female (N)=55, Mann-Whitney U-Test

Table 6 deals with an overall analysis of strategy group by gender. Individual language learning strategies were combined into their major categories through the use of compute command in SPSS so as to see whether there were any significant differences between male and female science students in the major strategy categories. In spite of variation and significant differences in analysis of the individual items, there appeared to be no significant difference between the two groups over 6 major strategy groups.

CONCLUSIONS

Our findings with respect to the gender effect on the use of individual language learning strategies indicate that there was a statistically significant difference between female and male students. Although sometimes males surpassed females in the use of a particular strategy, female learners showed greater use of the five major strategy categories (memory, compensation, cognitive, metacognitive and social strategy categories). It is only the affective strategy group with which male students showed greater frequency. In this respect our research supplies support for the studies that have reported a wider range of overall strategy use by females (Green & Oxford, 1995; Oxford & Nyikos, 1989; Politzer, 1983). Perhaps the most remarkable result was that there was no statistically significant difference between male and female science students in the overall strategy categories. It is important to note that eight of nine memory strategies were used more often by female students and *structured reviewing* was used significantly more often by females. This can perhaps be explained with good study habits which are associated with reviewing what has been learned previously. Results concerning the use of cognitive strategies indicated that female students reported higher use in six of the eleven strategies than male students. It is, however, quite interesting to observe that male participants favored certain cognitive strategies such as practicing naturalistically, translating and analyzing contrastively, which resulted in significant difference. Since the strategy of practicing naturalistically centers on using the target language for actual communication, involving practice in speaking the language with other people in natural setting, it can be said that males appear to be in a culturally more advantageous position to meet and make friends with target language speakers. Causal chatting with people and friends in the target language is relatively easier for males. This also goes in parallel with a similar metacognitive strategy-*seeking practice opportunities*- used higher by males. Some of the success or failure in speaking skill can be attributed to this particular strategy.

To conclude, although the findings of this research provide a greater understanding of foreign language learning strategy use by male and female science students, the quantitative data does not allow us to say much about why the groups chose to employ certain specific strategies. As this study was exploratory in nature, it is necessary to interpret the result with caution. Generally speaking, the study underscores the central point that strategy use is a complex phenomenon that interacts with a number of variables. Among these variables are learning context, achievement, learners' approach to language learning, situations, learning tasks, motivation types and degree, language background, teaching and learning culture. These variables potentially can affect overall strategy use as well as the use of the strategy categories and individual strategies in various ways. In order for us to be able to say more about the reasons for the use of strategy categories and the effectiveness of these strategies, it is quite important to include these variables into the study. Although psychometric instrument used in this study provided robust data to make comparison between the groups, for further research it would be more eliminating to integrate qualitative methods into the research.

REFERENCES

- Aliakbari, M. & Mahjub, E. (2010). Analytical/intuitive EFL learners and gender effect. *International Journal of Pedagogies and Learning*, 6(1), 41-48.
- Bialystok, E. & Fröhlich, M. (1978). Variables of classroom achievement in second language learning. *Modern Language Journal*, 62(7), 327-336.
- Bialystok, E. (1985). The compatibility of teaching and learning strategies. *Applied Linguistics*, 6(3), 255-262.
- Brown, A. L., Bransford, J. D., Ferrara, R. A., & Compione, J. C. (1983). Learning remembering, and understanding. In J. H. Flavell and M. Markman (Eds.) *Cormichael's Manual of Child Psychology 3* (pp. 77-166). New York: Wiley.
- Cajkler, W. & Thornton, B. (1999). Language learner perceptions of strategy use in secondary schools. *Language Learning Journal*, 20, 45-50.
- Cavaş, B. (2010). A study on pre-service, class and mathematics teachers' learning styles in Turkey. *Science Education International*, 21(1), 47-61.
- Chamot, A. U. (1987). The learning strategies of ESL students. In A. Wenden and J. Rubin (Eds.) *Learner Strategies in Language learning* (pp. 71-83). Englewood Cliffs, New Jersey: Prentice Hall International.
- Demir, T. (2008). Learning styles of the Turkish teaching students (the case of Gazi University). *The Journal of International Social Research*, 1(4), 129-148.
- Education, Audiovisual and Culture Executive Agency. (2010). *Gender differences in educational outcomes: study on the measures taken and the current situation in Europe*. Brussels: Bernadette Forsthuber, Anna Horvath, & Akvile Motiejunaite. Retrieved from http://eacea.ec.europa.eu/education/eurydice/thematic_studies_en.php.
- Ellis, R. (1995). *The study of second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. (2008). *The study of second language acquisition* (2nd ed.). Oxford: Oxford University Press.
- European Commission. Gender Differences in Educational Outcomes: Study on the Measures Taken and the Current Situation in Europe. (2010). Education, Audiovisual and Culture Executive Agency. Brussels.
- Fan, X., Chen, M., & Matsumoto, A. R. (1997). Gender differences in mathematics achievement: findings from the national education longitudinal study of 1988. *The Journal of Experimental Education*, 65(3), 229-242.
- Green, J. M. & Oxford, R. 1995. A closer look at learning strategies, L2 proficiency and gender. *TESOL Quarterly*, 29, 261-297.
- Gürsoy, T. (2008). *The investigation of teacher candidates' learning styles in terms of various variables*. (Unpublished Master Thesis). Adnan Menderes University, Aydın.
- Hashemi, M. (2011). The impact of gender on language learning strategies of Iranian EFL learners. *International Journal of Academic Research*, 3(2), 280-285.
- Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and non-successful second language learners. *System*, 5, 110-123.

