



A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

Vida FAYYAZI^{1,*}, Hamid RAHMANI SANGANI¹, Hamid BAHADOR¹

¹*Faculty of Humanities, Department of English Language, Velayat University, Iranshahr, Iran*

Received: 01.02.2015; Accepted: 05.05.2015

Abstract. Every person has a preferred way of learning that is called learning style. Due to the significant role of learning style in learning achievement, it is an ongoing issue of great importance to educational research. Thus, the present study aimed at investigating and comparing learning styles of monolingual (Persian) and bilingual (Turkish-Persian) high school female students. It also examined the impact of learning styles on language learning achievement. The sample of the study consisted of 300 students who were divided into two language groups: 150 bilinguals and 150 monolinguals. Cluster sampling was employed for selecting the sample. In this quantitative and qualitative study, a mixed-method was utilized for collecting data. One was Kolb's Learning Style Inventory for assessing students' learning styles. The other was a semi-structured interview administered to 25 monolingual and 25 bilingual students to confirm the findings of the questionnaire. To examine the relationship between students' learning styles and their achievement in learning English, students' English scores obtained from mid-term and final exams in a semester were collected. As for data analysis, descriptive statistics, chi-square tests, and independent sample t-tests were utilized. The data analysis of the questionnaire revealed that the prevalence of diverging learning style was higher in bilinguals, while the incidence of accommodating learning style was higher in monolinguals. Findings obtained from the interview indicated that bilinguals' major learning style was diverging and monolinguals' most preferred learning style was assimilating. Results showed a significant relationship between students' learning styles and their achievement in learning English. In comparison with monolinguals, bilinguals were superior in learning English.

Keywords: learning style, bilingual, monolingual, language learning achievement

1. INTRODUCTION

In recent years with the shift from a teacher-oriented to a learner-oriented approach in language learning/teaching, identification of the ways people learn is of crucial importance and is the key to educational achievement. There is no doubt that students take in, process, and comprehend information in different manners which are collectively referred to as learning styles or learning preferences (Celce-Murcia, 2001). One of the first and prominent definitions of learning style was put forth by Keefe (1985, p.140) who defines it as: "characteristic cognitive, affective, and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment." Sternberg (2001) saw learning styles as habitual patterns or preferred ways of doing something that are consistent over long periods and across a variety of activities. Learning styles are considered as individual differences in the way information is perceived, processed, and communicated (Haar, Hall, Schoepp, & Smith, 2002). Seif (2001) believes these differences are not indicator of individuals' intelligence or special abilities but they are more related to the preferred methods which different individuals use to react to the environmental stimuli. According to Brown (2007), "style is a term that refers to consistent and rather enduring tendencies or preferences within an individual" (p. 119).

*Corresponding author. *Email address:* fayyaziv@yahoo.com

According to the learning styles literature, there are varieties of learning styles models. This indicates different descriptions and classifications of learning styles. Learning style models are established based on the assumption that individuals learn differently. Therefore, classifying and characterizing students' preferences and strategies is the basic objective of a learning styles model. Seventy one learning styles models were identified by Coffield, Moseley, Hall and Ecclestone (2004) from learning styles literature published during the period 1902 to 2002. One of these learning styles models is Kolb's Learning Style Inventory employed in the current study. Coffield, Moseley, Hall and Ecclestone (2004) classified learning styles models into five families. The families are organized on a continuum ranging from 'more fixed' to 'less fixed' learning styles models. This continuum illuminates the degree of fixedness and flexibility of a particular learning style model in relation to the other models.

Figure 1 illustrates the diagrammatic placement of the 'families' of learning style models as adapted from Coffield, Moseley, Hall and Ecclestone (2004).

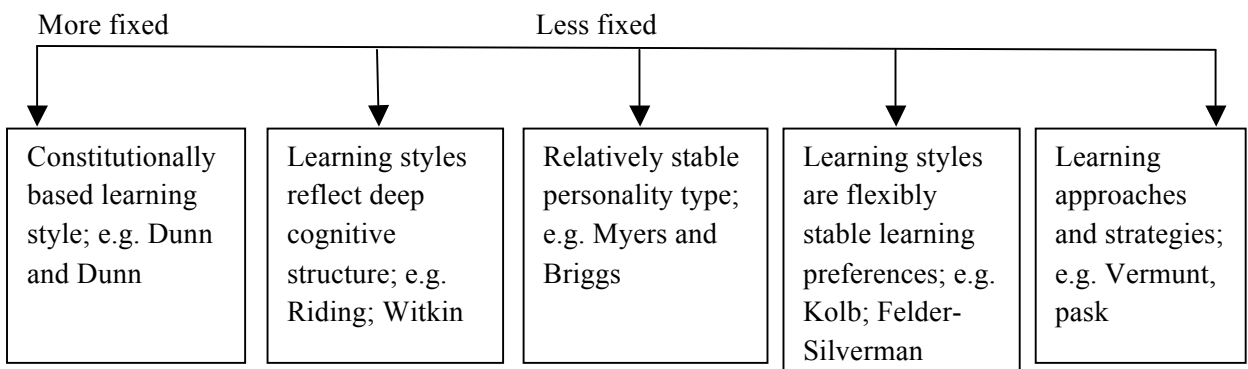


Figure 1. Families of learning styles models (Coffield , Moseley, Hall, & Ecclestone 2004, p.9)

Learning style is an ongoing issue of great importance to educational research. It gained considerable attention in teaching and learning process since the 1960s (Smith & Blake, 2005). Many researchers (e.g. Bidabadi & Yamat, 2010; Hong, 2007; Pourhossein, 2012; Reid, 1987; Pei-Shi, 2012; Oxford, 1999; Riazzi & Riasat, 2007) have studied the relevance of learning styles with different aspects of teaching and learning esp. teaching and learning a foreign language. Oxford (2005) also found out that the key factors that help us to determine how language learners learn a second or foreign language are learning styles and strategies. Thus learning styles seem to be quite influential during language learning process. Over the past two decades, teaching English as a second or foreign language has changed tremendously and has been the center of great attention so language teaching methods, teaching materials, and curricula have been developed to meet the changing needs of the ESL/EFL learners. A lot of studies (Oxford & Lavine, 1992; Kara, 2009; Lindsay, 1999) have investigated the potential interaction between learning styles and teaching approaches and illustrated that students' performances can be enhanced by adapting the instructional methods to individual differences in learning styles. They showed that tailoring teaching approaches to learning styles has a positive impact on students' achievement, motivation, and interests. As a result, several educators (e.g. Gagne, 1993; Kinsella, 1996) have concluded that learning can be optimized through some instructional principles. They argue that identifying a student's learning style and providing appropriate instruction contribute to more effective learning.