- Hyde, J. S. & Linn, M. C. (2006). Gender similarities in mathematics and science. Retrieved from <http://itp.wceruw.org/HydeScience06.pdf>.
- Jackson, L. A., Zhao, Y., Qiu, W., Kolenic, A., Fitzgerald, H. E., Harold, R. & Eye A. (2008). Culture, gender and information technology use: A comparison of Chinese and US children, *Computers in Human Behavior*, 24(6), 2817-2829.
- Jones, M. G., Howe, A., & Rua, N. J. (2000). Gender differences in students' experiences, interests, and attitudes toward science and scientists. *Science Education*, 84(2), 180-192.
- Kaya, F., Özabacı, N. & Tezel, Ö. (2009). Investigating primary school second grade students' learning styles according to the Kolb learning style model in terms of demographic variables. *Journal of Turkish Science Education*, 6(1), 11-25.
- Lai, C. & Kuo, M. (2007). Gender Difference in CALL Programs for English as a Second Language Acquisition. Retrieved from <http://www.eric.ed.gov/PDFS/ED496190.pdf>.
- Lee, V. E. & Burkam, D. T. (1996). Gender differences in middle grade science achievement: subject domain, ability level, and course emphasis. *Science Education*, 80(6), 613-650.
- Li, N. & Kirkup, G. (2007). Gender and cultural differences in Internet use: A study of China and the UK. *Computers & Education*, 48, 301-317.
- Mcelhinny, B. (2003). Theorizing Gender in Sociolinguistics and Linguistic Anthropology. In J. Holmes & M. Meyerhoff (Eds.), *The Handbook of Language and Gender* (pp. 21-42). UK: Blackwell Publishing.
- Metin, M., Yılmaz, G. K., Birişçi, S. & Coşkun, K. (2011). The investigating pre-service teachers' learning styles with respect to the gender and grade level variables. *Procedia Social and Behavioral Sciences*, 15, 2728-2732.
- Naiman, N., Frohlich, M., Stern, H. H. & Todesco, A. (1978). *The Good Language Learner*. Toronto: Ontario Institute for Studies in Education.
- Newman, M. L., Groom, C. J., Handelman, L. D. & Pennebaker J. W. (2008). Gender Differences in Language Use: An Analysis of 14,000 Text Samples, *Discourse Processes*, 45, 211-236.
- Numanoğlu, G. & Şen, B. (2007). Learning styles of university students attending department of computer and instructional technologies education, *Ahi Evran University Kırşehir Educational Faculty Journal, KEFAD*, 8(2), 129-148.
- Nunan, D. (1988). *The learner-centred curriculum*. Cambridge: Cambridge University Press.
- Oxford R. L. & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *The Modern Language Journal*, 73, 291-300.
- Oxford, R. & Burry-Stock, J. A. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version the strategy inventory for language learning (SILL). *System*, 23(1), 1-23.
- Oxford, R. (1990). *Language Learning Strategies: What every teacher should know*. New York: Newbury House/Harper and Row.
- Politzer, R.L. (1983). An exploratory study of self-reported language learning behaviors and their relation to achievement. *Studies in Second Language Acquisition*, 6, 54-67.

- Reiss, M. A. (1985). The good language learner. Another look. *Canadian Modern Language Review*, 3, 511-523.
- Rubin, J. (1975). What the “good language learner” can teach us. *TESOL Quarterly*, 9(1), 41-51.
- Rubin, J. (1981). Study of cognitive processes in second language learning. *Applied Linguistics*, 11 (2), 117-131.
- Sadiqi, F. (2003). *Women, gender and language in Morocco*. The Netherlands: Leiden. Koninklijke Brill NV.
- Shehadeh, A. (1999). Gender differences and equal opportunities in the ESL classroom. *ELT Journal*, 53(4), 256-261.
- Stern, H. H. (1975). What can we learn from the good language learner? *Canadian Modern Language Review*, 31, 304-318.
- Sunderland, J. (1998). Girls being quiet: a problem for foreign language classrooms? *Language Teaching Research*, 2(1), 48–82.
- Sunderland, J. (2000). Issues of language and gender in second and foreign language education. *Language Teaching* 33, 203–223.
- Teh, K. S. M., Embi, M. A., Yusoff, N. M. R. N. & Mahamod, Z. (2009). A closer look at gender and Arabic language learning strategies use. *European Journal of Social Sciences*, 9(3), 399-407.
- Tercanlıoğlu, L. (2004). Exploring gender effect on adult foreign language learning strategies. *Issues In Educational Research*, 14(2), 181-193.
- Tran, T. (1988). Sex differences in English language acculturation and learning strategies among Vietnamese adults aged 40 and over in the United States. Retrieved from <http://www.mendeley.com/research/sex-differences-english-language-acculturation-learning-strategies-among-vietnamese-adults-aged-40-united-states/#page-1>
- Week, M. (2011). Correlation Between Foreign Language Anxiety and Gender. *Psychology Journal*, 8(1), 40-47.
- Williams, M. & Burden, R. (1997). *Psychology for Language Teachers: A social constructivist approach*. Cambridge: CUP.
- Zare, P. (2010). An investigation into language learning strategy use and gender among Iranian undergraduate language learners. *World Applied Sciences Journal*, 11(10), 1238-1247.