Learning styles are often identified to determine strengths of academic achievement of learners. According to a decade of research when both low and average achievers are taught through their learning style preferences, they gain higher scores on attitude and standardized achievement tests. Some gifted people may learn proficiently without using their learning style preferences however, low achievers perform better when they use their learning style

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

preferences, rather than when they don't (Dunn & Griggs, 1998). Riding (2005) asserts that learners are not all the same and that individual diversities influence both their learning and their academic achievement. The findings of voluminous studies have justified the influential role of learning styles on academic achievement (Felder, 1995; Jilardi, Mahyuddin, Elias, Mohd Daud, and Shabani, 2011; Zainol Abidin, Rezaee, & Nor Abdullah, 2011).

Besides, some studies have revealed that bilingualism and monolingualism affect learning style preferences. According to some studies, there are differences between monolingual and bilingual individuals' learning styles. For example, Coper (1981), in a study showed that in the context dependent and independent learning style, the bilingual individuals tend to be more dependent to the background. The African-American bilingual individuals prefer a more holistic and kinesthetic style. The language used by the black was considered as the main reason for this difference. Emamipour and shams Esfandabad (2010) also found that learning styles of monolingual and bilingual students were significantly different. Similarly, Moradi Kuchi (2010) showed that monolingual and bilingual students were different in diverging learning style. Clarkson (2008) showed that approximately 60% of the world's populations are either bilingual or multilingual. Due to this great population of bilinguals in the world and lack of studies in this field, a detailed and comprehensive investigation of bilinguals' learning styles and comparing them with monolinguals' seem to be of paramount necessity and importance. Iran is also a multilingual country where its people speak other main languages such as Turkish, Kurdish, Lori, and Arabic (Karimi & Bakhshalizadeh, 2008). Trends in International Mathematics and Science Study (TIMSS) 2003 showed that about 34% of Iranian students either sometimes or never speak Persian at home. Because of these diversities in people's language in Iran, the current study attempts to investigate and compare the learning styles of bilingual (Turkish-Persian) and monolingual (Persian) third grade female students in some high schools of Fars province in Iran. It also probes how learning styles may influence language learning achievement. Thus, this study aims to find answers to the following research questions:

1. What are the learning styles preferred by monolingual female students?
2. What are the learning styles preferred by bilingual female students?
3. Are there any differences between the distribution of learning styles in monolingual and bilingual female students?
4. Are there any differences between bilingual female students and monolingual female students in language learning achievement with respect to their learning style preferences?

In this study the relationship among three variables such as independent, moderator, and dependent variables was investigated. Learning style was considered as an independent variable, bilingualism and monolingualism as moderator variables, and language learning achievement as a dependent variable. Extraneous variables such as age, gender, and culture, which may affect learning styles, were controlled. The design of the study is depicted as follows:

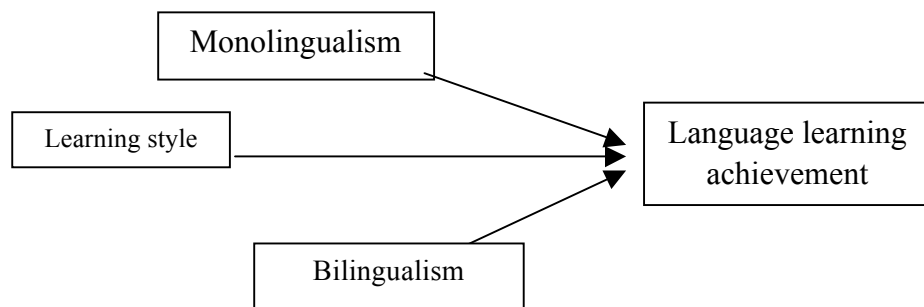


Figure 2. The empirical design of the study.

2. METHODOLOGY

2.1. Participants

In the quantitative phase, participants of the study consisted of 150 monolingual (Persian) and 150 bilingual (Turkish-Persian) third grade female students in high schools of Fasa and Firoozabad, two cities of Fars province in Iran. To have more homogeneous groups, just third grade students were selected. The participants were selected through cluster sampling technique in which the selection procedure started with randomizing the larger groups and moved towards smaller groups (Farhady, 2004). In the qualitative stage, 25 monolingual and 25 bilingual female students were randomly selected out of the subjects chosen for the quantitative phase and a semi-structured interview was administered to elicit the responses to the research questions.

2.2. Methods of data collection

Three methods of data collection were utilized in this study.

2.2.1. Kolb's Learning Styles Inventory questionnaire (Version. III)

To assess students' learning styles, Kolb's (1984) Learning Styles Inventory (LSI) version III was utilized. Kolb's LSI was chosen because the inventory is relatively simple to administer and score and it has demonstrated a high degree of reliability (Kolb, 1985; Hoseini Lorgani, 1998; Jackson & Jones, 1996; Barmeyer, 2004). It includes a 12-item standardized questionnaire employed for eliciting information. The Persian translation of LSI questionnaire was used in this study. The researcher used this translated version to eliminate many of the possible ambiguities and to put students at ease.

The students were asked to rank the four endings for each sentence according to how well they think each fits with how they would go about learning. Each ending corresponds to one of the learning stages in Kolb's experiential learning model: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). Combining them yields four learning styles such as converging, diverging, assimilating, and accommodating.

Abstract Conceptualization + Active Experimentation = Converging	
Concrete Experience + Reflective Observation = Diverging	Reflective
Observation + Abstract Conceptualization = Assimilating	Concrete Experience
+ Active Experimentation = Accommodating	

To assess students' learning styles, some steps needed to be taken. The first step was to add 12 first, 12 second, 12 third and 12 fourth choices separately. Four scores ranging from 12-48 were obtained. Then CE score was subtracted from AC score, which indicated one's learning style preference in the concrete-abstract dimension. The RO was subtracted from the AE score, which indicated one's learning style preference in the active-reflective dimension. In this stage two scores, which might be opposite or negative, were obtained. By plotting these two scores on vertical (AC-CE) and horizontal (AE-RO) axis, each learning style was found out (Figure 2).

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

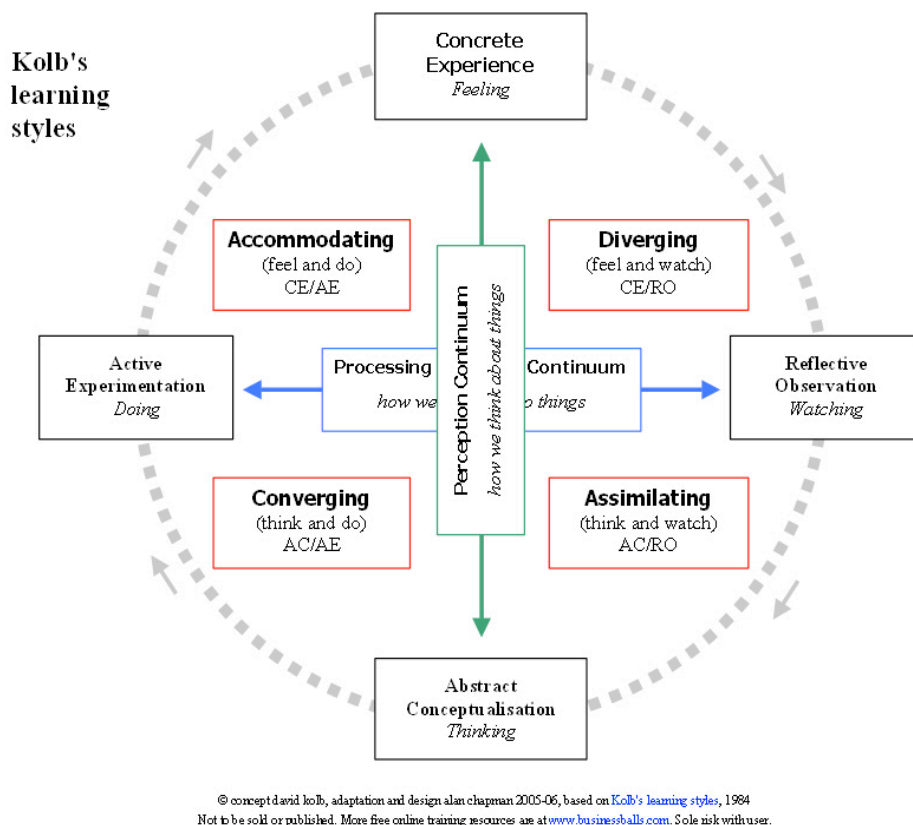


Figure 3. Kolb's learning style diagram

2.2.2. Interview

In the qualitative phase of this survey, a semi-structured interview was conducted to 25 monolingual and 25 bilingual female students selected from the subjects of the study. The researcher used a written list of questions similar to the questionnaire as a guide, while still having the freedom to digress and probe for more information. Moreover, students were asked to state their opinions about learning, any other ways they like to learn, and the defects of the questionnaire.

2.2.3. Mid-term and final exam

To examine the relationship between students' learning style preferences and their achievement in learning English, their English scores obtained from mid-term and final exams in a semester were collected. The mean of mid-term and final English scores for each student was calculated and taken into consideration when analyzing the data.

2.3. Data collection procedures

After giving an introduction to the project to headmistress and teachers, explaining its advantages both for teachers and students, and obtaining permission, the researcher visited certain classes. First the aim and advantage of the project were explained to students then they were asked to fill out the questionnaire according to the instruction. The questionnaires were administered in one session, in their classrooms and at the same time. It lasted about thirty minutes. In the qualitative phase, a semi-structured interview was administered. It was face to

face and administered orally. The researcher wrote down each student's response. The last step the researcher took in collecting data was obtaining students' English scores obtained from mid-term and final exams in a semester. Since headmistress and teachers were aware of the aim and advantages of the project, they agreed to cooperate.

3. RESULTS

3.1. Monolingual female students' learning style preferences

The first research question is stated as "What are the learning styles preferred by monolingual female students?" In order to respond to this research question, the frequencies of monolingual female students' learning styles obtained through the questionnaire were calculated and presented in table 1.

Table 1. Frequency of monolinguals' learning styles based on the questionnaire

Monolinguals' learning styles	Frequency	Percent	Valid Percent
Accommodating	62	41.3	41.3
Diverging	48	32.0	32.0
Converging	19	12.7	12.7
Assimilating	21	14.0	14.0
Total	150	100.0	100.0

As it is evident in table 1, accommodating learning style (41.3%) is most widely used among monolingual female students. Diverging learning style (32%) has the second rank. 14% are assimilating learners and 12.7% are converging learners. As can be seen in the table, 'accommodating' learning style has the highest frequency among monolingual female students, so it is preferred as their major learning style.

In order to confirm the finding of the questionnaire regarding the first research question, a semi-structured interview was conducted to 25 monolingual female students. The frequencies of monolingual female students' learning styles obtained through the semi-structured interview were calculated and presented in table 2.

Table 2. Frequency of monolinguals' learning styles based on the semi-structured interview

Monolinguals' learning styles	Frequency	Percent	Valid Percent
Accommodating	5	20	20
Diverging	7	28	28
Converging	4	16	16
Assimilating	9	36	36
Total	25	100	100

As shown in table 2, assimilating learning style (36%) has the highest frequency among monolingual students. Diverging learning style (28%) has the second rank. The third rank is occupied by accommodating learners (20%) and the last rank was for converging learners (16%). As can be seen in the table, assimilating learning style has the highest frequency among monolingual female students based on this analysis.

3.2. Bilingual female students' learning style preferences

The second research question is set as "What are the learning styles preferred by bilingual female students?" In order to respond to this research question, the frequencies of bilingual

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

female students' learning styles obtained through the questionnaire were calculated and presented in table 3.

Table 3. Frequency of bilinguals' learning styles base on the questionnaire

Bilinguals' learning styles	Frequency	Percent	Valid Percent
Accommodating	41	27.3	27.3
Diverging	73	48.7	48.7
Converging	20	13.3	13.3
Assimilating	16	10.7	10.7
Total	150	100.0	100.0

The above table demonstrates that majority of bilingual female students (48.7%) have diverging learning style, 27.3% have accommodating learning style, 13.3% are converging learners and 10.7% are assimilating learners. From the results shown in the table, it can be inferred that 'diverging' learning style has the highest frequency among bilingual female students, so it is preferred as their major learning style.

In order to confirm the finding of the questionnaire regarding the second research question, a semi-structured interview was conducted to 25 bilingual female students. The frequencies of bilingual female students' learning styles obtained through the semi-structured interview were calculated and presented in table 4.

Table 4. Frequency of bilinguals' learning styles based on the semi-structured interview.

Bilinguals' learning styles	Frequency	Percent	Valid Percent
Accommodating	3	12	12
Diverging	11	44	44
Converging	8	32	32
Assimilating	3	12	12
Total	25	100	100

As it is evident in the above table, majority of bilingual female students (44%) have diverging learning style, 32% have converging learning style, Accommodating (12%) and assimilating (12%) learning styles have the same rank and the least distribution in this analysis. According to the results shown in this table, diverging learning style has the highest frequency among bilingual female students, so it is preferred as their major learning style.

3.3. Comparing the frequency of learning style preferences of monolingual and bilingual female students

The third research question sought to find the possible differences between learning styles of monolingual and bilingual female students. In order to answer this research question, the findings of both the questionnaire and interview are presented. For each part, the frequencies of monolingual and bilingual female students are compared.

3.3.1. Comparing the frequency of monolingual and bilingual female students' learning style preferences based on the questionnaire

Table 5 compares the frequency of monolingual and bilingual female students' learning styles based on the data obtained through the questionnaire. According to this table, the prevalence of diverging learning style (48.7%) is higher in bilingual female students than in monolingual female students. The findings also indicate that the prevalence of accommodating learning style (41.3%) is higher in monolingual female students than in bilingual female students.

Table 5. Comparing the frequency of monolingual and bilingual female students' learning styles based on the questionnaire.

Learning styles	Monolingual		Bilingual	
	Frequency	Percent	Frequency	Percent
Accommodating	62	41.3	41	27.3
Diverging	48	32.0	73	48.7
Converging	19	12.7	20	13.3
Assimilating	21	14.0	16	10.7
Total	150	100.0	150	100.0

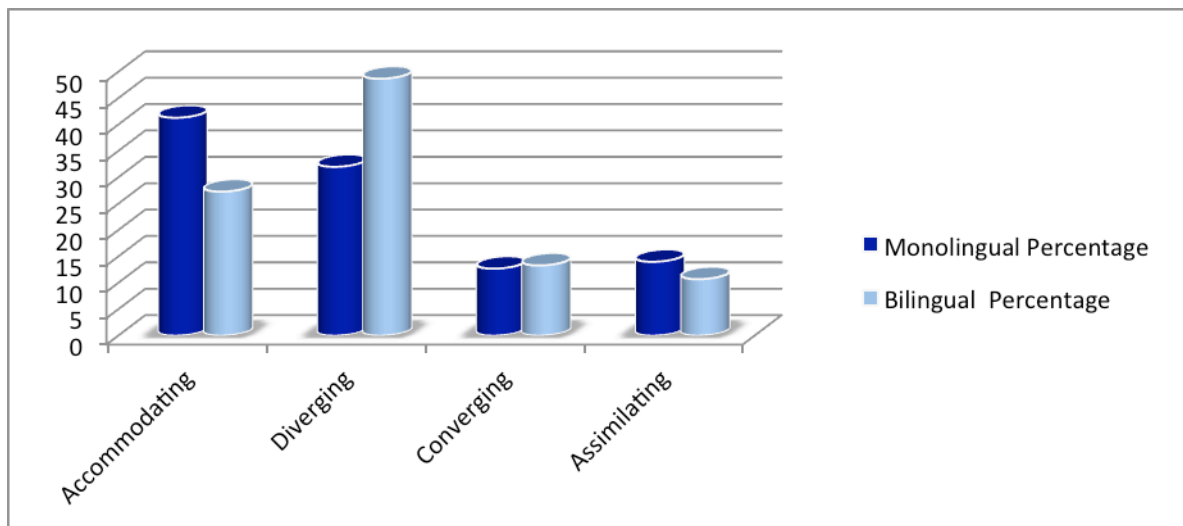


Figure 4. Comparing the frequency of monolingual and bilingual female students' learning styles based on the questionnaire

In order to find out whether the difference between monolingual and bilingual female students' learning style preferences was statistically significant or not, a chi-square test was conducted.

Table 6. Chi-Square Test results based on the questionnaire for comparing monolingual and bilingual female students' learning styles.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.148(a)	3	.017
Likelihood Ratio	10.218	3	.017
N of Valid Cases	300		

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

Table 6 shows that the obtained value for p with 3 degree of freedom at the 0.05 level of significance is 0.017. Since this value is smaller than 0.05 ($P = 0.017 < 0.05$), it is concluded that there is a significant difference between monolingual and bilingual female students' learning styles.

3.3.2. Comparing the frequency of monolingual and bilingual female students' learning style preferences based on the semi-structured interview

Table 7 compares the frequency of monolingual and bilingual female students' learning styles based on the data obtained through the semi-structured interview. This table shows that the frequency of diverging learning style (44) is higher in bilingual female students than in monolingual female students. The findings also demonstrate that the frequency of assimilating learning style (36) is higher in monolingual female students than in bilingual female students.

Table 7. Comparing the frequency of monolingual and bilingual female students' learning styles based on the semi-structured interview.

Learning styles	Monolingual		Bilingual	
	Frequency	Percent	Frequency	Percent
Accommodating	5	20	3	12
Diverging	7	28	11	44
Converging	4	16	8	32
Assimilating	9	36	3	12
Total	25	100	25	100

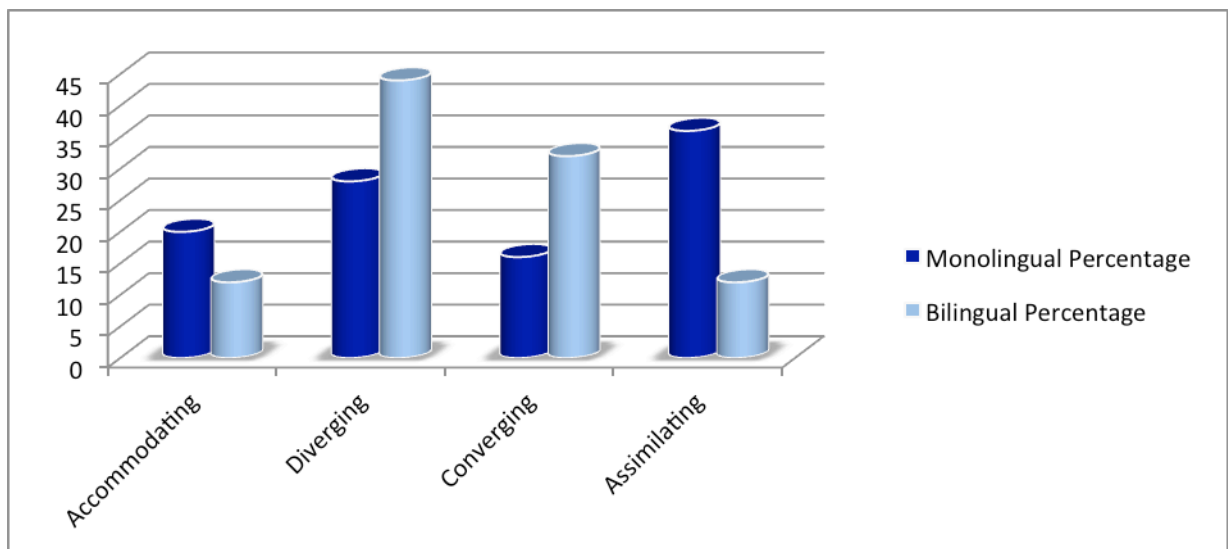


Figure 5. Comparing the frequency of monolingual and bilingual female students' learning styles based on the semi-structured interview

In order to find out whether the difference between monolingual and bilingual female students' learning style preferences was statistically significant or not, a chi-square test was conducted.

Table 8. Chi-Square Test results based on the semi-structured interview for comparing monolingual and bilingual female students' learning styles

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.722(a)	3	.126
Likelihood Ratio	5.900	3	.117
Linear-by-Linear Association	.674	1	.412
N of Valid Cases	50		

Table 8 shows that the obtained value for p with 3 degree of freedom at the 0.05 level of significance is 0.126. Since this value is greater than 0.05 ($P = 0.126 > 0.05$), it is concluded that there is no significant differences between monolingual and bilingual female students' learning styles.

3.4 Comparing monolingual and bilingual female students' language learning achievement with respect to their learning style preferences

The fourth research question sought the possible differences between monolingual and bilingual female students in language learning achievement with respect to their learning style preferences. In order to answer this question, firstly, the descriptive statistics related to bilingual and monolingual female students' English mean scores are presented. After that, they are compared.

Table 9. Descriptive statistics of monolingual and bilingual female students' English mean scores.

Language	Number of participants	Mean score	Std. Deviation	Std. Error Mean
Bilingual	150	16.9867	2.23528	.18251
Monolingual	150	16.1467	2.64483	.21595

Table 9 shows the mean scores of monolingual and bilingual female students. As shown in the table, bilingual female students' mean score with a standard deviation of 2.23 is 16.98 and monolingual female students' mean score with a standard deviation of 2.64, is 16.14. The bilingual female students' mean score is greater than monolingual female students'. In order to find out whether the difference between the mean scores of monolingual and bilingual female students is statistically significant or not, an independent t-test was used.

Table 10. T-test results for comparing monolingual and bilingual female students' language learning achievement with respect to their learning style preferences.

	Leven's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Score Equal variances assumed	3.170	.076	2.971	298	.003
Equal variances not assumed			2.971	289.945	.003

Table 10 shows that the obtained value for p with 298 degree of freedom at the 0.05 level of significance is 0.003. Since this value is smaller than 0.05 ($P = 0.003 < 0.05$), it is concluded that there is a significant difference between monolingual and bilingual female students' language learning achievement in favor of bilingual female students. In other words, bilingual female students' language learning achievement is higher in comparison with monolingual female students' and the difference is statistically significant. Figure 4.8 displays this comparison:

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

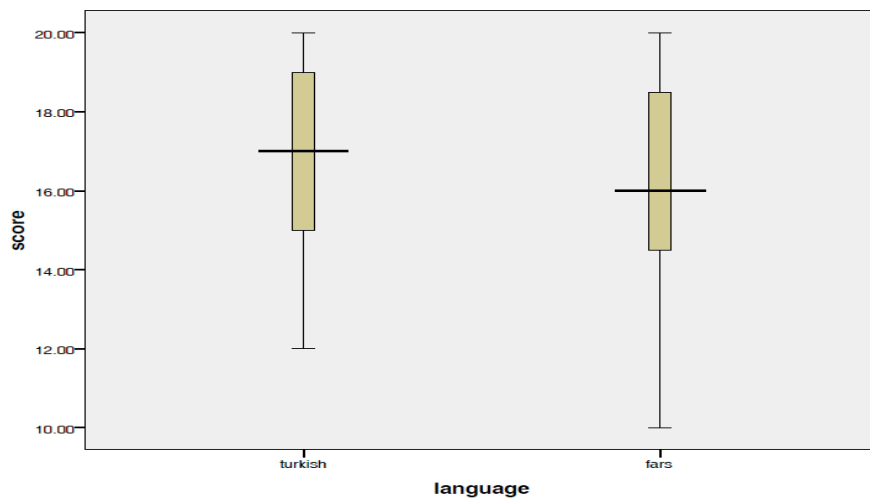


Figure 6. Comparing monolingual and bilingual female students' mean scores

4. DISCUSSION AND CONCLUSION

Learning styles have been the center of attention of a lot of researchers owing to their significant role in educational setting and language learning and teaching. Based on researches in this area, learning styles have a wide range of dimensions and a lot of factors like gender, culture, fields of study, and so on affect them. Likewise, the present study aimed to find out whether factors like monolingualism and bilingualism also affect learning styles. So it explored and compared the learning style preferences of the monolingual and bilingual high school third grade female students. It also investigated the impact of such preferences on English language learning achievement.

Based upon the findings of the study, most of the monolingual female students preferred accommodating (based on the questionnaire) and assimilating learning style (based on the interview). Thus monolingual females' dominant learning abilities are concrete experience and active experimentation (accommodators). Their greatest strengths lie in doing things, carrying out plans and experiments, and getting involved in new experiences. They also emphasize abstract conceptualization and reflective observation (assimilators). They are potent in inductive reasoning, synthesizing various ideas, and the ability to create theoretical models (Kolb, 1984).

According to both quantitative and qualitative analyses, diverging learning style was found as the most widely used style among bilingual female students. So they rely on the dominant learning abilities of concrete experience and reflective observation. Their greatest strengths lie in creativity and imaginative ability. They excel in the ability to view concrete situations from many perspectives. They perform better in situations that require the generation of alternative ideas such as in a "brainstorming" idea session. They are interested in people and tend to be imaginative, emotional, and strong in the arts (Kolb, 1984). These qualities may impact the kind of strategies they take in learning, particularly learning a foreign language.

The data analyses of the questionnaire demonstrated that monolingual and bilingual female students preferred different learning styles; however, the result obtained from the interview was inconsistent with it. To justify these inconsistent findings some speculations are required. The first speculation is that the sample selected to take part in the interview might not have been representative of the population who participated in the quantitative phase. Another speculation

is that the questionnaire itself might have been challenging and ambiguous as respondents did not select one choice but they ranked all the choices. Moreover, the participants in the quantitative phase might not have taken the questionnaire so seriously. But in the qualitative phase, since the interview was orally and face to face, participants could pay more attention to each item, or they had a chance to ask for clarification. Despite the discrepancies in the quantitative and qualitative findings of the study, the findings of the present study, similar to previous studies, emphasized individuals' different preferences in general and monolinguals' and bilinguals' different preferences in particular. (Coper, 1981; Emamipour & Shams Esfandabad, 2010; Moradi, 2010). Learning style differences in monolinguals and bilinguals may be due to their different linguistic systems and lead to employing different strategies for language learning.

According to the findings of the current study, monolingual and bilingual female students' learning styles impacted their English language learning achievement. It was revealed that bilingual female students were superior in language learning in comparison with monolingual female students. Most of the previous studies stated in the literature showed similar results regarding the effect of learning styles on learning achievement (Jilardi, Mahyuddin, Elias, Mohd Daud, & Shabani, 2011; Moeni, Aliapour & Ghaderi, 2009; Dunn & Griggs, 1998; Zainolabidin, Rezaee, & Nor Abdullah, 2011).

Comparing monolinguals' and bilinguals' language learning achievement, the findings of this study were compatible with lots of studies previously done (Hong, 2006; Lehtonen et al., 2012; Bialystok, 2011; Dubois, Blaye, Bialystok, Polonia, & Yott, 2012). They have borne out with the empirical evidence that the language learning abilities of bilingual or multilingual individuals are superior to those of monolinguals. Yet, Gathercole (1997) has suggested monolingual advantages. Nayak, Hansen, Krueger, and McLaughlin (1990) found no difference in language performance between monolinguals and bilinguals. On the other hand, Beceren (2010) found complex results. The results for the word awareness tasks showed bilingual advantage so it was compatible with the finding of the current study. The results for the phonological tasks revealed no bilingual advantage consequently, it was contrary to the finding of the present study.

Generally speaking, in arguing bilinguals' superiority in language learning over monolinguals, their different learning styles can be considered as one of the main factors because of their effects on the kind of strategies bilinguals employ for language learning. Moreover, bilingualism can be considered a big source for bilinguals. The reason why bilinguals outperform monolinguals in learning another language seems to be their prior knowledge of and experience in language learning. They are familiar with the language grammar of two systems, take advantage of two languages, and have two cognitive tools. Bilinguals also have certain potential abilities, beliefs, strategies, higher verbal strength, and greater flexibility in switching codes between two languages which likely enable them to approach the process of language learning more effectively than monolinguals that have experience just in one language (Bialystok, Craik, Green, & Gollan, 2009). Bilinguals show enhanced mental flexibility and metalinguistic awareness in comparison with monolinguals (Ransdell, Barbier & Niit, 2006; Kuile, Veldhuis, Van Veen, Wicherts, 2011). They seem to be stronger than monolinguals in circumstances where cognitive stability or divertive thinking is required (Emamipour & Shams Esfandabad, 2010). Due to the fact that bilinguals have dual language acquisition, are more aware of different languages, and have more knowledge about languages compared with monolinguals, they are likely in a better stance in learning another language.

All in all, since individuals' learning styles are different and they influence learning achievement according to many studies, and given that the ultimate goal of learning is achievement, identification of learning styles and individual diversities is of paramount

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

necessity and importance. In fact it is the first step in ensuring students' achievement. Studies have also illustrated that learning styles are influenced by gender, age, culture, ethnicity background, and bilingualism and monolingualism. So all of these factors should be taken into consideration when planning lessons and designing curricula. Therefore, by allowing students to learn in accordance with their own preferred learning styles, students' motivation and interest toward learning will be promoted, learning will be facilitated, and optimum outcome will be achieved.

5. APPENDICES

Appendix A. Kolb's Learning Style Questionnaire (Din, 2009)

The learning Style Inventory describes the way you learn and how you deal with ideas and day-to-day situation in your life. Below are 12 sentences with a choice of endings. Rank the endings for each sentence according to how well you think each item fits with how you would go about learning something. Try to recall some recent situations where you had to learn something new, perhaps in your job or at school. Then, using the spaces provided, rank a "4" for the sentence ending that describes how you learn best, down to a "1" for the sentence ending that seems least like the way you learn. Be sure to rank all the endings for each sentence unit. Please do not make ties.

An example of the completed sentence set:

When I learn: 2 I am happy. 1 I am fast. 3 I am logical. 4 I am careful.

Remember: 4= *most* like you 3= *second most* like you 2= *third most* like you 1= *least* like you

1- When I learn:

- I like to deal with my feelings.
- I like to watch and listen.
- I like to think about ideas.
- I like to be doing things.

2- I learn best when:

- I trust my hunches and feelings.
- I listen and watch carefully.
- I rely on logical thinking.
- I work hard to get things done.

3- When I am learning:

- I have strong feelings and reactions.
- I am quiet and reserved.
- I tend to reason things out.
- I am responsible about things.

4- I learn by:

- feeling
- watching
- thinking
- doing

5- When I learn:

- I am open to new experiences.
- I look at all sides of issues.
- I like to analyze things, break them down into their parts.

- I like to try things out.
- 6- When I am learning:
 - I am an intuitive person.
 - I am an observing person.
 - I am a logical person.
 - I am an active person.
- 7- I learn best from:
 - personal relationship
 - observation
 - rational theories
 - a chance to try out and practice
- 8- When I learn:
 - I feel personally involved in things.
 - I take my time before acting.
 - I like ideas and theories.
 - I like to see results from my work.
- 9- I learn best when:
 - I rely on my feelings.
 - I rely on my observations.
 - I rely on my ideas.
 - I can try things out for myself.
- 10- When I am learning:
 - I am an accepting person.
 - I am a reserved person.
 - I am a rational person.
 - I am a responsible person.
- 11- When I learn:
 - I get involved.
 - I like to observe.
 - I evaluate things.
 - I like to be active.
- 12- I learn best when:
 - I am receptive and open-minded.
 - I am careful.
 - I analyze ideas.
 - I am practical.

REFERENCES

- [1] Akhtar, Z. (2010). The effects of learning styles and socio-economic status on learning achievement of secondary school students. PhD dissertation, National University of Modern Languages, Islamabad. [On-line]. Available: <http://pr.hec.gov.pk/Thesis/759S.pdf>
- [2] Barmeyer, C. I. (2004). Learning styles and their impact on cross-cultural training: An international comparison in France, Germany and Quebec. *International Journal of Intercultural Relations*, 28, 577-594. [On-line]. Available: <http://dx.doi.org/10.1016/j.ijintrel.2005.01.011>
- [3] Barzegar, M. (2011). The relationship between learning style, locus of control and academic achievement in Iranian students. *International Proceedings of Economics Development and Research*, 13, 195-199
- [4] Beceren, S. (2010). Comparison of metalinguistic development in sequential bilinguals and monolinguals. *The International Journal of Educational Researchers*, 1(1), 28- [On-line]. Available: 40. http://ijer.eab.org.tr/1/1/4_beceren.s.pdf, Bialystok, E. (2011). Reshaping the mind: The benefits of bilingualism. *Canadian Journal of Experimental Psychology*, 65(4), 229-235.
- [6] Bialystok, E., Craik, F.I., Green, D. W., & Gollan, T. H. (2009). Bilingual minds. *Psychological Science in the Public Interest*, 10(3), 89-129.
- [7] Bidabadi, F. S., & Yamat, H. (2010). Learning style preferences by Iranian EFL freshmen university students. *Social and Behavioral Sciences*, 7, 219-226.
- [8] Brown, H. D. (2007). *Principles of language learning and teaching* (5th ed.). The USA: Pearson Education, White Plains, NY, ISBN: 0-13-199128-0
- [9] Celce-Marcia, M. (2001). *Teaching English as a second or foreign language* (3rd ed.) Dewey Publishing Services: NY
- [10] Clarkson, P. C. (2008). Australian vietnamese students learning mathematics: High ability bilinguals and their use of their language, *Educational Studies in Mathematics*, 64, 191–215.
- [11] Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systemic and critical review*. London: Learning Skills Research Centre. [On-line]. Available: <http://www.lsda.org.uk/files/PDF/1543.pdf>
- [12] Coper, G. C. (1981). Black language and holistic cognitive style. *Journal of Black Studies*, 5(3), 201-207.
- [13] Dunn, R. (1989). Grouping students for instructions: effects of learning style on achievement and attitude. *The Journal of Social Psychology*, 130(4), 485-494.
- [14] Dunn, R. & Griggs, S. A. (1998). *Multiculturalism and learning style: Teaching and counseling adolescents*. The USA: Greenwood Publishing Group, Inc.
- [15] Emamipour, S., & Shams Esfandabad, H. (2010). A comparative study of learning styles among monolingual (Persian) and bilingual (Turkish-Persian) secondary school students. *Procedia Social Behavioral Sciences* 5, 2419-2422
- [16] Farhady, H. (2004). *Research methods in applied linguistics*. Tehran: Payam-Noor University Press
- [17] Felder, R. M. & Henriques, E. R. (1995). Learning and teaching styles in foreign and second language acquisition. *Foreign Language Annuals*, 28(1), 21-31.
- [18] Gagne, E. (1993). *The cognitive psychology of school learning*. 2nd Edition. New York: Harper Collins College Publishers
- [19] Gathercole, V. C. (1997). The linguistic mass/count distinction as an indicator of referent categorization in monolingual and bilingual children. *Child Development*, 68, 832- 842.
- [20] Gunes, C. (2004). Learning style preferences of preparatory school students at Gazi University. Master's thesis, Middle East Technical University, Turkey. [Online] Available: <http://etd.lib.metu.edu.tr/upload/12605465/index.pdf>

- [21] Haar, J., Hall, G., Schoepp, P., & Smith, D. (2002). How Teachers Teach to Students with Different Learning Styles. *Clearing House*, 75 (3) 142-146.
- [22] Hong, K. (2006). Beliefs about language learning and language learning strategy use in an EFL context: a comparison study of monolingual Korean and bilingual Korean-Chinese university students. Ph.D. dissertation, University of North Texas. [On-line]. Available: <http://digital.library.unt.edu/ark:/67531/metadc5270/m1/>
- [23] Hong, Y.R. (2007). A survey of the learning style preference of Tibetan EFL learners in China. *US-China Foreign Language*, 5(4), 39-43.
- [24] Hoseinilorgani, M. (1998). Moghayesey-e sabkhay-e yadgiri-e daneshjuyan-e karshenasi, karshenasi arshad va doctora [Comparing learning styles of B.A., M.A. and Phd [students] Unpublished master's thesis, Allameh-Tabatabaei University, Tehran, Iran.
- [25] Jilardi, A., Mahyuddin, R., Elias, H., Mohd Daud, Sh., & Shabani, J. (2011). Academic achievement of students with different learning styles. *International Journal of Psychological Studies*, 3(2), 186-192.
- [26] Kara, S. (2009). Learning styles and teaching styles: A case study in foreign language classroom. *Conference of the International Journal of Arts and Sciences*, 1(20), 77 – 82.
- [27] karimi, A. A., & Bakhshalizadeh, S. (2008). Ministry of Education of Islamic Republic of Iran. In I. V. S. Mullis, M. O. Martin, J. F. Olson, D. R. Berger, D. Milne & G. M.
- [28] Stanco (Eds.) *Timss 2007 Encyclopedia: A Guide to Mathematics and Science Education around the world (vol. 1): TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College*
- [29] Keefe, J.W. (1985). Assessment of learning style variables: The NASSP Task Force Model. *Theory into Practice*, 24(2), 138-144.
- [30] Kinsella, K. (1996). Designing group work that supports and enhances diverse classroom work styles. *TESOL Journal*, 6(1), 24-31.
- [31] Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. New Jersey: Prentice-Hall, Inc.
- [32] Kolb, D. A. (1985). *Learning-Style Inventory: Self-scoring inventory and interpretation booklet*. Boston: McBer.
- [33] Kuile, H. T., Veldhuis, M., Van Veen, S., & Wicherts, J. (2011). Bilingual education, metalinguistic awareness, and the understanding of an unknown language *Bilingualism: Language and Cognition* 14 (2), 233–242.
- [34] Lehtonen, M., Hulten, A., Rodriguez-Fornells, A., Cunillera, T., Tuomainen, T., & Laine, M. (2012). Differences in word recognition between early bilinguals and monolinguals: Behavioral and ERP evidence. *Neuropsychologia*, 50, 1362– 1371
- [35] Lindsay, E. K. (1999). An analysis of matches of teaching style and the uses of education technology. *The American Journal of Distance Education*, 13(2), 113-119.
- [36] Moeni, M., Aliapour, A., & Ghaderi, E. (2009). Study of learning styles and their roles in the academic achievement of the students of Payame Noor University (PNU). *Turkish Online Journal of Distance Education-TOJDE*, 10(2), 24-37.
- [37] Moradi, A. (2010). Moghayesey-e sabkhay-e yadgiri-y-e (hamgara, vagara jazbkonandeh, va entebaghyabandeh) daneshamoozan-e pesar-e yekzabane va dozabane [A comparative study of learning styles (converging, diverging, assimilating, and accommodating) of monolingual and bilingual male students. Unpublished master's thesis, Tabriz University, Iran.
- [38] Nayak, N., Hansen, N., Krueger, N., & McLaughlin, B. (1990). Language-learning strategies in monolingual and multilingual adults. *Language Learning*, 40(2), 221-244.
- [39] Oxford, R. L. (1999). 'Style wars' as a source of anxiety in language classrooms. In D. J. Young (Ed.), *Affect in foreign language and second language learning* 216-237. Boston: MacGraw-Hill.
- [40] Oxford, R. L. (2005). *Language learning strategies: what every teacher should know*. 1st Edn. Heinle and Heinle, Boston, ISBN-10: 0838428622 pp: 342.
- [41] Oxford, R. & Lavine, L. (1992). Teacher-student "style wars" in the language classroom: Research insights and suggestions. *ADFL Bulletin* , 23(2), 38-45.

A Comparative Study of Learning Style Preferences of Monolingual and Bilingual High School Female Students and the Impact of Such Preferences on Language Learning Achievement

- [42] Pei-Shi, W. (2012). The effect of learning styles on learning strategy use by EFL learners. *Journal of Social Sciences*, 8 (2), 230-234.
- [43] Poulin-Dubois, D., Bialystok, E., Blaye, A., Polonia, A., & Yott, J. (2012). Lexical access and vocabulary development in very young bilinguals. *International Journal of Bilingualism*, 0(0) 1-14.
- [44] Pourhossein, A. (2012). Visual, auditory, kinesthetic learning styles and their impacts on English language teaching. *Journal of Studies in Education*, 2(1), 104-113.
- [45] Ransdell, S., Barbier, M., & Niit, T. (2006). Metacognitions about language skill and working memory among monolingual and bilingual college students: When does multilingualism matter? *The International Journal of Bilingual Education and Bilingualism*, 9, 728–741.
- [46] Reid, J.M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, 21(1), 87-111.
- [47] Riazi, M., & Riasati, M. J. (2007). Language learning style preferences: A case study of Shiraz EFL Institutes. *The Asian EFL Journal Quarterly*, 9(1), 97-125.
- [48] Riding R. (2005). Individual differences and educational performance. *Educational Psychology*, 25(6), 659-672.
- [49] Seif, A. (2001). *Educational psychology: learning and education*. Tehran: Agah.
- [50] Smith, P., & Blake, D. (2005). *Facilitating learning through effective teaching: At a glance*. Adelaide, SA: National Centre for Vocational Education Research.
- [51] Sternberg, R. J. & Zhang, L. F. (2001). *Perspectives on thinking, learning, and cognitive styles*. Lawrence Erlbaum Associates.
- [52] Zainol Abidin, M., Rezae, A., Nor Abdullah, H., & Balbir Singh, K. (2011). Learning styles and overall academic achievement in a specific educational system.
- [53] *International Journal of Humanities and Social Science*, 1(10), 143-152.